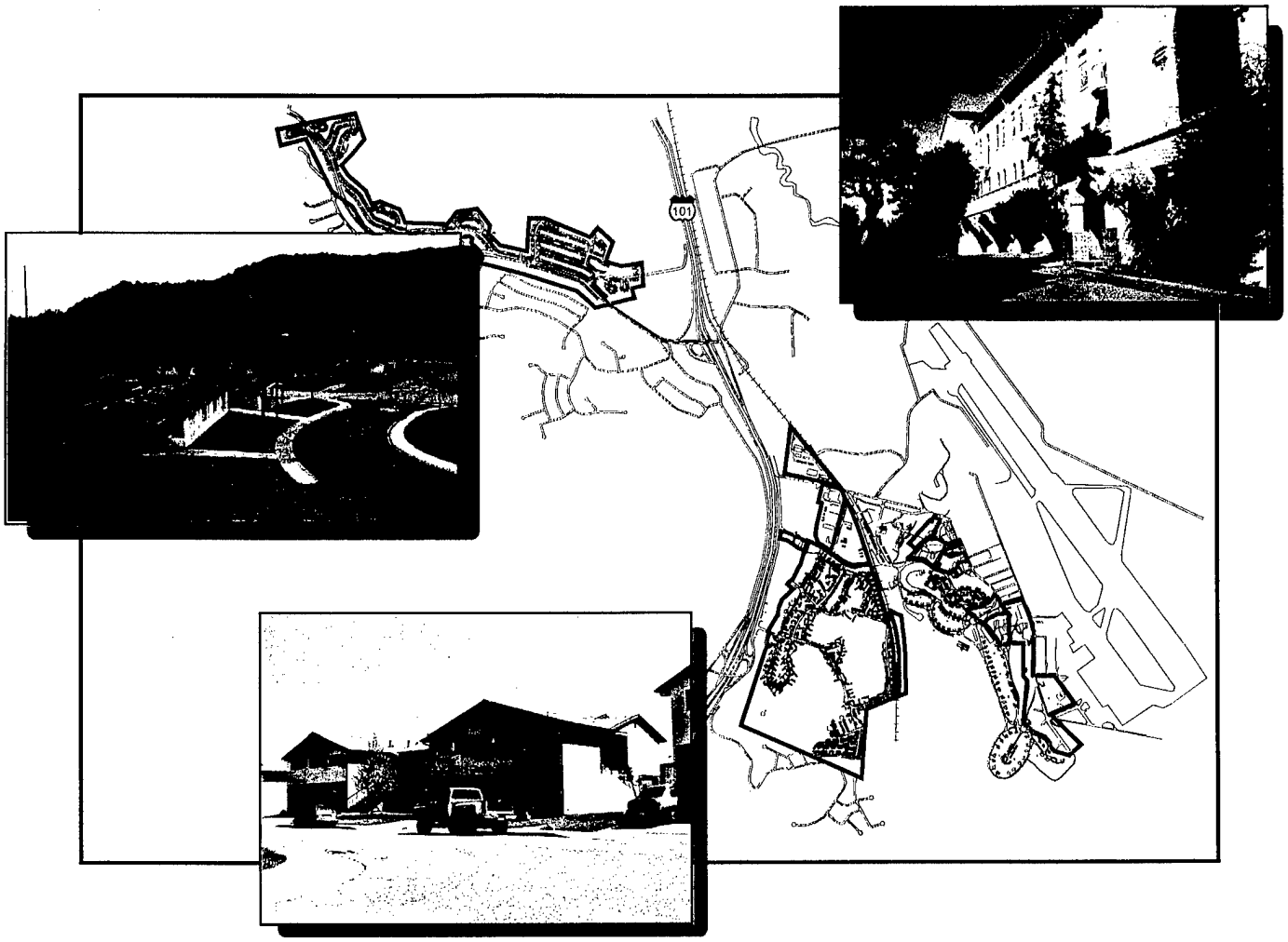
Draft
Environmental Impact Statement

for the Disposal and Reuse of the Department of Defense Housing Facility Novato, California



Volume I

January 1997

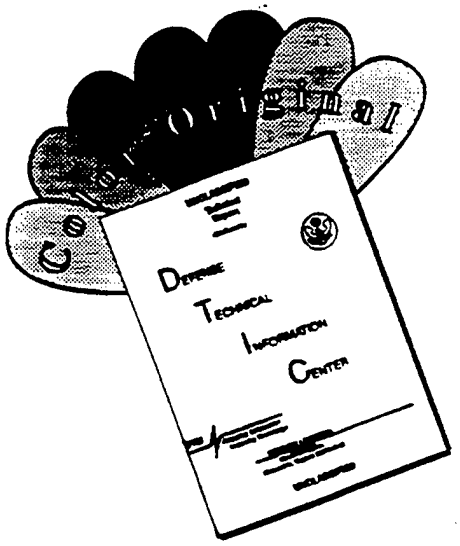
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DRAFT
ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL AND REUSE OF DEPARTMENT OF DEFENSE HOUSING FACILITY NOVATO, CALIFORNIA

Lead Agency:	US Department of the Navy
Title of the Proposed Action:	Environmental Impact Statement for the Disposal and Reuse of the Department of Defense Housing Facility Novato, California
Affected Jurisdictions:	City of Novato and Marin County, California
Designation:	Draft Environmental Impact Statement

ABSTRACT

Pursuant to the Defense Base Closure and Realignment Act (Public Law 101-510) and the base closure decisions approved by Congress in October 1993, the Department of Defense Housing Facility Novato (DODHF Novato) in Novato, California, was closed in September 1996. DODHF Novato includes two Navy-owned areas at the former Hamilton Air Force Base— the Main Site property and the off-site Rafael Village housing property. This environmental impact statement (EIS) has been prepared in accordance with the National Environmental Policy Act to analyze the potential significant environmental consequences from the proposed Navy disposal of federal surplus property and structures and community reuse of DODHF Novato property. The City of Novato may use this EIS in place of an environmental impact report, pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15221.

The Preferred Alternative evaluated in this EIS is the disposal (transfer or sale) of federal surplus property and structures by the Navy and subsequent reuse as described by the Hamilton Army Airfield Reuse Plan of October 1995, as subsequently amended and approved in February 1996 by the City of Novato, and incorporating technical updates published in November 1996. The Revised Reuse Plan proposes demolishing existing housing and constructing new housing units at Rafael Village and reusing existing Main Site buildings and structures for uses similar to historic uses. An Open Space Alternative and the required No Action Alternative are also evaluated. This EIS includes analysis of potential environmental impacts related to land use, aesthetic and scenic resources, socioeconomics, public services, utilities, cultural resources, biological resources, geology and soils, water resources, traffic and circulation, air quality, noise, and hazardous materials and waste.

The only significant and not mitigable impacts would be due to traffic-related ozone precursor emissions exceeding Bay Area Air Quality Management District thresholds and the continued exposure of existing housing areas to existing noise levels above 60 decibels under each of the reuse alternatives. Potentially significant and mitigable adverse environmental impacts include generation of waste from demolition and construction activities, cultural resources, biological resources, geology and soils, water resources, and continued traffic and circulation congestion impacts. Implementation of mitigation measures identified in this EIS would reduce all of these environmental impacts to not significant or acceptable levels for all impacts except air quality and noise. Remediation of contaminated areas will continue to be the responsibility of the Navy.

For Further Information:

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January 1997

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ACRONYMS AND ABBREVIATIONS

A-2	Limited Agriculture
A-60	Agriculture
A-P	Administrative Professional
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC	Asbestos Cement
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AHERA	Asbestos Hazards Emergency Response Act
AM	before noon
AST	aboveground storage tank
BAAQMD	Bay Area Air Quality Management District
Basin	Basin Research Associates, Inc.
BCDC	Bay Conservation and Development Commission
BCP	BRAC Cleanup Plan
bgs	below ground surface
BMP	Best Management Practices
BOQ	Bachelor Officers Quarters
BRAC	Base Realignment and Closure
BRAC 1990	Defense Base Closure and Realignment Act of 1990
C-1	Retail Commercial
C-2	General Business Commercial
C-P	Planned Commercial
C_2H_3Cl	vinyl chloride
Cal EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFCU	Community Facilities and Civic Uses
CFR	Code of Federal Regulations
cfs	cubic feet per second
CI	cast iron
CIWMB	California Integrated Waste Management Board
CMA	Congestion Management Agency
CNEL	community noise equivalent level
CNO	Chief of Naval Operations
CNPS	California Native Plant Service
CO	carbon monoxide
COE	Army Corps of Engineers
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel scale
DBCRA	Defense Base Closure and Realignment Act
DI	ductile iron
DOD	Department of Defense

ACRONYMS AND ABBREVIATIONS (cont'd)

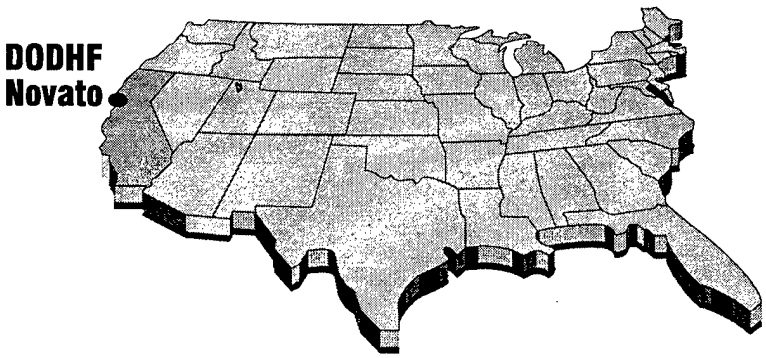
DODHF	Department of Defense Housing Facility
Dr.	Drive
DTSC	Department of Toxic Substance Control
EB	east bound
EBS	Environmental Baseline Survey
EFA West	Engineering Field Activity West
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FAR	floor area ratio
FCM	Federated Coast Miwok
F.I.R.E.	Finance/Insurance/Real Estate
FEMA	Federal Emergency Management Agency
FFSRA	Federal Facility Site Remediation Agreement
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
FPMR	Federal Property Management Regulations
GGBHTD	Golden Gate Bridge, Highway, and Transportation District
GSA	General Services Administration
H_2S	hydrogen sulfide
HAAF	Hamilton Army Airfield
HABS	Historic American Building Survey
HAC	Hamilton Advisory Committee
HCM	Highway Capacity Manual
HRPA	Hamilton Reuse Planning Authority
HUD	United States Department of Housing and Urban Development
HWCL	Hazardous Waste Control Law
HWL	high water line
kV	kilovolt
LBP	lead-based paint
Ldn	day-night average noise level
Leq	equivalent noise levels
LOS	level of service
LRA	Local Redevelopment Authority
LTMS	Long Term Management Strategy
M-2	Heavy Industrial
M-P	Planned Industrial
MAB	Multi-Agency Board
MCFCWCD	Marin County Flood Control and Water Conservation District
MCTD	Marin County Transit District
MG	million gallons
mgd	million gallons per day
MPH	miles per hour
msl	mean sea level
NAGPRA	Native American Graves Protection and Repatriation Act
NB	north bound
NCO	Noncommissioned Officer
NEH	Northbay Ecumenical Homes
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants

ACRONYMS AND ABBREVIATIONS (cont'd)

NFPD	Novato Fire Protection District
NHP	New Hamilton Partnership
NHPA	National Historic Preservation Act
N/O	north of
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NSD	Novato Sanitary District
NUSD	Novato Unified School District
NWIC	Northwest Information Center
NWP	Northwest Pacific Railroad
O_3	ozone
OSHA	Occupational Safety and Health Administration
OVRFL	overflow
OWS	oil/water separator
P-C	Planned Community
PA	Planning Area
PAR	PAR Environmental Services, Inc.
Pb	lead
PCBs	polychlorinated biphenyls
pCi/L	picocuries per liter
PG&E	Pacific Gas and Electric Company
PL	Public Law
PM	afternoon
PM_{10}	inhalable particulate matter (under 10 microns in diameter)
ppm	parts per million
psig	pounds per square inch gauge
PVC	polyvinyl chloride
PWCSFB	Public Works Center, San Francisco Bay
R-1	Single Family
R-2-H	Duplex Residential
R-3	Multiple Residential
R-P	Planned Residential
RC	reinforced concrete
RCP	reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROG	reactive organic compounds
ROI	Region of Influence
RPM	reinforced plastic mortar
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SECNAV	Secretary of the Navy
SHPO	State Historic Preservation Officer
S/O	south of
SO_2	sulfur dioxide
SO_4	sulfate particles
sp.	species

ACRONYMS AND ABBREVIATIONS (cont'd)

ssp.	subspecies
St.	Street
SWPPP	Storm Water Pollution Prevention Plan
TAC	Technical Advisory Committee
TAZ	Traffic Analysis Zones
TDM	Transportation Demand management
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
UBC	Uniform Building Code
US 101	United States Highway Route 101
USACE	US Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
V	volt
VCP	vitrified clay pipe
V/C	volume to capacity ratio
VMT	vehicle miles traveled
WB	west bound
WGCEP	Working Group on California Earthquake Probabilities



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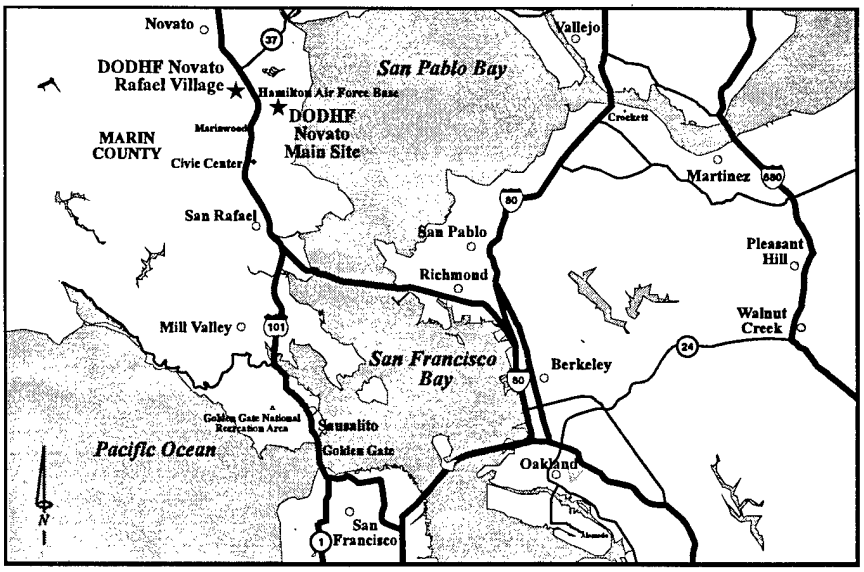
EXECUTIVE SUMMARY

This environmental impact statement (EIS) evaluates the potential significant impacts to the environment that may result from the Navy disposal and community reuse of the Department of Defense Housing Facility Novato (DODHF Novato) in Novato, California. DODHF Novato will be closing, pursuant to the Defense Base Closure and Realignment Act of 1990 (DBCRA), Public Law 101-510, 10 USC 2687, commonly referred to as BRAC. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations on implementing NEPA, Navy policy (OPNAVINST 5090.1B), and BRAC, as amended. The federal action evaluated in this EIS is the disposal of federal surplus property and structures at DODHF Novato, while the local action evaluated is the proposed reuse of DODHF Novato.

BACKGROUND

DODHF Novato is located in the southeast portion of the City of Novato, in eastern Marin County, California, approximately 20 miles north of San Francisco. DODHF Novato consists of approximately 411 acres of Navy-owned land on two sites. The 304-acre Main Site includes military family housing, a commissary, a post exchange, community service areas, a bowling alley, officers' club, and recreational fields. The 107-acre Rafael Village, located one mile northwest of the Main Site, includes 503 housing units (Figure ES-1).

Figure ES-1
DODHF Novato Regional Location



DODHF Novato was the housing and community services portion of the former Hamilton Air Force Base. Other parts of the former base, adjacent to DODHF Novato but not part of the Navy disposal and community reuse action, include the 720-acre former Hamilton Army Air Field and the 415-acre site being developed under the New Hamilton Partnership Master Plan. A six-acre US Coast Guard (USCG) parcel and a 105-foot railroad right-of-way owned by the Golden Gate Bridge, Highway, and Transportation District (GGBHTD) also are located adjacent to DODHF Novato.

PURPOSE AND NEED

The Department of Defense has for the past several years been reducing its basing and staffing requirements to match current force structure plans. Public Works Center San Francisco Bay (PWCSFB), which owns DODHF Novato, was identified for disestablishment in the BRAC recommendation approved by Congress in October 1993. All property owned by PWCSFB, including DODHF Novato, will be closed and disposed of (transferred or sold). DODHF Novato Main Site was closed on September 30, 1996. A portion of DODHF Novato, the Rafael Village housing area, was closed on September 30, 1995.

As a base realignment and closure action, the decision to close DODHF Novato is exempted from NEPA by the Defense Authorization Act. Navy disposal of DODHF Novato property and reuse decisions, however, are not exempted. Navy disposal of DODHF Novato is subject to DBCRA requirements, the Defense Authorization Amendments, federal property management regulations, and NEPA and related laws.

DOCUMENT PURPOSE

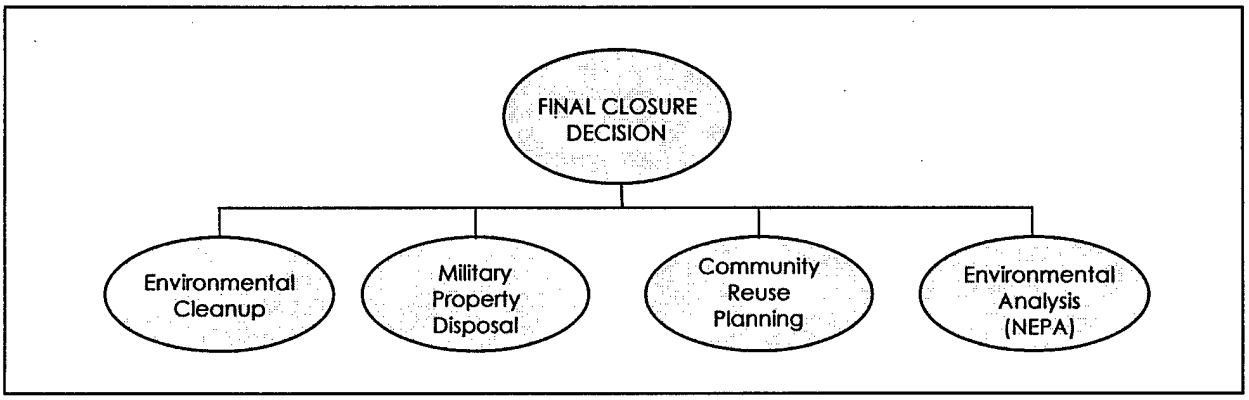
This EIS is intended to provide a general level of information on the potential environmental impacts resulting from Navy disposal and community reuse of DODHF Novato. The reuse alternatives evaluated in the EIS were developed based on the Hamilton Army Airfield Final Reuse Plan (Hamilton Reuse Planning Authority 1995b) and the community planning process. The EIS is not intended to provide information on site-specific development options. The Navy will use the EIS in its consideration of disposal options in its Record of Decision (ROD). The ROD will consider significant impacts and mitigations as the result of Navy disposal. The City of Novato may use the EIS in place of an environmental impact report pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15221, which allows this arrangement if the EIS is prepared first and if the EIS complies with CEQA guidelines. This EIS is being prepared at a program level of detail. When site-specific development plans are submitted the necessary level of project

description detail required for CEQA compliance will need to be reviewed and verified. Following disposal, no additional NEPA review by the Navy would be required.

DISPOSAL PROCESS

Numerous concurrent actions are required before BRAC property can be disposed of (Figure ES-2). The Navy is responsible for environmental cleanup (see Section 3.13), property disposal (see Section 1.3.1), and environmental impact analysis (preparation of this EIS). The City of Novato and Hamilton Reuse Planning Authority are responsible for community reuse planning (see Section 2.1.1).

Figure ES-2
Primary Elements of the Military Base Disposal Process



RELATED PROCESSES AND DOCUMENTATION

DOD policy requires the preparation of an environmental baseline survey (EBS) prior to the sale, lease, or transfer of real property. The EBS also is used to comply with the requirements of the Community Environmental Response Facilitation Act, an amendment of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA--Section 120(h)). The basewide EBS for DODHF Novato was completed in October 1995 (US Navy 1995a) and documented the environmental conditions of real property at DODHF Novato and adjacent properties.

The BRAC Cleanup Plan (BCP) for a closing base documents the status of environmental restoration and associated compliance programs and was mandated by President Clinton's July 2, 1993 plan to expedite cleanup and promote early reuse of closing bases. The BCP for DODHF Novato (US Navy 1995b) was completed in March 1995 and updated in March 1996 (US Navy 1996a). The findings of the EBS and BCP are summarized in Section 3.13, Hazardous Materials and Waste.

PUBLIC INVOLVEMENT

The EIS process is designed to involve the public in federal decision-making. Opportunities to comment on and participate in the process have been provided during the preparation of this EIS. Public involvement actions taken include publishing a Notice of Intent (NOI) in the Federal Register, developing an extensive mailing list to disseminate information to the public, mailing scoping letters to parties on the mailing list, publishing advertisements in three local newspapers, and holding a public scoping meeting (see Section 1.5 and Appendix B).

PREFERRED ALTERNATIVE AND ALTERNATIVES

The Preferred Alternative considered in this EIS is the disposal of federal surplus land at DODHF Novato by the Navy and subsequent community reuse consistent with the revised Reuse Plan. The reuse alternatives considered in this EIS are based upon the Reuse Plan developed by the Hamilton Reuse Planning Authority through the community planning process described below.

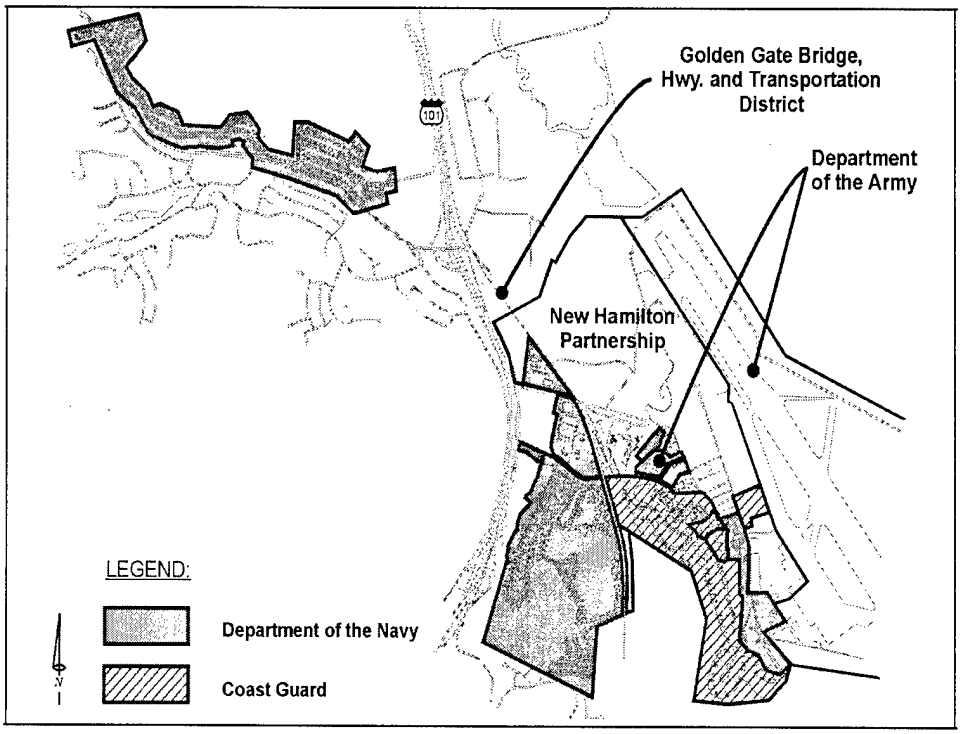
Community Reuse Planning

The reuse planning process for DODHF Novato began when Congress approved closure of the facility in October 1993. The primary objective of the planning process was to develop a community reuse plan for the entire former Hamilton Air Force Base complex that reflects community consensus through substantial public involvement. A second objective was to identify affordable housing opportunities to satisfy a significant portion of Novato's state-mandated affordable housing quotas and to assist homeless providers.

The land that comprised the former Hamilton Air Force Base was parceled out to the US Army, the US Navy, the USCG, the GGBHTD, and the General Services Administration beginning in 1974 until the present. The USCG and GGBHTD are retaining their parcels. The General Services Administration retained ownership of a 415-acre parcel that it auctioned off in 1984 to the Berg-Revoir Corporation; the Berg-Revoir Corporation later sold the land to the Martin Group for development under the New Hamilton Partnership Master Plan. Current land ownership patterns are shown on Figure ES-3. The reuse planning process divided the remaining former Hamilton Air Force Base into 10 planning areas and a runway area (Figure ES-4). Eight of the planning areas encompassed Navy-owned land (DODHF Novato), while one remaining planning area and runway area encompassed Army-owned land (Hamilton Army Airfield) and the other remaining planning area encompassed the Spanish Housing area, which is being transferred to USCG ownership. The terms "Hamilton Air Force Base" and

"Hamilton Army Airfield" often are used interchangeably to refer to the entire facility before it was divided among different DOD and federal entities. This EIS uses "former Hamilton Air Force Base" when referencing the entire facility.

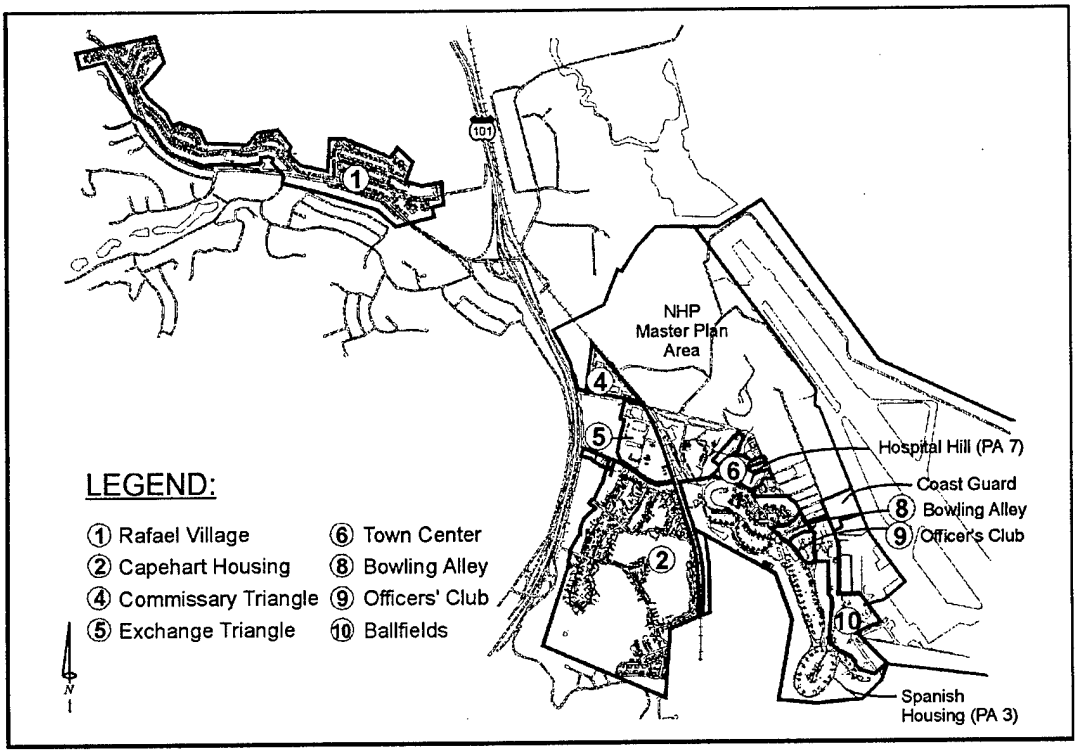
Figure ES-3
DODHF Novato Ownership



In March 1994, the City of Novato and Marin County agreed to establish a procedure for joint participation in the reuse planning process for the former Hamilton Air Force Base to ensure the protection of local and regional interests. The procedure included the creation of the Hamilton Advisory Committee (HAC), Technical Advisory Committee (TAC), and Multi-Agency Board (MAB).

Starting in February 1995, HAC held a series of public hearings to obtain public input in the formulation of reuse alternatives for the different planning areas. Based on this input, HAC developed reuse alternatives and forwarded them to the MAB. HAC did not recommend a preferred alternative nor did it recommend any policy direction on the various planning issues that arose during the public participation process. In July 1995, MAB selected preferred land use plans, which were then developed into the *Draft Hamilton Army Airfield Reuse Plan* released in August 1995. The Novato City Council adopted the final Reuse Plan in October 1995.

Figure ES-4
DODHF Novato Planning Areas



The final Reuse Plan took into account the original Department of Veterans Affairs and USCG transfer requests (Section 1.3.1). Since October 1995, the Department of Veterans Affairs has withdrawn its request for property and the specific footprint of the USCG property transfer changed. The MAB recommended adoption of the revised USCG request on January 16, 1996, and the City of Novato approved the revised USCG request on February 13, 1996. Under the revised request, the USCG would own the 142 acres of Spanish Housing land and facilities. This revised scenario was included in an updated Reuse Plan published in November 1996 and is reflected in the EIS Revised Reuse Plan Alternative.

Reuse Alternatives Overview

Reuse alternatives analyzed in this EIS include the Revised Reuse Plan Alternative (Preferred Alternative), an Open Space Alternative, and the No Action Alternative.

Revised Reuse Plan Alternative - Preferred Alternative

The EIS Preferred Alternative is the implementation of the revised Reuse Plan. As described above and in Section 2.1.1 of this EIS, the revised Reuse Plan reflects the most current plans for the residential and nonresidential lands within Hamilton Army Airfield and DODHF Novato and provides land use direction for the City of Novato. The EIS analyzes the revised Reuse Plan as the Preferred Alternative since it reflects the scenario most likely to be implemented. The revised USCG footprint includes transfer of all Spanish Housing land and facilities.

The revised Reuse Plan can be characterized as promoting adaptive reuse of existing buildings and retention of existing land use patterns. Most existing structures at DODHF Novato are and would remain housing units under the revised Reuse Plan. The nonresidential buildings would be adapted for new uses but would retain their basic structure and appearance. Some buildings would be demolished or restored. The revised Reuse Plan identifies land uses for each planning area. The EIS analyzes the effects of these proposed land uses contained in the plan and evaluates the potential environmental impacts at buildout of the plan.

Open Space Alternative

One additional alternative has been developed to take advantage of the flexibility of demolition at Rafael Village. Under the Open Space Alternative, Rafael Village would be used for open space and parkland instead of residential uses. Developments could include creek restoration, playing fields, jogging and bike paths, playgrounds, and sitting areas. The Main Site uses would be similar to those under the Revised Reuse Plan Alternative except corporation yards would be allowed in the Commissary and Exchange Triangle planning areas, and all of the Town Center area would be used for community facilities. In addition, there would be less developed parkland and more open space in the Ballfields planning area.

No Action Alternative

Inclusion of the No Action Alternative is required by NEPA. The closure of the DODHF Novato property has been mandated by law and must be implemented. For this reason, the No Action Alternative evaluates the facility as closed but remaining indefinitely in federal ownership. Under the No Action Alternative most of DODHF Novato would remain in federal ownership in a caretaker status after closure.

Environmentally Preferable Alternative

NEPA requires that an environmentally preferable alternative be identified. The No Action Alternative would be the environmentally preferable alternative, as described in Section 2.3.

AFFECTED ENVIRONMENT

The EIS provides a description of the existing environmental and socioeconomic conditions at DODHF Novato and surrounding properties. The setting discussion for each resource area identifies the region of influence (ROI) applicable to the specific resource area. An ROI is a geographic area in which impacts for a particular resource likely would occur. The ROI area for a resource having regional impacts will be different than the ROI area for a resource with localized impacts. Existing conditions are described for the following resources: land use, aesthetics and scenic resources, socioeconomics, public services, utilities, cultural resources, biological resources, geology and soils, water resources, traffic and circulation, air quality, noise, and hazardous materials and waste.

ENVIRONMENTAL CONSEQUENCES

The EIS evaluates the potential environmental consequences associated with Navy disposal and community reuse of DODHF Novato (Chapter 4). Table ES-1 summarizes the greatest level of significance for each alternative by resource area. These impacts have been separated into those that would result from Navy disposal and the No Action Alternative, and those that would result from implementing community reuse alternatives including the Revised Reuse Plan Alternative (Preferred Alternative), and the Open Space Alternative. The Navy is responsible for impacts and mitigations associated with disposal and the No Action Alternative, while the City of Novato is responsible for impacts and mitigations resulting from reuse of DODHF Novato.

As shown in Table ES-1, federal disposal and the No Action Alternative would have no impact or not significant impacts with the exception of cultural resources, which would have a significant but mitigable impact under disposal. Community reuse would result primarily in not significant or significant but mitigable impacts with the exception of air quality and noise, which would have significant unmitigable impacts. Environmental consequences associated with each resource area are summarized below.

Table ES-1
Summary of Impacts and Significance

Impact Issues	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Land Use	○	○	◐	◐
Aesthetics and Scenic Resources	○	◐	◐	◐
Socioeconomics	○	○	◐	◐
Public Services	○	○	◐	◐
Utilities	○	○	◑	◑
Cultural Resources	◑	◐	◑	◑
Biological Resources	○	○	◑	◑
Geology and Soils	○	○	◑	◑
Water Resources	○	◐	◑	◑
Traffic and Circulation	○	○	◑	◑
Air Quality	○	○	●	●
Noise	○	○	●	●
Hazardous Materials and Waste	○	◐	◐	◐

LEGEND:

Level of Impact

● - Significant impact
◑ - Significant and mitigable impact
◐ - Not significant impact
○ - No impact

Land Use

The disposal and reuse of DODHF Novato would not result in any significant adverse land use impacts. Demolition and construction activities at the Rafael Village, Commissary Triangle, and Exchange Triangle planning areas would have temporary impacts on surrounding residential areas. These would be of short duration and not significant. Reuse of the Commissary Triangle and Exchange Triangle planning areas as detailed under the reuse alternatives would be compatible with surrounding land uses. The Reuse Plan specifies land use policies 3.6.2.5.1 through 3.6.2.5.7 as measures to achieve compatible land use with Lanham Village and other adjacent uses. No impacts would result from reuse of the other planning areas as the type of land use would not change.

Aesthetics and Scenic Resources

Disposal and reuse of DODHF Novato would have no significant impact on aesthetic and scenic resources. Construction and demolition activities could have short-term visual effects but these would not be significant. Reuse of Rafael Village for new residential housing (Revised Reuse Plan Alternative) or as open space (Open Space Alternative) would have a beneficial visual effect.

Socioeconomics

Disposal of DODHF Novato would have no impacts on socioeconomic factors. Reuse of DODHF Novato would have a beneficial effect on the regional economy and recreational opportunities. Reuse would have a beneficial effect on the homeless and low-income population of the area through the creation of affordable housing and transitional/emergency shelter housing. Reuse would not significantly affect population, housing, or schools in the region.

Public Services

Disposal and reuse of DODHF Novato would have no significant impacts on police, fire, or emergency medical services in the Novato area. Any increase in service needed as a result of reuse could be funded with taxes generated by the new development.

Utilities

Disposal and reuse of DODHF Novato would have no significant impacts on utilities including electric, natural gas, telephone, water, and sanitary sewer capacity. The demolition of structures at Rafael Village would not affect landfill life, but the addition of this waste to the countywide waste stream would contribute to the nonattainment of solid waste reduction goals. This would result in a significant and mitigable impact. The California Integrated Waste Management Board has been exploring ways to assist localities to divert construction and demolition debris from landfills through reuse, recycling, and other strategies.

Cultural Resources

Navy disposal of DODHF Novato to a nonfederal entity without appropriate deed covenants or other restrictions could result in an adverse effect to NRHP-eligible resources. Consultation with the SHPO, ACHP, and the City of Novato pursuant to Section 106 of the National Historic Preservation Act (NHPA) and/or implementation of mitigation measures would reduce impacts to the historic district and contributing elements to not significant levels.

Implementation of the reuse alternatives would result in the adaptive reuse, alteration, or demolition of some existing buildings and structures that are contributing elements of the Hamilton Army Airfield Historic District. New buildings and structures could be constructed in these areas as well, changing the existing character of the district. Such activities could cause significant but mitigable impacts to the historic district at DODHF Novato. Specific mitigation measures determined prior to transfer through the review process required by Section 106 of NHPA would reduce this impact to less than significant. No significant impacts to subsurface prehistoric and historic archeological resources or noncontributing structures would occur under disposal or reuse.

Biological Resources

No impacts to biological resources would occur from disposal of DODHF Novato. No significant impacts are expected to nonsensitive species or habitats from the disposal or reuse of DODHF Novato. No adverse impacts would be expected in the upland sensitive habitats (valley oak woodland and California bay forest) since reuse activities would not occur within these areas and the existing uses of these areas would not change. Riparian habitats, other wetlands, and sensitive species that depend on these habitats could be affected by increased sedimentation from erosion caused by construction and demolition activities. These impacts could be reduced to less than significant levels by implementing standard erosion control measures.

Geology and Soils

Disposal of DODHF Novato would have no impact on geology and soils. Potential significant impacts resulting from reuse include undermining or weakening slopes during construction and exposing certain areas, particularly those on reclaimed land underlain by imported fill and bay mud, to potentially damaging levels of ground shaking during a large earthquake. These impacts would be mitigable by identifying geologic hazards through geotechnical studies and performing seismic studies on existing structures to determine necessary upgrades.

Water Resources

Disposal of DODHF Novato would have no impact on water resources. Implementation of the reuse alternatives would not result in substantial flooding, would not adversely affect any water body, nor would substantially affect ground water quality. Grading, demolition, and construction at Rafael Village and the Main Site could result in soil disturbance and increased erosion/sedimentation into San Jose Creek, Pacheco Creek, and downstream in Ignacio Reservoir, Novato Creek, and San Pablo Bay, affecting surface

water quality. These impacts could be mitigated to not significant levels through implementation of erosion control measures. Reuse of some areas could expose residents or workers to flood hazards in the event of a 100-year flood. This impact would be mitigated by limiting reuse of these areas until after completion of the planned new levees west of the airfield or raising the base level of developed areas of the site to a minimum of 10 feet (msl).

Traffic and Circulation

Disposal of DODHF Novato would have no impact on traffic and circulation. Reuse of DODHF Novato would have no significant impacts on local intersection operations or regional freeways. Some increase in demand for transit services would result from reuse of DODHF Novato under the reuse alternatives, requiring convenient access for transit to all areas of the Main Site. The inability to add or expand transit routes along Nave Drive into the Main Site area would be a significant impact. This could be mitigated by constructing or improving internal roadways to accommodate transit vehicles or by providing a shuttle service. Reuse of DODHF Novato would contribute cumulatively to the regional traffic conditions, but to a less significant degree than under the City of Novato Preferred General Plan. This is because the reuse alternatives would generate fewer vehicle trips than projected vehicle trips for DODHF Novato under the Preferred General Plan.

Air Quality

Disposal of DODHF Novato would not result in any impacts to air quality. Property disposal actions generally qualify as de minimis actions under EPA's Clean Air Act conformity determination rule. Building demolition, renovation, and construction activities associated with reuse have the potential for generating localized dust nuisance conditions. Implementation of dust control measures would reduce potential impacts to a not significant level. Vehicle emissions associated with reuse under the Revised Reuse Plan Alternative and the Open Space Alternative would result in nitrogen oxide and reactive organic compound emissions above the Bay Area Air Quality Management District (BAAQMD) impact significance threshold of 80 pounds per day (for each ozone precursor pollutant). Although the quantity of project-related emissions is considered to be significant in a NEPA context, the added emissions are not expected to cause any change in federal or state air quality attainment designations.

Noise

Disposal of DODHF Novato would not result in any noise impacts. Building demolition, renovation, and construction activities associated with reuse would cause temporary noise disturbances to adjacent land uses. This would

be a short-term significant and mitigable impact. Limiting the use of heavy construction equipment and outdoor power tools to normal daytime hours would reduce potential noise impacts to a less than significant level. Reuse of DODHF Novato would result in residential use of areas at Rafael Village and Capehart Housing that are exposed to existing ambient noise levels significantly above the land use compatibility guidelines provided in the Novato General Plan. This is a significant and not mitigable impact. While not completely mitigable, the City of Novato and Caltrans should evaluate the feasibility of additional sound walls along US 101 in order to reduce traffic noise impacts on adjacent properties. During detailed planning for new housing units in Rafael Village, the City of Novato should consider site designs that provide for sound walls along Ignacio Boulevard.

Hazardous Materials and Waste

Disposal and reuse of DODHF Novato would not result in any significant hazardous materials and waste-related impacts. Hazardous materials used and waste generated under the reuse alternatives would be regulated by existing state and federal regulations. The Navy will remove all underground storage tanks, abate any lead-based paint or asbestos that pose a threat to human health, and clean up any contamination prior to transfer of DODHF Novato.

OTHER CONSIDERATIONS REQUIRED BY NEPA

Chapter 5 discusses other topics required by NEPA; these include an analysis of cumulative impacts, identification of growth-inducing impacts, unavoidable adverse effects, and irreversible or irretrievable commitment of resources, the relationship between short-term uses and long-term productivity, identification of any unavoidable adverse impacts from the alternatives, and environmental justice. These topics are summarized below.

Cumulative Impacts

The reuse alternatives would result in more jobs and residents in the project area, but these would largely replace jobs and residents lost through closure of the DODHF Novato facility. The primary cumulative impacts in the project area would be impacts to the transportation network. However, because the reuse plan is adaptive reuse of existing housing units, the reuse alternatives would not contribute significantly to cumulative impacts.

Growth-inducing Impacts

The reuse alternatives would not be projected to cause significant adverse growth-inducing impacts.

Unavoidable Adverse Effects

The Revised Reuse Plan Alternative and the Open Space Alternative would result in unavoidable adverse impacts by producing a net increase in nitrogen oxide and reactive organic compound emissions beyond the BAAQMD impact significance threshold. The Revised Reuse Plan Alternative would expose new residents of the Capehart Housing and Rafael Village areas to noise levels above land use compatibility guidelines outlined in the Novato General Plan. The Open Space Alternative would similarly expose residents of Capehart Housing to noise levels above guidelines.

Short-term Uses and Long-term Productivity

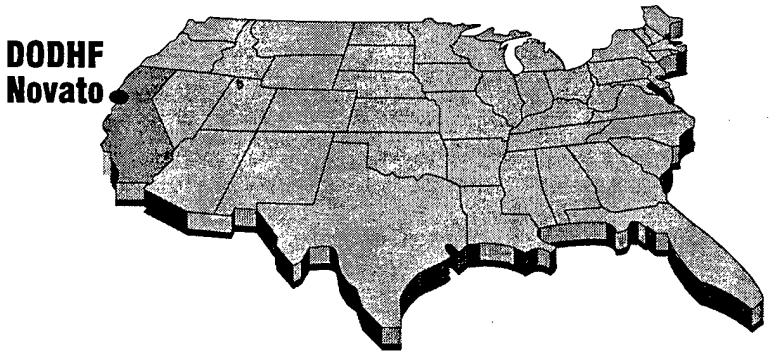
The productivity of DODHF Novato historically has been related to its operation as a military housing support facility, and the resulting military jobs and services it has provided. The reuse alternatives would make use of properties that would otherwise be left unused, improving both the short-term and long-term economic productivity of the City of Novato and Marin County over conditions that would occur with a closed, inactive facility. Additional long-term benefits include environmental cleanup of contaminated sites, provision of jobs, housing, and recreational opportunities, maintenance of open space, and maintenance of various infrastructures on the site.

Irreversible/Irretrievable Commitment of Resources

None of the alternatives would require significant commitments of energy and resources.

Environmental Justice

None of the alternatives would have a disproportionate adverse effect on minority or low-income populations.



1.0 PURPOSE OF AND NEED FOR ACTION

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1.3	RELATED PROCESSES AND DOCUMENTATION	1-5
1.4	DOCUMENT ORGANIZATION	1-11
1.5	PUBLIC INVOLVEMENT	1-12

1. PURPOSE OF AND NEED FOR ACTION

This environmental impact statement (EIS) evaluates the potentially significant impacts to the environment that may result from the Navy disposal and community reuse of the Department of Defense Housing Facility Novato (DODHF Novato) in Novato, California. DODHF Novato will be closing pursuant to the Defense Base Closure and Realignment Act of 1990 (DBCRA), Public Law 101-510, 10 USC 2687), commonly referred to as BRAC. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations on implementing NEPA, Navy policy (OPNAVINST 5090.1B), and BRAC, as amended.

The federal action evaluated in this EIS is the disposal of federal surplus property and structures at DODHF Novato, while the local action evaluated is the proposed reuse of DODHF Novato. The City of Novato may use the EIS in place of an environmental impact report (EIR) pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15221. This EIS is being prepared at a program level of detail. Following disposal, no additional NEPA review by the Navy would be required.

1.1 PURPOSE AND NEED

The Department of Defense (DOD) has for the past several years been reducing its basing and staffing requirements to match current force structure plans. The Defense Authorization Amendments and BRAC established a process to close and realign military bases. The Navy Public Works Center San Francisco Bay (PWCSFB), which owns DODHF Novato, was recommended for disestablishment in the BRAC recommendation approved by Congress in October 1993. All property owned by PWCSFB, including the DODHF Novato Main Site will be closed and disposed of (transferred or sold). DODHF Novato, was closed on September 30, 1996. The portion of DODHF Novato known as the Rafael Village housing area was closed on September 30, 1995.

As a BRAC action, the decision to close DODHF Novato is exempted from NEPA (Public Law 101-510, Section 2906). Navy disposal of DODHF Novato property and potential reuse, however, are not exempted. Requirements under Public Law 101-510 and NEPA relevant to DODHF Novato property disposal 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 portions of the Hamilton Army Airfield Reuse Plan (Reuse Plan) pertaining to DODHF Novato property prior to disposal; and

- Compliance with specific federal property disposal laws and regulations.

1.2 LOCATION AND HISTORY

1.2.1 Location

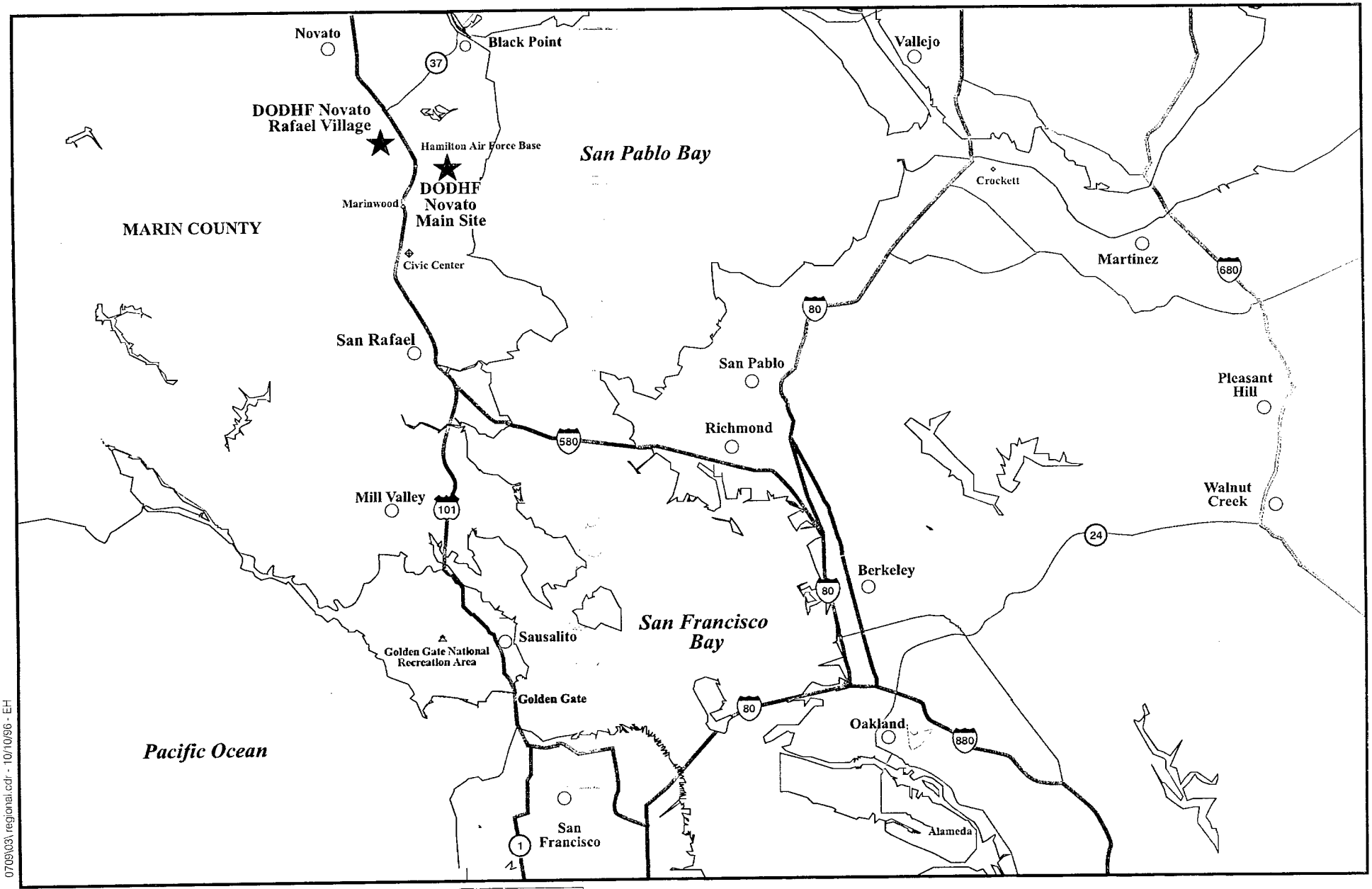
DODHF Novato is located in the southeast portion of the City of Novato, eastern Marin County, California, approximately 20 miles north of San Francisco (Figure 1-1). Most development in Marin County is concentrated in the eastern portion of the county along US Highway 101 (US 101), the primary north-south highway connecting Marin County with San Francisco to the south and Sonoma County to the north. Marin County can be characterized as a high-income suburban area that becomes increasingly rural to the north and west as the commuting range from San Francisco is reached. Novato, the second largest city in Marin County, lies along US 101 near the northern border of the county.

DODHF Novato is composed of approximately 411 acres of Navy-owned land on two sites separated by US 101. The 304-acre Main Site includes military family housing, a commissary, a naval exchange, community service areas, a bowling alley, an officers' club, and recreational fields. The 107-acre Rafael Village military housing area is about one mile northwest of the Main Site (Figure 1-2).

DODHF Novato was the housing and community services portion of the former Hamilton Air Force Base. Other parts of the former air base, adjacent to DODHF Novato but not part of this disposal and reuse action, include a six-acre US Coast Guard (USCG) parcel, a 105-foot railroad right-of-way owned by the Golden Gate Bridge, Highway, and Transportation District (GGBHTD), the 720-acre former Hamilton Army Air Field, and the 415-acre site being developed under the New Hamilton Partnership (NHP) Master Plan.

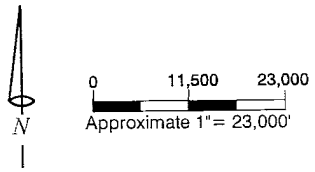
1.2.2 History

Established on San Pablo Bay just north of San Francisco in the early 1930s, Hamilton Field was an integral part of the Army's Pacific Coast defense mission and was a state-of-the-art aviation station. After the initial construction of the permanent base in 1932-1935, Hamilton Field operated as a bombing center and a temporary pursuit plane station until the United States actually entered World War II. During the war, the primary mission of the



Located approximately 20 miles north of San Francisco, the DOD Housing Facility Novato housed military personnel stationed at installations throughout the Bay Area.





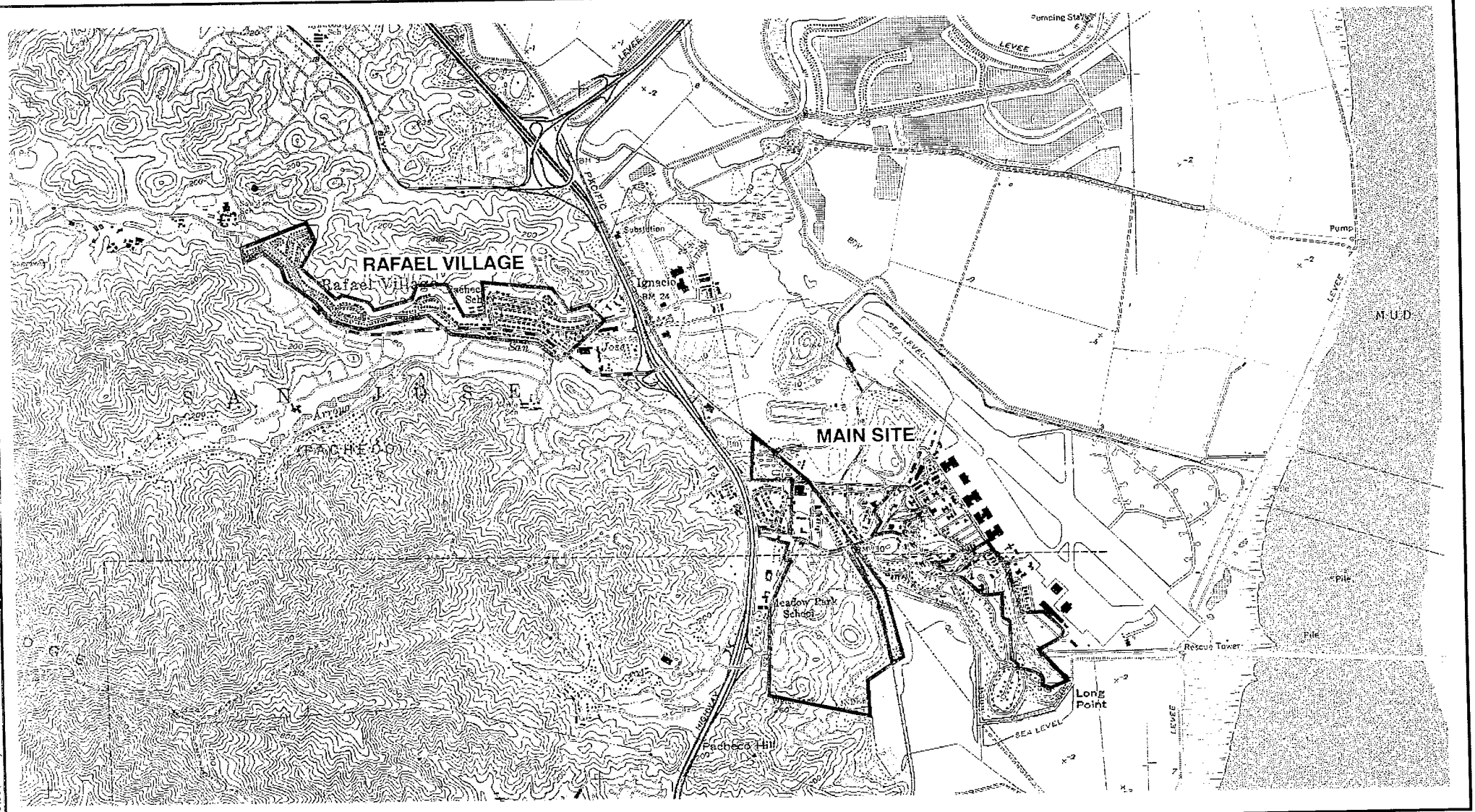
Regional Location Map

DOD Housing Facility
Novato, California

Figure 1-1

Developed by Tetra Tech 1995

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The DODHF Novato includes community facilities and housing on the former Hamilton Air Force Base and the off-site Rafael Village housing area. The railroad corridor through the Main Site is owned by the Golden Gate Bridge, Highway, and Transportation District.

LEGEND:

Approximate boundaries of DODHF Novato

N

0 1,500 3,000

Approximate Scale in Feet

Local Vicinity Map

DOD Housing Facility
Novato, California

Figure 1-2

Source: USGS 7.5 minute series topographic maps, Novato, California (1980) and Petaluma Point (1980)

1-4

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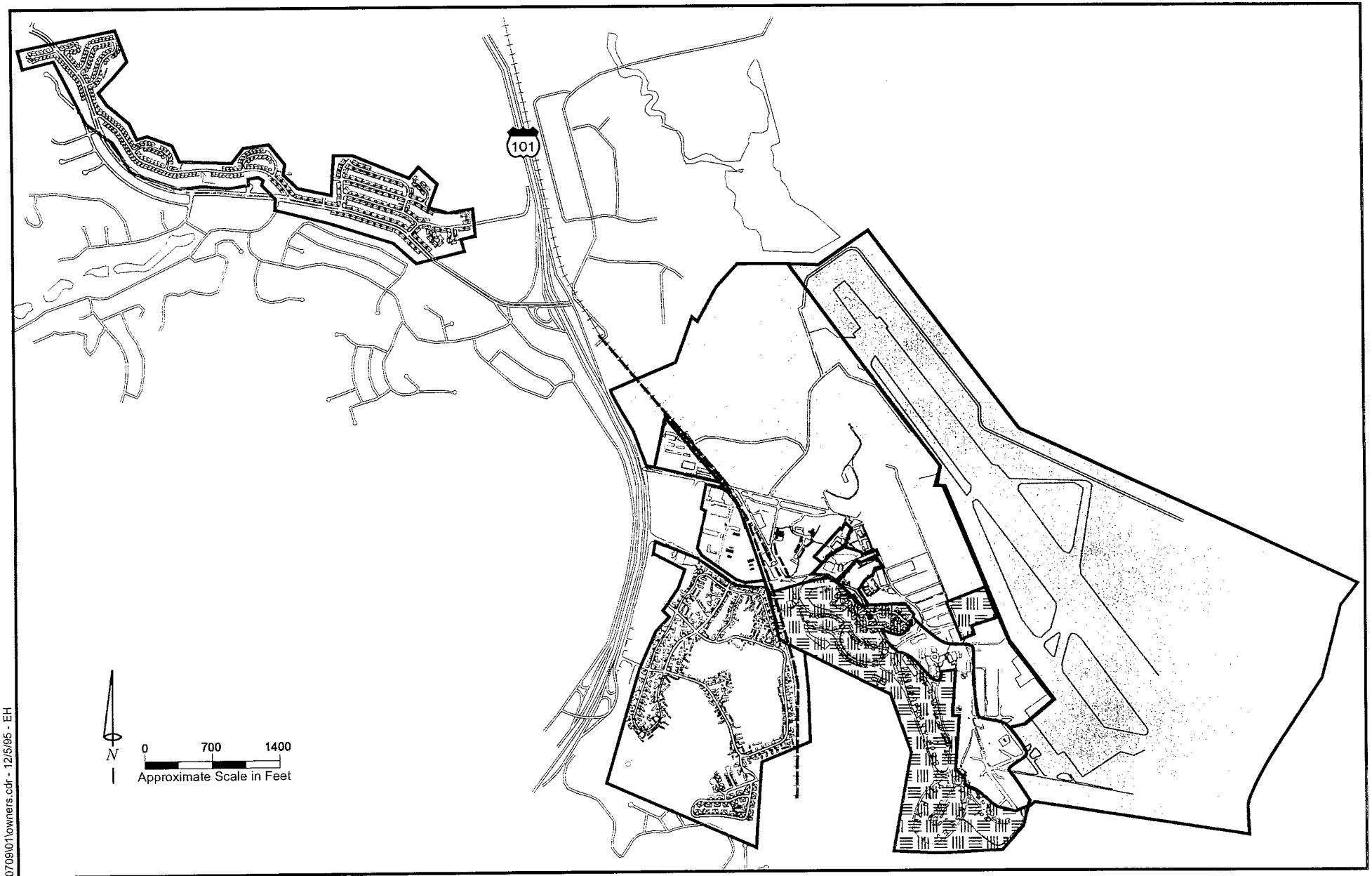
base was to support training operations and the activities of the Air Transport Command, which made it an important jumping off point for units destined for various locations in the Pacific war theater. During the war years, the appearance of the base was transformed by the urgent need for temporary housing, which quickly outnumbered the permanent buildings on the base, filling nearly all of the available space.

From 1947 through 1960, the newly established US Air Force conducted defense and training operations at Hamilton Field, renaming it Hamilton Air Force Base. The base continued to develop but at a reduced level. In addition to the 132 housing units constructed in the 1930s, 505 housing units were built in Rafael Village in 1951 to accommodate the increase in base personnel during the Cold War-era military buildup. An additional 560 units were constructed in an area known as Capehart Housing between 1960 and 1963, as the base's population continued to increase (US Army Corps of Engineers 1993). Base expansion ended in the 1970s, when Hamilton Air Force Base was closed by the Department of Defense. By 1974 the Air Force had closed its operations at Hamilton, and the base was parceled out to other defense branches and to the General Services Administration (GSA). After Hamilton Air Force Base was decommissioned, the Navy took over ownership and operation of housing and community services to form DODHF Novato. The Army took over the runway and associated structures to form Hamilton Army Airfield. The GSA retained ownership of a 415-acre parcel that it auctioned off in 1984 to the Berg-Revoir Corporation; the Berg-Revoir Corporation later sold the land to the Martin Group for development under the NHP Master Plan. The USCG and GGBHTD also retained ownership of small portions of the former Hamilton Air Force Base.

The terms "Hamilton Air Force Base" and "Hamilton Army Airfield" are often used interchangeably to refer to the entire facility before it was divided among different DOD and federal entities. This EIS uses "the former Hamilton Air Force Base" when referencing the entire facility. Current land ownership is shown on Figure 1-3.

1.3 RELATED PROCESSES AND DOCUMENTATION

Numerous concurrent actions are required before BRAC property can be disposed of. Figure 1-4 shows milestones of four major processes that must occur—property disposal, environmental cleanup, community reuse planning, and environmental analysis. Property disposal and aspects of the environmental analysis and environmental cleanup process are discussed below. The community reuse planning process is discussed in Chapter 2. The status of environmental cleanup processes is detailed in Section 3.13, Hazardous Materials and Waste.



In 1930, Marin County deeded much of the Hamilton property to the Army Air Corps for establishment of a West Coast Army air base. In 1947, Hamilton Field became Hamilton Air Force Base. The base was decommissioned in 1974 and slowly excessed. Current land ownership patterns are shown here.

LEGEND:

- Department of the Navy
- Department of the Army
- New Hamilton Partnership
- Coast Guard
- Golden Gate Bridge, Highway, and Transit District

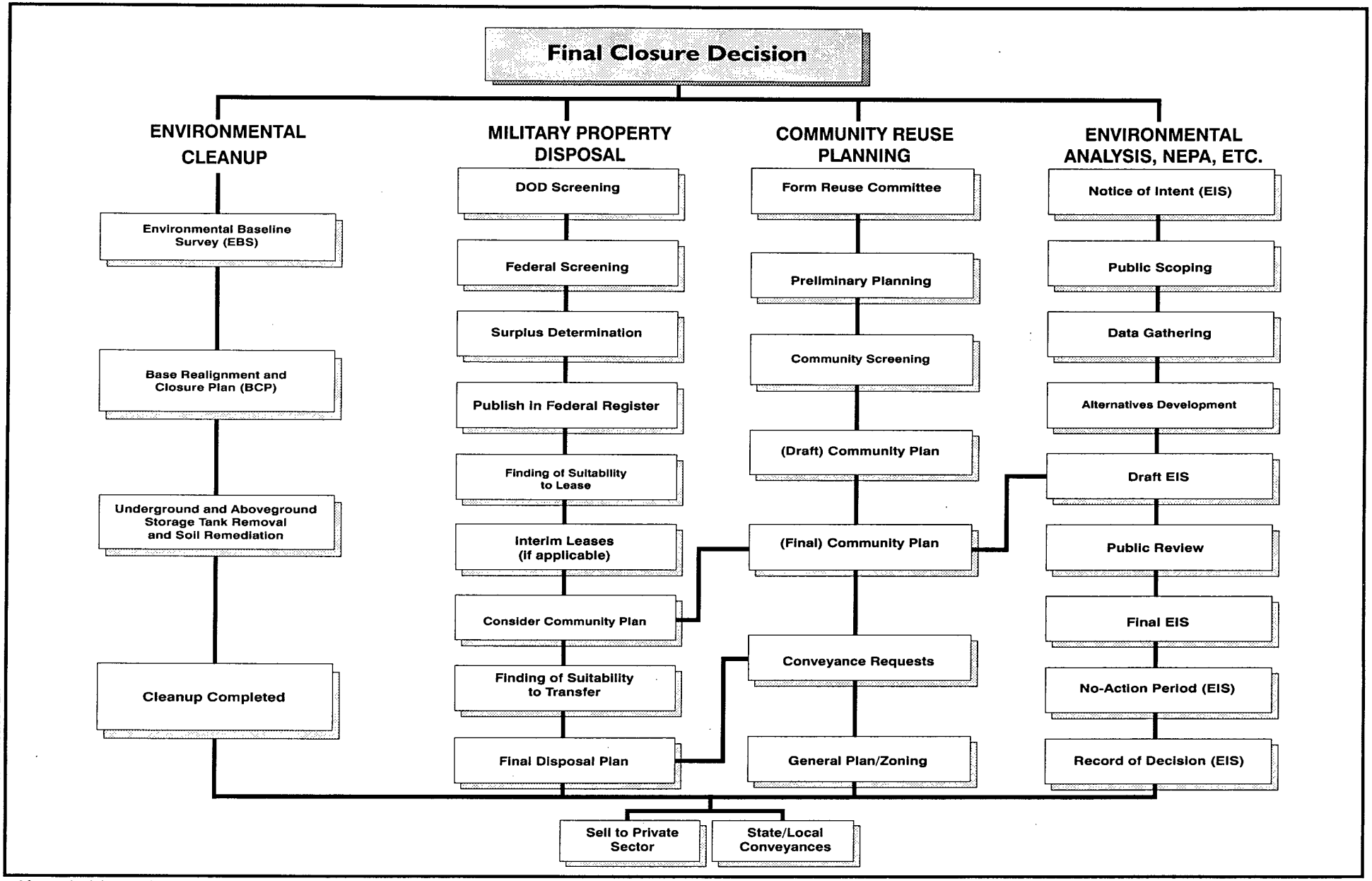
Source: Developed by Tetra Tech, 1995

Ownership Map

DOD Housing Facility
Novato, California

Figure 1-3

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1-7

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After a decision to close a base, four concurrent processes take place prior to property transfer.

Source: Developed by Tetra Tech, 1995

Elements of Military Base Closure and Disposal Process

DOD Housing Facility
Novato, California

Figure 1-4

1.3.1 Property Disposal

The disposal process for the DODHF Novato property is regulated by the Defense Base Closure and Realignment Act of 1994 (Public Law 103-160); the Federal Property and Administrative Services Act of 1949, as amended; the Surplus Property Act of 1944; and the Federal Property Management Regulations (FPMR). The Base Closure Community Development and Homeless Assistance Act of 1994 (PL 103-421) also addresses disposal methods associated with base closure. The Navy also must comply with the 1994 Defense Authorization Act and other laws and regulations, including Title 10 of the US Code and Navy regulations affecting the disposition of real property.

Prior to property disposal, DODHF Novato must undergo contaminated site cleanup. Cleanup of contaminated sites at DODHF Novato is the responsibility of the Navy, and site characterization and remediation is ongoing. Remediation of all sites will be complete before transfer of the property from the Navy.

Facilities at DODHF Novato may be leased on an interim basis prior to Navy disposal. Such leasing could create jobs, increase public and private income, and help preserve the infrastructure through continued use. Interim use of facilities by a non-Navy entity prior to property transfer can be accomplished through the execution of leases, licenses, or permits. The Military Leasing Act of 1956 (10 USC 2667), as amended, permits the Navy to implement interim leasing of excess facilities if it is in the public interest. Interim leases may be instituted if the proposed use would promote national defense or be in the public interest. Interim uses cannot preclude any future Navy options or irrevocably commit resources. Prior to any leasing or permitting, the Navy must complete a Finding of Suitability to Lease (FOSL), documenting that the facility is safe and suitable to use. Appropriate NEPA and related documentation would be completed prior to potential Navy approval of interim leases or parcel transfers.

Property Screening Process

The Navy currently is conducting the property screening process pursuant to the FPMR (41 CFR 101-47). The 1994 Defense Authorization Act (Public Law 103-160), also known as the Pryor Amendment, provides additional methods for disposing of real property.

DOD and Federal Agency Screening. The Navy has completed the DOD and federal screening process for DODHF Novato. Although no DOD agencies expressed an interest in the property, two federal agencies did express interest. The USCG initially requested a portion of the Capehart Housing planning area known as the Hillside Housing subarea. The Department of Veterans

Affairs requested use of 54 housing units in the Knoll Housing subarea of the Spanish Housing planning area. These requests were included in the final Hamilton Army Airfield Reuse Plan. Since adoption of the Reuse Plan, the Department of Veterans Affairs has withdrawn its request and the USCG has twice revised its request. Instead of Hillside Housing, USCG first requested all of the Spanish Housing, Bowling Alley, and Officers' Club planning areas and a portion of the Ballfields planning area. (Detailed descriptions and maps of the various planning areas are provided in Chapter 2.) The original revised USCG request was approved by the Novato City Council on February 13, 1996. Subsequently, USCG further revised its request to include only the land and facilities in the 142-acre Spanish Housing planning area. This revised scenario was included in an updated Reuse Plan published in November 1996.

McKinney Act Screening. The McKinney Act requires DOD and other federal agencies to give priority consideration for homeless assistance over other uses for property that is considered excess, surplus, or underutilized by federal agencies. The US Department of Housing and Urban Development (HUD) screens properties in these categories for suitability for homeless assistance. Congress passed the Base Closure Community Redevelopment and Homeless Assistance Act of 1994, which was signed into law by the president on October 25, 1994. Under this legislation, future base closure properties will no longer be subject to the McKinney Act but will fall under new procedures that require the needs of the homeless to be considered during the reuse planning process and to be balanced with the need for other economic redevelopment. Local redevelopment authorities (LRAs) for BRAC 1993 actions, including DODHF Novato, were allowed to follow either the original McKinney Act screening process or the procedures outlined in the 1994 law. The City of Novato elected to proceed under the new procedures.

Screening for state, local, and homeless assistance needs has been accomplished by the LRA for DODHF Novato, the Hamilton Reuse Planning Authority (HRPA). The HRPA and a coalition of homeless providers, the Hamilton Homes Task Force, negotiated an agreement to create an 80-bed permanent emergency shelter and 60 units of transitional housing units at the DODHF Novato Main Site. The Reuse Plan accepted by the Novato City Council in October 1995 contains provisions for an 80-bed homeless shelter in the northernmost corner of the Commissary Triangle area and 60 units of transitional housing in Capehart Housing. The Reuse Plan was approved by HUD in March 1996 for its homeless assistance element.

State and Local Screening. Property not transferred to other federal agencies or acquired under the revised McKinney Act procedures will be available for transfer to state and local agencies.

The following local entities expressed an interest in DODHF Novato property:

- College of Marin for a corporate yard;
- Marin County Office of Education for property to support educational purposes;
- Novato Unified School District for a corporate yard and office space;
- City of Novato/HRPA for all DODHF Novato property and structures;
- Marin County Free Library for property to build a public library;
- Marin Municipal Water District for property to provide operations for potable and/or reclaimed water deliveries;
- Novato Fire Protection District for property for storage purposes;
- North Marin Water District for property to support operations for water and recycled water; and
- Golden Gate Bridge, Highway, and Transportation District for a transit center.

The interested local entities are now in the process of submitting formal applications for property at DODHF Novato.

Methods of Conveyance

Under the FPMR and following base closure and environmental remediation, the Navy may convey properties to a public agency under an economic development conveyance, a public benefit discount conveyance, or a negotiated or competitive sale.

Transfer to Another Federal Agency. The Navy will transfer the Spanish Housing area of DODHF Novato to the Coast Guard. This transfer is addressed under a discussion of cumulative impacts in this EIS.

Public Benefit Discount Conveyance. State or local government agencies or other qualified entities may obtain property at less than fair market value when sponsored by a federal agency for uses that would benefit the public. Public benefit conveyances typically restrict uses to airports, ports, prisons, educational facilities, recreational facilities, public health, wildlife conservation, historic monuments, and memorials.

Negotiated Sale. State and local government agencies or other qualified entities may request a sale at fair market value with negotiation of the payment terms.

Economic Development Conveyance. Economic development conveyances are mechanisms to convey property to an LRA at or below fair market value using flexible payment terms for the purpose of economic development and job creation. To qualify for this conveyance, the LRA must submit a request to the Department of the Navy describing its proposed economic development and job creation program. The conveyance mechanism further

requires that the Navy prepare a statement to explain why fair market value was not received.

Competitive Sale. Sale to the public would occur through either an invitation for bids or an auction.

1.3.2 Environmental Cleanup

DOD policy requires the preparation of an environmental baseline survey (EBS) prior to the sale, lease, or transfer of real property. A basewide EBS report is a factual representation of the environmental conditions for all property at an installation. The EBS is used to meet the requirements of the Community Environmental Response Facilitation Act (CERFA). The basewide EBS and CERFA Report for DODHF Novato was completed in October 1995 (US Navy 1995a) and documented the environmental conditions of real property at DODHF Novato and adjacent properties. DODHF Novato parcels were given one of seven classifications based on storage, release, disposal, or migration of hazardous substances. Uncontaminated parcels also were identified by this classification process (as Type 1).

The BRAC Cleanup Plan (BCP) for a closing base documents the status of environmental restoration and associated compliance programs. The BCP for DODHF Novato (US Navy 1996a) was completed in March 1996. The BCP provides a thorough evaluation of the status of various cleanup programs and summarizes the items that require further evaluation and compliance. The document will be updated annually or as necessary, recording the changing conditions and level of completion of these restoration programs until restoration is complete. Findings of the BCP are summarized in Section 3.13, Hazardous Materials and Waste.

Cleanup of DODHF Novato is being conducted under the guidance of the California Department of Toxic Substances Control (DTSC).

1.4 DOCUMENT ORGANIZATION

The organization of this document is outlined below.

Chapter 1, Purpose of and Need for Action, provides the reader with an overview of the reasons for the disposal and reuse of the facility. This chapter discusses the Navy disposal and potential community reuse of the DODHF Novato property. It describes NEPA requirements for EIS content and approach, the decision process for closing the installation, the disposal process, and the process used to solicit public and agency input on potentially significant environmental impacts.

Chapter 2, Proposed Action and Alternatives, describes the proposed Navy disposal action and summarizes the EIS public involvement process and the community planning process leading to the formulation of the community reuse alternatives. In addition to Navy disposal and the Preferred (Reuse) Alternative, this EIS analyzes the Navy No Action Alternative and one other community reuse alternative.

Chapter 3, Affected Environment, describes the existing environmental conditions at DODHF Novato.

Chapter 4, Environmental Consequences, identifies the potential environmental impacts to resources on the DODHF Novato property and in a region of influence resulting from Navy disposal and community reuse of DODHF Novato. This EIS assesses the impacts of the Preferred Alternative and other alternatives in order to provide the public, interested agencies, and decision-makers with a clear understanding of the environmental effects of adopting each alternative. Mitigation measures are provided to reduce or eliminate any identified significant environmental impacts.

Chapter 5, Other Considerations Required by NEPA, addresses other topics required by NEPA including cumulative impacts, growth-inducing impacts, unavoidable adverse impacts, the relationship of short-term uses to long-term productivity, irreversible and irretrievable commitment of resources, and a discussion of environmental justice.

Chapters 6 through 10 provide background information including consultation with interested and responsible agencies, a list of references, a list of preparers, an index, and a distribution list.

Technical appendices follow these chapters.

1.5 PUBLIC INVOLVEMENT

The process of preparing an EIS is designed to involve the public in federal decision-making. Public opportunities to comment on and participate in the process have been provided during the preparation of this EIS, as outlined below. Comments from agencies and the public have been solicited to help identify the potential environmental issues associated with the DODHF Novato property disposal and reuse. The public notification process included the full spectrum of area residents and community organizations. Appendix B provides copies of public involvement materials. Chapter 10 includes a copy of the current mailing list for the EIS. Methods to involve the public in the EIS process have included the following:

- Conducting a public scoping meeting in Novato to solicit comments and identify issues of concern;
- Conducting a public meeting in Novato to receive comments on the Draft EIS and providing the required 45-day public comment period;
- Publishing public notices of hearings in three local newspapers, mailing public announcements, and coordinating media coverage, press releases, and feature articles; and
- Creating and updating a mailing list to disseminate information.

1.5.1 Scoping Process

The purpose of scoping is to identify potential environmental issues that would be raised by disposal and reuse. The scoping process for the DODHF Novato Disposal and Reuse EIS included placing notices in the Federal Register and newspapers, conducting a public meeting, and using direct mail. The Navy and the EIS consulting team have considered comments received during the scoping period in determining the issues to be evaluated in the EIS. The main issues identified during the scoping period are summarized in Section 1.5.2 below and are addressed in specific technical sections in Chapters 3 and 4.

The public was notified of the Navy's intent to prepare this EIS by a notice of intent (NOI) published in the October 31, 1995, issue of the Federal Register. Legal ads were published in local newspapers, including the San Francisco Chronicle and Marin Independent Journal, on November 5 and 6, 1995, and the Novato Advance on November 15, 1995.

Letters announcing a scoping meeting, including a project description and summary of the reuse plan, were mailed to all public agencies, public interest groups, and individuals either known to have or thought to have an interest in the disposal and reuse of DODHF Novato. The scoping letter invited written comments and announced the public hearing for 7:00 PM on November 16, 1995, at the San Marin High School Student Center in Novato, California. Approximately 20 individuals attended the scoping hearing, including local agency representatives and members of the public. Issues identified at the meeting and in subsequent letters are summarized in Section 1.5.2 below.

1.5.2 Summary of Scoping Issues

During the EIS scoping process, which ended December 1, 1995, twelve letters were received from members of the public, interested groups, and federal, state, and local agencies. In addition to these written comments, seven people

made verbal comments at the scoping meeting. The main issues of concern identified through the scoping process were the effects of demolition of the Rafael Village housing units on air quality, water quality, noise, traffic, and area landfills; the effects of reuse on open space areas, native trees, wetlands and riparian areas, creeks, and other biological resources; the impacts of reuse on traffic; and the impacts of reuse on surrounding neighborhoods, particularly Lanham Village. These issues and concerns are detailed in Table B-1, Appendix B, and are incorporated into the EIS.

1.5.3 Public Review

Draft EIS

The public is invited to review and comment on this Draft EIS. A notice of availability has been published in the Federal Register, public notices were mailed to those on the mailing list and published in three local newspapers, and press releases were furnished to the local news media, beginning the 45-day public comment period. This comment period provides an opportunity for the public to review the issues addressed in the impact analysis and to offer appropriate comments on any aspect of the process. The public and concerned agencies or groups are invited to send written comments on this EIS to the following address:

Commanding Officer
Engineering Field Activity West
Naval Facilities Engineering Command
Attn: Mr. Gary J. Munekawa, Code 1852GM
Environmental Planning Branch
900 Commodore Drive
San Bruno, CA 94066-5006

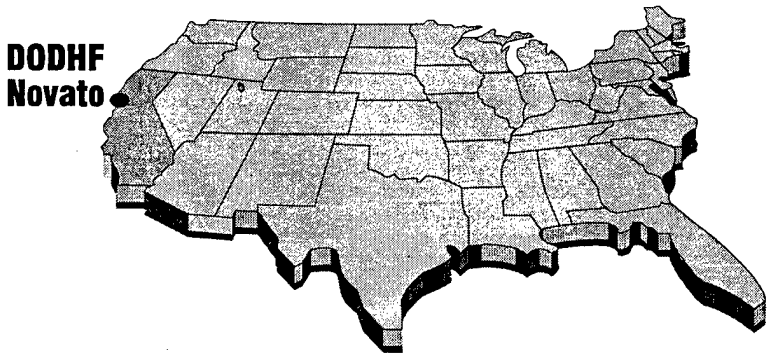
A public meeting will be held during this period to hear comments and to receive written comments on the Draft EIS. The date, time, and place of the meeting will be announced in the media and in the transmittal letter accompanying this document.

Final EIS

A Final EIS, incorporating and responding to comments received on the Draft EIS, will be furnished to persons registering official comment on the draft document and to others requesting a copy. A Notice of Availability of the Final EIS will be published in the Federal Register and in public notices and press releases.

As required under NEPA, there will be a 30-day waiting period (No Action Period) after the Final EIS (see Figure 1-4) is published. During this period, the

public may comment on the adequacy of responses to comments. After the waiting period, a Record of Decision (ROD) will be prepared.



2.0 PROPOSED ACTION AND ALTERNATIVES

2.1	DEVELOPMENT OF ALTERNATIVES	2-1
2.2	DESCRIPTION OF ALTERNATIVES	2-3
2.3	ENVIRONMENTALLY PREFERABLE ALTERNATIVE	2-26
2.4	ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION	2-26

2. PROPOSED ACTION AND ALTERNATIVES

This chapter describes the process the community used to develop its reuse plan, the selection criteria for reuse alternatives, the disposal action, and the reuse alternatives considered in the EIS. Reuse alternatives that were considered but eliminated from detailed review also are described. The proposed action evaluated in this EIS is the Navy disposal and community reuse of surplus land at DODHF Novato. Community reuse alternatives analyzed in this EIS include the Revised Reuse Plan Alternative, which is based on the revised community Reuse Plan, an Open Space Alternative, and the No Action Alternative. The activities required for disposal, described in Section 1.3, are assumed to be a part of each alternative except the No Action Alternative.

This EIS addresses only that part of the former Hamilton Air Force Base that is being disposed of by the US Navy. The Reuse Plan, developed by the community and upon which the Revised Reuse Plan Alternative is based, includes land owned by the US Army and the USCG. The Reuse Plan also summarizes the development plan for the adjacent land currently being developed by New Hamilton Partnership. The reuse of these adjacent lands, while not included in the Revised Reuse Plan Alternative, is addressed in Section 5.1, Cumulative Impacts.

2.1 DEVELOPMENT OF ALTERNATIVES

2.1.1 Community Reuse Planning Process

The reuse planning process for DODHF Novato began when Congress approved closure of the facility in October 1993. The Hamilton Reuse Planning Authority (HRPA) developed the Reuse Plan with support and assistance from the Navy. In March 1994, the City of Novato and the County of Marin agreed to establish a procedure for joint participation in the reuse planning process for the former Hamilton Air Force Base to ensure the protection of local and regional interests. The procedure included creation of the Hamilton Advisory Commission (HAC), a citizens' committee of 25 representatives of numerous stakeholder groups; a Technical Advisory Committee (TAC); and a Multi-agency Board (MAB) composed of two members from the Novato City Council, one member selected by the city council, two members of the County Board of Supervisors, and one individual selected by the board. The role of MAB was to review the recommendations of HAC and make a recommendation to the Novato City Council regarding adoption of the plan.

The primary objective of the planning process was to develop a community reuse plan for the entire former Hamilton Air Force Base complex that reflects community consensus through substantial public involvement. A second objective was to identify affordable housing opportunities to satisfy a significant portion of Novato's state-mandated affordable housing quotas and to assist homeless providers.

Starting in February 1995, HAC held a series of nine public hearings to obtain public input in the formulation of reuse alternatives. HAC divided the former Hamilton Air Force Base complex into 10 planning areas and the runway parcel. Based on public input, HAC developed reuse alternatives for each of the 10 planning areas (eight of which are owned by the Navy and considered in this EIS), as well as the runway parcel and forwarded them to MAB. The alternatives are presented in a series of land use maps and written land use designations and include assumptions used by HAC to guide the planning process. HAC did not recommend a preferred alternative, nor did it recommend any policy direction on the various planning issues that arose during the public participation process. In July 1995, MAB selected preferred land use plans for each of the 10 planning areas and the runway parcel. These preferred plans were then developed into the draft Reuse Plan, which was released in August 1995. The Novato City Council adopted the final Reuse Plan in October 1995.

The final Reuse Plan adopted in October 1995 took into account the original Department of Veterans Affairs and USCG federal property requests as described in Section 1.3.1 of this EIS. After city adoption of the Reuse Plan, the Department of Veterans Affairs withdrew its request for property and the USCG revised its request for property to the Spanish Housing area instead of the Hillside/Capehart Housing area. The MAB recommended adoption of the revised USCG request on January 16, 1996 and the City of Novato approved the revised USCG request on February 13, 1996. This revised scenario was published in an updated Reuse Plan in November 1996. Because the transfer of the Spanish Housing property to the USCG involves transfer of federal property between two federal agencies, there is no surplus property disposal. Therefore, this action is not considered to be part of the disposal action addressed in this EIS. However, USCG use of the Spanish Housing facilities is included in the cumulative impact analysis in Chapter 5.

2.1.2 Selection of Alternatives

An EIS must consider a range of reasonable alternatives that are evaluated at the same level of detail as the Preferred Alternative. The EIS Preferred Alternative is the federal disposal of surplus federal land at DODHF Novato and the subsequent reuse of DODHF Novato, as recommended in the revised Reuse Plan. Since the Revised Reuse Plan Alternative retains most DODHF

Novato structures and facilities, except for the Rafael Village housing units, the Preferred Alternative can best be characterized as adaptive reuse.

EIS alternatives to the Revised Reuse Plan Alternative include an Open Space Alternative and the required No Action Alternative. The reuse alternatives are designed to provide a range of choices that will allow federal and local decision-makers, interested agencies, and the public to understand the environmental effects of Navy disposal and potential community reuse. The reuse alternatives, including the Preferred Alternative, are identified at a relatively general program level. Specific uses of buildings and sites would be determined as the Reuse Plan is implemented.

2.2 DESCRIPTION OF ALTERNATIVES

Federal disposal is assumed to be part of each alternative except the No Action Alternative. Potential effects resulting from implementation of the alternatives are described in Chapter 4, Environmental Consequences.

This section describes the following Navy disposal and community reuse alternatives in detail:

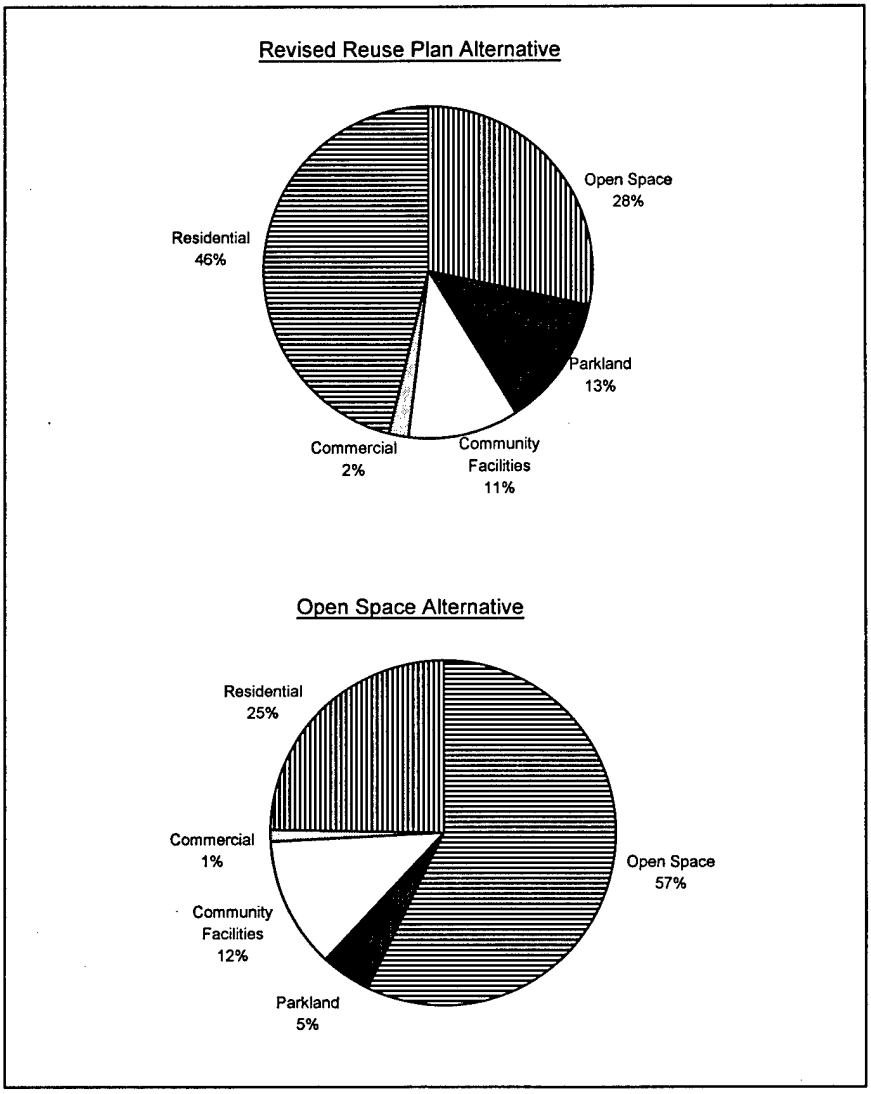
- **Revised Reuse Plan Alternative (Preferred Alternative)**—The Navy would dispose of its surplus property at DODHF Novato, and a local entity or entities would implement the Reuse Plan for each of the remaining Navy-owned planning areas.

- **Open Space Alternative**—Under this alternative, the existing housing units at Rafael Village would be demolished and the area would be graded and revegetated. Reuse of the Main Site generally would be the same as described for the Preferred Alternative.

- **No Action Alternative**—Under this alternative, all of the property and facilities at DODHF Novato would remain under federal ownership in caretaker status.

Figure 2-1 presents an overview and comparison of the land uses proposed for the Revised Reuse Plan Alternative and the Open Space Alternative.

Figure 2-1
Comparison of Alternatives



2.2.1 Navy Disposal Action

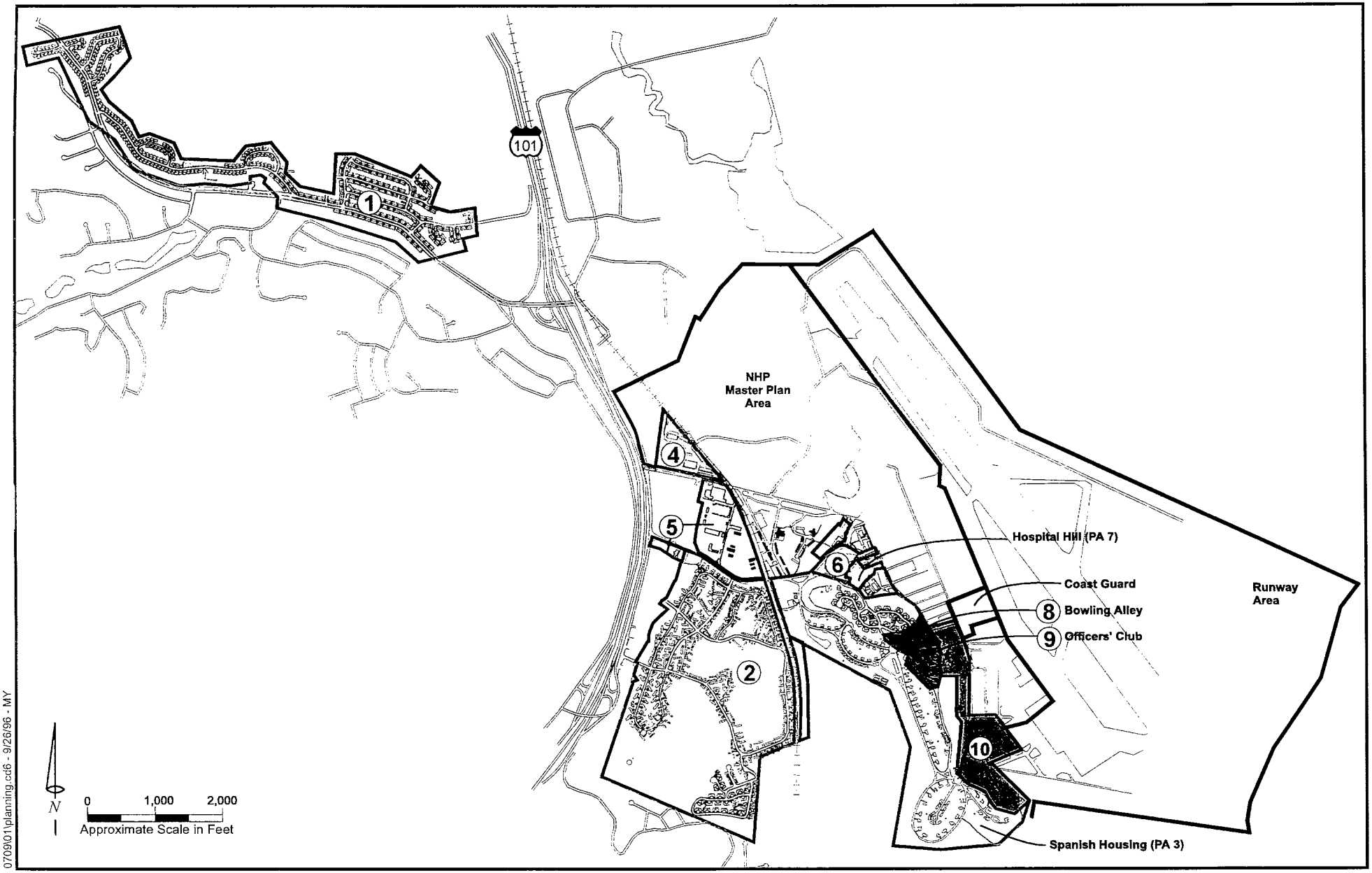
Navy disposal is included in this document to evaluate the impacts that would occur from the disposal of the DODHF Novato property out of federal ownership. For example, if disposal of the property would lessen the protection afforded to a sensitive resource, this would be discussed in Chapter 4, Environmental Consequences, as an impact under Navy disposal.

2.2.2 Revised Reuse Plan Alternative - Preferred Alternative

The EIS Preferred Alternative is the implementation of the revised Reuse Plan. The Revised Reuse Plan Alternative reflects the community's goals developed during the reuse planning process and the most current plans for reuse of the residential and nonresidential lands within the former Hamilton Air Force Base. The Reuse Plan also provides land use direction for the City of Novato. The EIS evaluates the Revised Reuse Plan Alternative as the Preferred Alternative since it reflects the scenario most likely to occur.

The Reuse Plan identifies 10 planning areas and a runway area at the former Hamilton Air Force Base. Only the community reuse of the eight Navy-owned planning areas within DODHF Novato is evaluated in this EIS. DODHF Novato planning areas are shown on Figure 2-2. Figures 2-3 and 2-4 show detailed views of Rafael Village and the Main Site planning areas, respectively. Photographs showing facilities and representative views of each planning area are contained in Appendix A.

The Reuse Plan can be characterized as promoting adaptive reuse of existing buildings and retention of existing land use patterns. Most existing structures at DODHF Novato are housing units and would remain as housing units under the Reuse Plan. The nonresidential buildings would be adapted for new uses, but would retain their basic structure and appearance. Some buildings would be demolished or restored. The Reuse Plan identifies land use designations for each planning area. The EIS analyzes the effects of the proposed land uses contained in the plan and evaluates the potential environmental impacts at buildout of the plan. The EIS also identifies assumed land ownership in conjunction with proposed reuse.



The Hamilton Army Airfield Reuse Plan divides the former base into 10 planning areas. This EIS evaluates the disposal and reuse of the eight Navy-owned planning areas. The two remaining planning areas, Hospital Hill and Spanish Housing, are owned by the Army and USCG, respectively.

Source: Hamilton Reuse Planning Authority 1995

LEGEND:

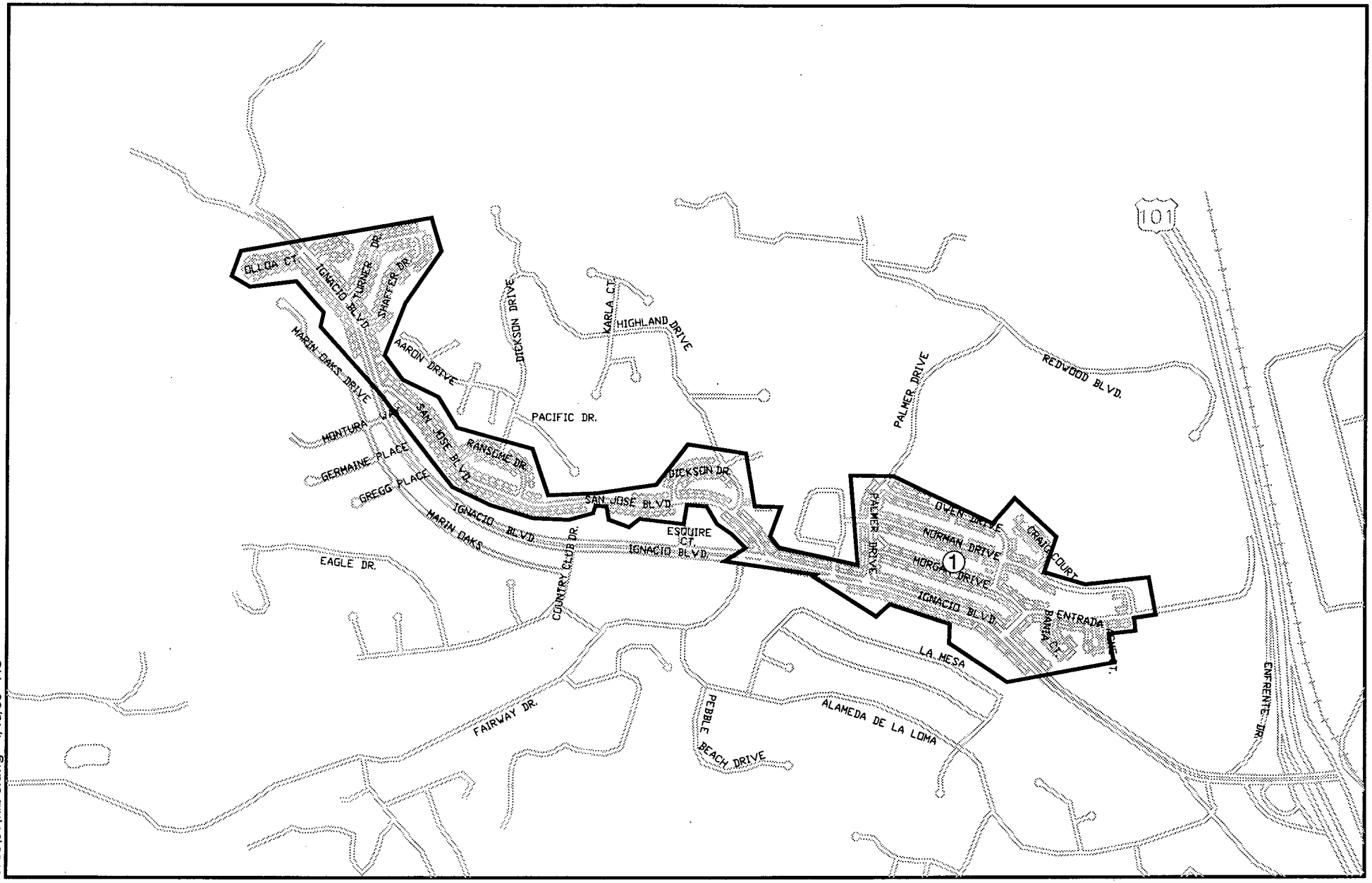
- (1) Rafael Village
- (2) Capehart Housing
- (4) Commissary Triangle
- (5) Exchange Triangle
- (6) Town Center
- (8) Bowling Alley
- (9) Officers' Club
- (10) Ballfields

DODHF Novato Planning Areas

DOD Housing Facility
Novato, California

Figure 2-2

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Rafael Village, located one mile northwest of the Main Site across US 101, was constructed in the 1950s to provide housing for military families.

Legend:

(1) Rafael Village

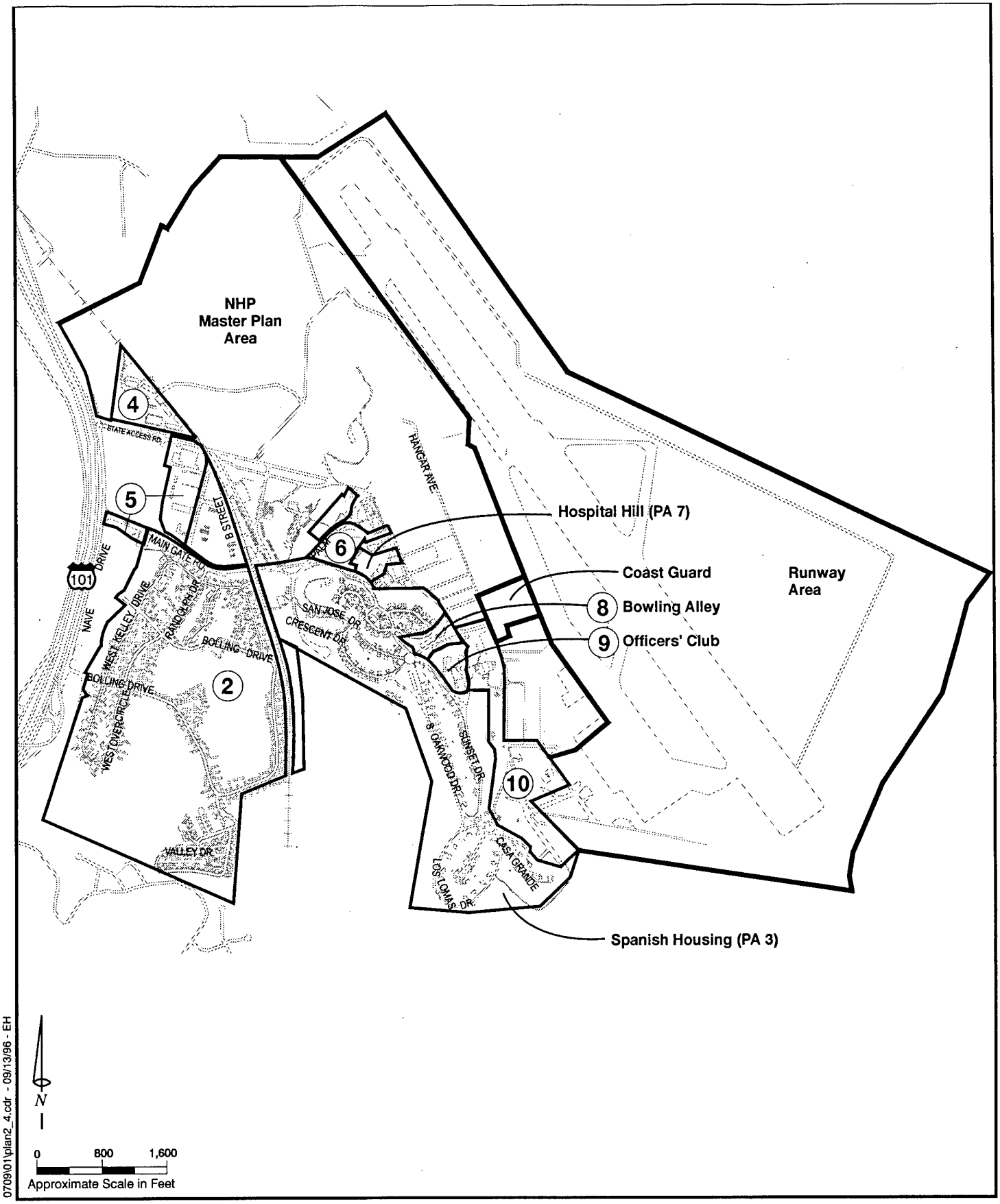
0 500 1,000
Approximate Scale in Feet

N

DODHF Novato
Rafael Village
DOD Housing Facility
Novato, California
Figure 2-3

Source: Hamilton Reuse Planning Authority

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The Main Site includes housing and community service facilities.

LEGEND:

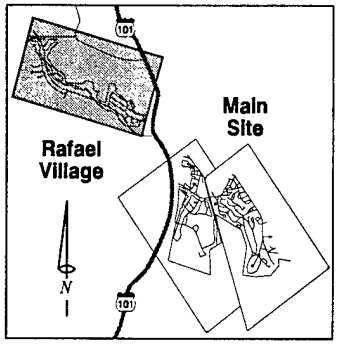
- (2) Capehart Housing
- (4) Commissary Triangle
- (5) Exchange Triangle
- (6) Town Center
- (8) Bowling Alley
- (9) Officers' Club
- (10) Ballfields

DODHF Novato Main Site

DOD Housing Facility
Novato, California

Figure 2-4

Source: Hamilton Reuse Planning Authority, 1995

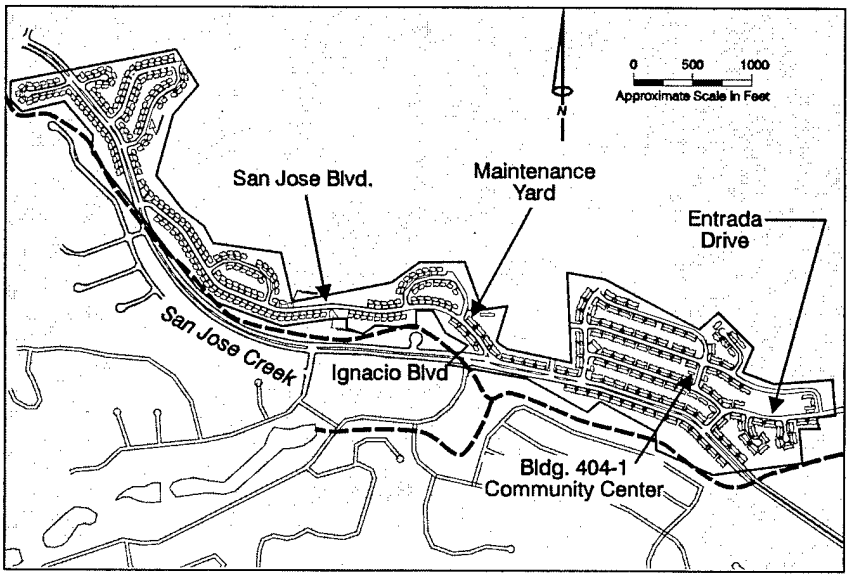


Planning Area 1. Rafael Village

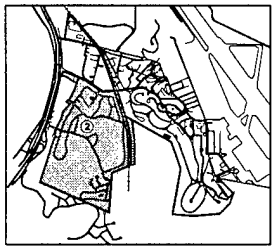
Rafael Village is approximately one mile northwest of the Main Site, west of US 101 along Ignacio Boulevard. The 107-acre suburban residential development is characterized by nonlinear streets and mature landscaping, with greenbelt areas mixed among the units. The development contains primarily single-family units in the western portion and duplexes in the eastern portion. The 1950-era Wherry-style housing units are similar to each other in color, design, and material, and show signs of age and wear. Rafael Village is surrounded by private residences.

A community center and a maintenance yard also are located at Rafael Village. The community center is in Building 404-1 on Owen Drive between Morgan and Norman Drives. The 5,000 square foot maintenance yard is located off Dickson Drive behind Buildings 890 and 892 and contains no structures. Rafael Village was closed in September 1995, and the Navy has boarded up the structures.

The Revised Reuse Plan Alternative would demolish the 503 Rafael Village structures and rebuild the property with residences, open space, and parkland. The proposed 500 dwelling units on 86 acres would include 275 low-density units, 125 medium-density units, and 100 medium-density multiple-family units. The Revised Reuse Plan Alternative would include up to seven acres of parkland in areas not yet designated and seven acres of open space along Ignacio Boulevard and San Jose Creek.



Planning Area 2. Capehart Housing

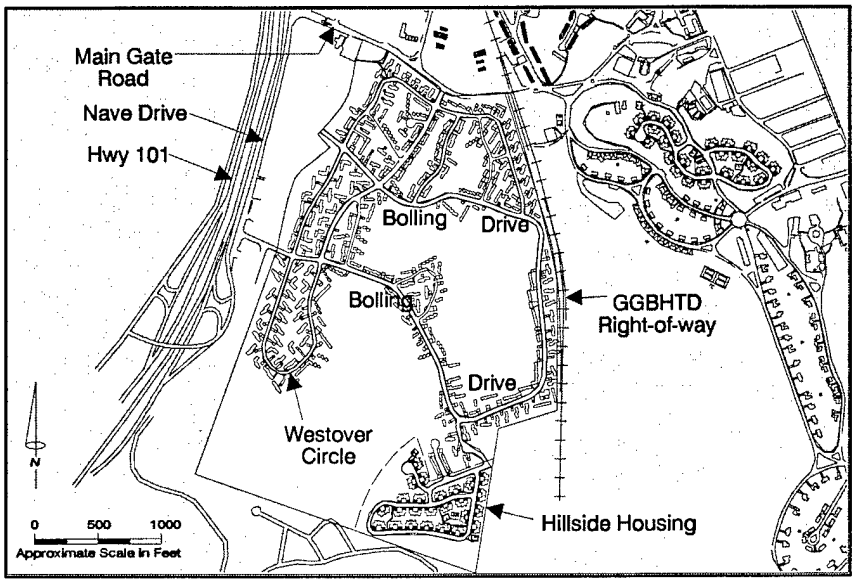


Capehart Housing is a 216-acre suburban residential development set in an open space hillside area. Primary access to the site is from Main Gate Road. Secondary access is from Bolling Drive, an entry that can be gated. Capehart Housing has 708 residential units, including townhouses and duplexes. The Hillside Housing subarea consists of 25 buildings with six units per building for a total of 150 units of the 708 units in the planning area. These units are newer than the other units in Capehart Housing.

The visual character of the Capehart Housing planning area is dominated by the nonlinear street and residential layout, mature oak trees, rock outcroppings, and the steep hillside area. The structures and landscaping appear well maintained, and the housing units are of varied architectural styles. The hilltops allow expansive views of San Pablo Bay and the wooded hills of Novato.

Railroad tracks and a 105-foot right-of-way owned by the GGBHTD run along the east side of the Capehart Housing planning area.

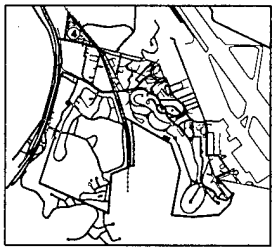
Land uses under the Revised Reuse Plan Alternative include reuse of the 100 acres of existing housing, with nine acres of parkland and 107 acres of open space. Sixty of the residential units at Capehart Housing would be used for transitional housing.



Planning Area 3. Spanish Housing

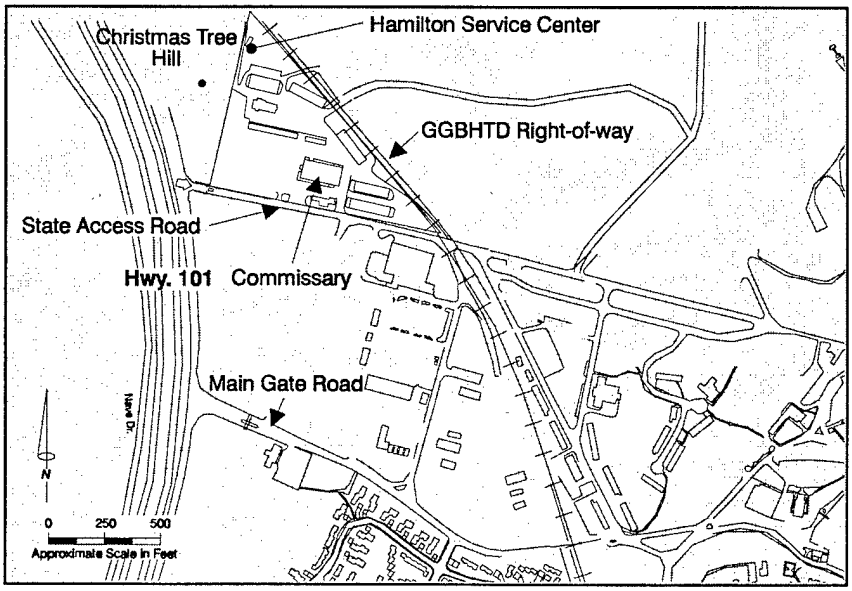
Spanish Housing is being transferred to the U.S. Coast Guard and is addressed under Cumulative Impacts, Section 5.1.

Planning Area 4. Commissary Triangle

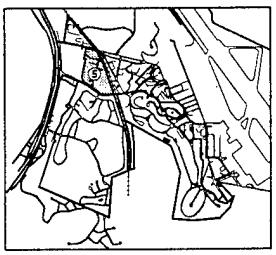


The Commissary Triangle is a 13-acre site on State Access Road just inside the north gate. Christmas Tree Hill borders the area to the west, providing a buffer between the planning area and Nave Drive and US 101. Commissary Triangle consists of nine warehouse-style buildings, including the Commissary (Building 804) and adjacent parking lots. The site has minimal landscaping.

The Revised Reuse Plan Alternative would reserve the area for community facility and civic uses. Specific uses allowed under this alternative would include the Hamilton Service Center, an 80-bed temporary homeless shelter on 3.9 acres.

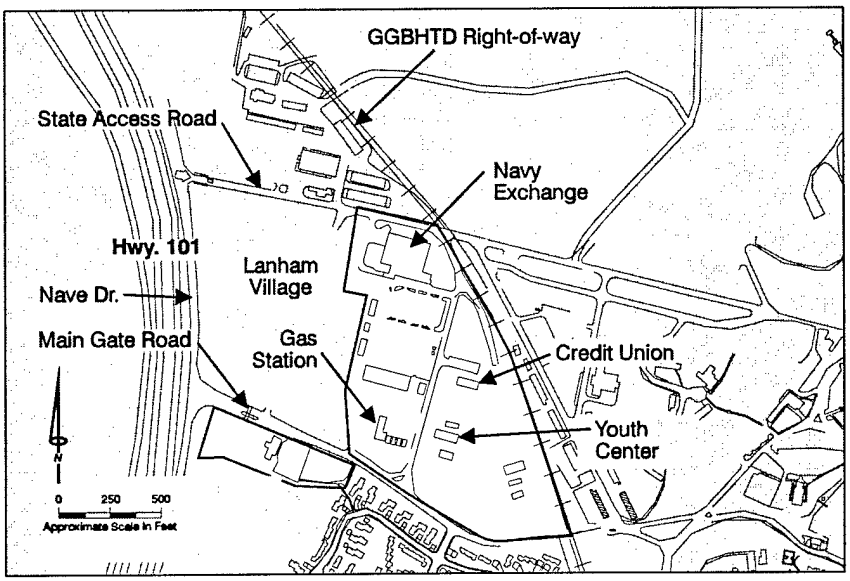


Planning Area 5. Exchange Triangle

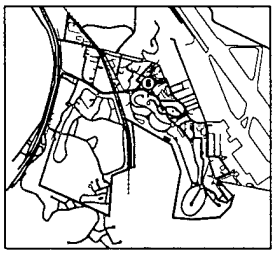


The Exchange Triangle is a flat developed area with extensive parking lots and a variety of old and new, large and small buildings. The Exchange Triangle consists of two sites—a primary site north and east of the nonmilitary Lanham Village housing development and a secondary site directly south of Lanham Village at the corner of Main Gate Road and Nave Drive. The two sites in the Exchange Triangle planning area total 28 acres and include 14 nonresidential structures including the exchange building with retail stores, a credit union, youth centers, a tot lot, a skateboard ramp, a gas station, maintenance buildings, administration buildings, and parking lots.

The Revised Reuse Plan Alternative would designate 26 acres of the site for Community Facility and Civic uses - Special Uses Permitted. Specific uses could include a transit center, library, charter school, homeless shelter, child care facility, and up to 210 units of senior housing. Two acres would be designated for neighborhood commercial uses to accommodate residents.



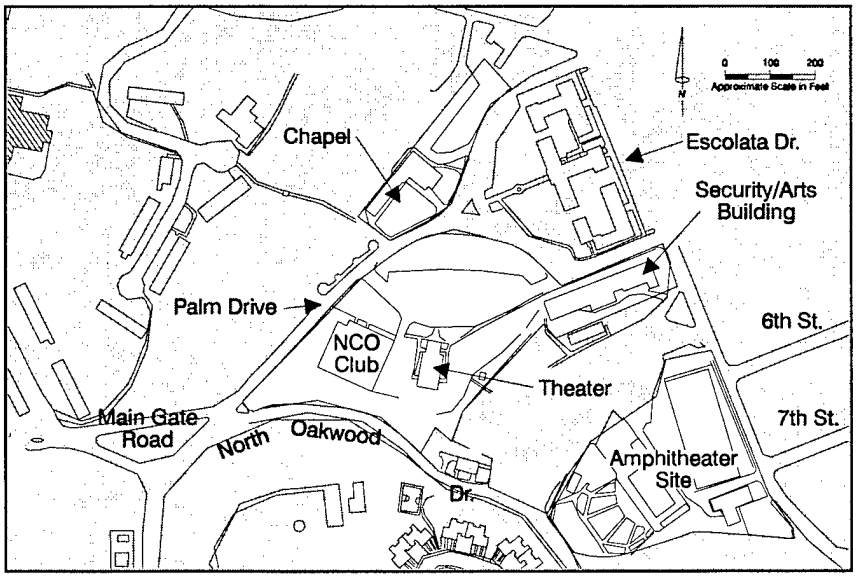
Planning Area 6. Town Center



The Town Center consists of eight acres at the terminus of Palm Drive. It is a well-maintained public area characterized by mature landscaping and Spanish Eclectic architecture. Structures in this planning area include the security/arts building, movie theater, chapel, former infirmary, noncommissioned officers' (NCO) club, and former officers mess. Large landscaped areas surround the buildings.

The Revised Reuse Plan Alternative would use four acres of the site as a neighborhood commercial area that could accommodate a theater, offices, cafes, specialty shops, personal service shops, or artist workspaces. Two acres would be used for community facilities, such as the existing chapel, and two acres would serve as a central plaza.

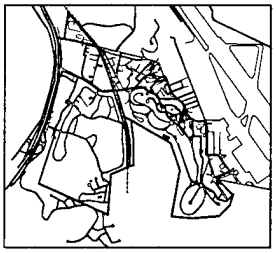
Southeast of Planning Areas 6 and 7, the Navy also owns a parcel of land known as the Amphitheater site. The Navy has approved a lease to the City of Novato and its anticipated sublessee, the New Hamilton Partnership, to refurbish the existing facilities in this area for use as a park. Although not designated as part of a planning area in the Reuse Plan, the disposal and reuse of this parcel is included in the EIS.



Planning Area 7. Hospital Hill

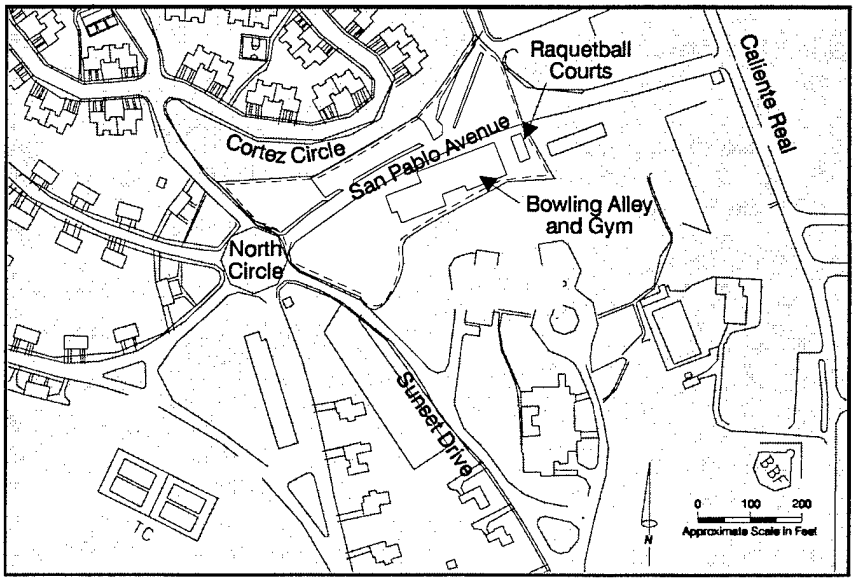
Hospital Hill is administered by the U.S. Army and is addressed under Cumulative Impacts, Section 5.1.

Planning Area 8. Bowling Alley

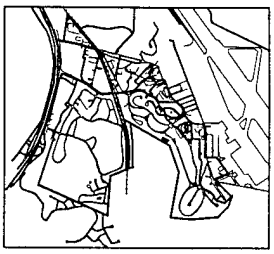


The Bowling Alley planning area consists of two buildings on three acres with a parking lot on the opposite side of San Pablo Avenue. The buildings include the bowling alley with gym (constructed in 1945 and renovated in 1982) and the racquetball courts (constructed in 1994). The parking lot is backed by the landscaped hill of the Officers' Club planning area.

The Revised Reuse Plan Alternative would use the three-acre site for recreation enterprises, such as the existing bowling alley and gymnasium facility.

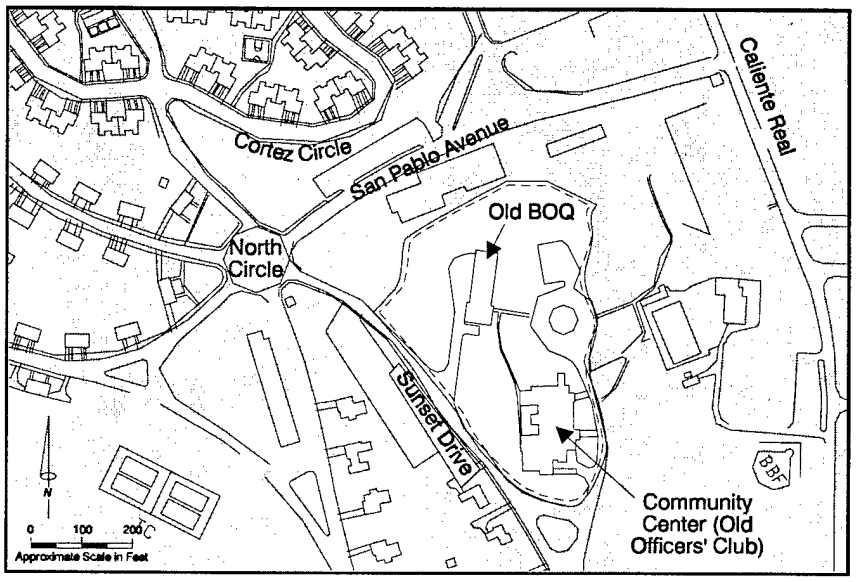


Planning Area 9. Officers' Club

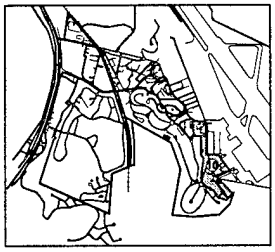


The Officers' Club is a five-acre landscaped hill area with two Spanish Eclectic-style buildings, the vacant bachelor officers' quarters (BOQ) (constructed in 1934) and a community center (constructed in 1930).

The Revised Reuse Plan Alternative would designate three acres for community facilities and civic uses. Specific uses would include a cultural center, community center, library, and/or similar resident-supporting uses. Two acres would be designated as visitor serving commercial.

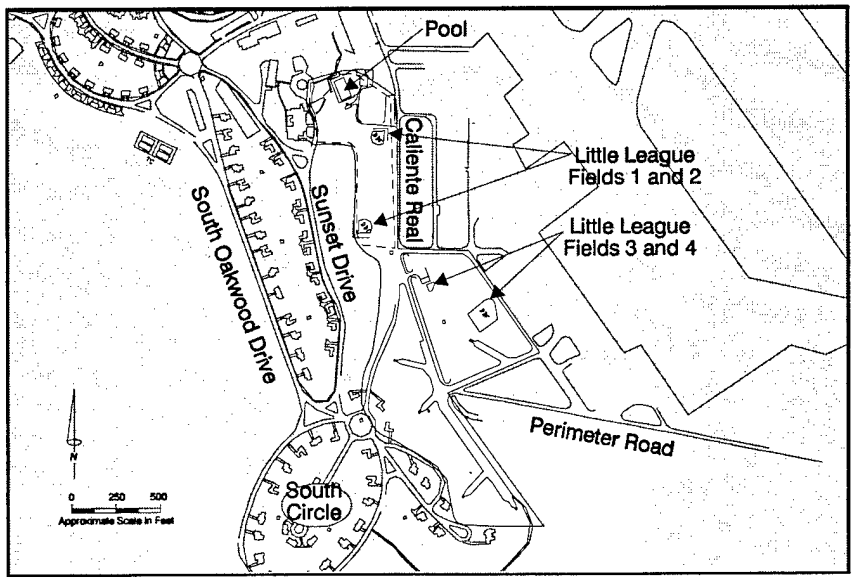


Planning Area 10. Ballfields



The Ballfields planning area is a 31-acre open space with partially developed recreational facilities and parking lots. The area, which includes four baseball fields, a swimming pool, and a poolhouse, has expansive views toward San Pablo Bay to the east.

The Revised Reuse Plan Alternative would designate the entire 31-acre site as a park and would retain the swimming pool complex for recreational uses.



2.2.3 Open Space Alternative

Under the Open Space Alternative, the Rafael Village area would be used for open space and parkland instead of residential uses after the demolition of the existing housing units. Planning areas with proposed reuses that differ from the Revised Reuse Plan Alternative are described below.

Planning Area 1. Rafael Village

As under the Revised Reuse Plan Alternative, all 503 existing structures at Rafael Village would be demolished. New housing structures would not be built; rather, the property would be designated for open space and parkland. Developments could include creek restoration, playing fields, jogging and bike paths, playgrounds, and sitting areas.

Planning Area 4. Commissary Triangle

The Open Space Alternative would include 13 acres for community facilities and civic uses similar to the Revised Reuse Plan Alternative, except the proposed homeless shelter would not be permanently located in this planning area. Also, unlike the Revised Reuse Plan Alternative, corporate yards would be permitted.

Planning Area 5. Exchange Triangle

The Open Space Alternative would include 26 acres for community facility and civic uses as permitted in the Revised Reuse Plan Alternative. The proposed homeless shelter would be located in this planning area, and corporate yards would be permitted. This alternative also would include two acres of neighborhood commercial uses.

Planning Area 6. Town Center

The Open Space Alternative would use all eight acres of the site as community facilities and would not include commercial uses.

Planning Area 10. Ballfields

The Open Space Alternative would designate seven acres as parkland and 24 acres as open space.

2.2.4 No Action Alternative

Inclusion of the No Action Alternative in the environmental analysis and documentation is required by the Council on Environmental Quality (CEQ), which implements NEPA. The closure of DODHF Novato is mandated by base closure statute and must be implemented, unless otherwise directed by Congress. For this reason, the No Action Alternative evaluates the facility closed but remaining indefinitely in federal ownership.

Under the No Action Alternative, DODHF Novato would remain in federal ownership in a caretaker status after closure. On-site activities associated with Navy caretaker status could include the following:

- Periodic landscape maintenance around unoccupied structures to protect them from fire or nuisance conditions and to preserve the visual character of the area;
- Continuation of security patrols or augmentation of city police services with private security where and as necessary;
- Maintenance of fire protection systems;
- Minimal maintenance of structures in a manner that facilitates interim use leasing or economical resumption of use; and
- Boarding up structures and capping utilities in structures not anticipated for reuse.

Table 2-1 provides a comparison of the alternatives by planning area. Table 2-2 lists the significant impacts and corresponding mitigation measures for each alternative. Table 2-2 may be used to compare the potential impacts of one alternative to those of another.

Table 2-1
DODHF Novato Alternatives

Planning Area	Alternative		
	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative	No Action Alternative
1. Rafael Village	Residential - 500 u/86 ac Parkland - 7 ac Open Space - 7 ac (Roadways - 7 ac)	Open Space and Parkland - 100 ac (Roadways - 7 ac)	Navy Caretaker Status
2. Capehart Housing	Residential - 708 u/100 ac Parkland - 9 ac Open Space - 107 ac	Same as Preferred Alternative	Navy Caretaker Status
4. Commissary Triangle	Community Fac - 13 ac (including 80-bed homeless shelter; no corporate yards permitted)	Community Fac - 13 ac (without homeless shelter; corporate yards permitted)	Navy Caretaker Status
5. Exchange Triangle	Community Fac - 26 ac (no corporate yards permitted) Neighborhood Commercial - 2 ac	Community Fac - 26 ac (including 80-bed homeless shelter; corporate yards permitted) Neighborhood Commercial - 2 ac	Navy Caretaker Status
6. Town Center	Community Fac- 2 ac Neighborhood Commercial - 4 ac Parkland - 2 ac	Community Fac - 8 ac	Navy Caretaker Status
8. Bowling Alley	Parkland - 3 ac	Same as Preferred Alternative	Navy Caretaker Status
9. Officers' Club	Community Fac - 3 ac Visitor Serving Commercial - 2 ac	Same as Preferred Alternative	Navy Caretaker Status
10. Ballfields	Parkland - 31 ac	Parkland - 7 ac Open Space - 24 ac	Navy Caretaker Status

Notes: u = units; ac = acre;
Planning Areas 3, Spanish Housing, and 7, Hospital Hill, are not part of the Navy disposal and community reuse action. Reuse of these areas is discussed in Section 5.1, Cumulative Impacts.

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Land Use	No impacts are expected.	No impacts are expected.	No significant impacts are expected.	No significant impacts are expected.
Aesthetics and Scenic Resources	No impacts are expected.	No significant impacts are expected.	No significant impacts are expected.	No significant impacts are expected.
Socioeconomics	No impacts are expected.	No impacts are expected.	No significant impacts are expected.	No significant impacts are expected.
Public Services	No impacts are expected.	No impacts are expected.	No significant impacts are expected.	No significant impacts are expected.
Utilities	No impacts are expected.	No impacts are expected.	*Impact 1.* Construction and demolition debris from Rafael Village would add to Marin County's inability to meet solid waste reduction goals resulting in a significant and mitigable impact (4-30). *Mitigation 1.* Implement the California Integrated Waste Management Board proposed projects to divert construction debris, including reusing building materials (4-30).	*Impact 1.* Same as Preferred Alternative (4-32). *Mitigation 1.* Same as Preferred Alternative (4-32).
Cultural Resources	*Impact 1.* Navy disposal (transfer) constitutes a significant and mitigable impact under 36 CFR 800.9(b) because the properties could be transferred without protective covenants or other restrictions designed to protect their historic integrity (4-35).	No significant impacts are expected.	*Impact 1.* Adaptive reuse, demolition, and new construction could substantially impact NRHP-eligible resources, which would be a significant and mitigable impact (4-38).	*Impact 1.* Same as Impact 1 for Preferred Alternative (4-38).

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Cultural Resources (cont'd)	*Mitigation 1.* Specific mitigations would be determined through Section 106 review process prior to disposal (4-36).		*Mitigation 1.* Specific mitigation measures will be determined prior to transfer through the NHPA Section 106 review process (4-38).	*Mitigation 1.* Same as Mitigation 1 for Preferred Alternative (4-38).
Biological Resources	No impacts are expected.	No impacts are expected.	*Impact 1.* Demolition and construction activities at DODHF Novato, particularly Rafael Village, would increase the potential for erosion, which could result in a significant and mitigable impact to sensitive wetland and riparian habitats (4-43). *Mitigation 1.* Implement standard erosion control measures to minimize sedimentation into creeks and other wetlands during new construction to prevent significant impacts (4-44).	*Impact 1.* Same as Impact 1 for Preferred Alternative (4-44). *Mitigation 1.* Same as Mitigation 1 for Preferred Alternative (4-44).
Geology and Soils	No impacts are expected.	No impacts are expected.	*Impact 1.* New construction in Rafael Village could undermine or weaken unstable slopes, resulting in a significant and mitigable impact (4-47). *Mitigation 1.* Geotechnical investigations would be conducted to identify potential geologic hazards that may affect new building sites (4-47). *Impact 2.* Existing and proposed improvements in certain Main Site areas, particularly those on reclaimed land underlain by imported fill and bay mud, but also in areas underlain by alluvium, may be exposed to potentially damaging levels of ground shaking during a large earthquake centered on one of the three nearest active faults, which would be a significant and mitigable impact (4-47).	*Impact 1.* Same as Impact 2 for the Preferred Alternative (4-48).

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Geology and Soils (cont'd)			*Mitigation 2.* An evaluation of the ability of existing structures to withstand site specific seismic forces should be performed to identify structures that should be upgraded to reduce injury, loss of life, or economic damage (4-48).	*Mitigation 1.* Same as Mitigation 2 for Preferred Alternative (4-48).
Water Resources	No impacts are expected.	No significant impacts are expected.	*Impact 1.* Grading, demolition, and construction of new houses in Rafael Village could result in soil disturbance and increased erosion/sedimentation into San Jose Creek, which would be a significant and mitigable impact (4-52). *Mitigation 1.* Prior to any site clearing or grading, develop erosion control plans consistent with the SWPPP. Include a Best Management Practices (BMP) program that focuses on containing/controlling land use activities that might affect water quality, preventing runoff, and treating runoff on-site (4-52). *Impact 2.* Mapped 100-year floods from San Jose Creek would affect Rafael Village houses built in flood area, which would be a significant and mitigable impact (4-53). *Mitigation 2.* Limit development to outside of flood area (4-53). *Impact 3.* Rafael Village storm drain system is not up to city standards and could result in localized street flooding, which would be a significant and mitigable impact (4-53). *Mitigation 3.* City should require upgrade of system upon redevelopment of Rafael Village (4-53).	*Impact 1.* Same as Impact 1 for Preferred Alternative (4-56). *Mitigation 1.* Same as Mitigation 1 for Preferred Alternative along with implementation of a revegetation/restoration program (4-56).

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Water Resources (cont'd)			*Impact 4.* Grading, demolition, and construction at Main Site could result in soil disturbance and increased erosion/ sedimentation in Pacheco Creek and downstream in Ignacio Reservoir, Novato Creek, and San Pablo Bay, which would be a significant and mitigable impact (4-54). *Mitigation 4.* Develop erosion control plans consistent with the SWPPP prior to any site clearing or grading. The SWPPP should include BMPs as described under Mitigation 1, above (4-54). *Impact 5.* Development and reuse of portions of Planning Areas 4-10 could subject residents, workers, and other occupants of those areas to flood hazards in the event pump failure coincident with of the 100-year flood, 100-year high tide, or the combination of these events with storm surges, which would be a significant and mitigable impact (4-54). *Mitigation 5a.* Reuse of the Planning Areas subject to 100-year flood hazards should not occur until after completion of the planned new levees west of the airfield. Development should be set back from levees a sufficient distance as determined by Novato (4-55). *Mitigation 5b.* As an alternative to levee protection, any new development at sites below 10 feet msl should be protected from flooding by raising the base to a minimum 10 feet msl (4-55). *Mitigation 5c.* The levees should be fitted with redundant pumping systems and an emergency power supply so adjacent low-lying areas are not flooded in a 100-year storm if power supply or pump fails (4-55).	*Impact 2.* Same as Impact 4 for Preferred Alternative (4-57). *Mitigation 2.* Same as Mitigation 4 for Preferred Alternative (4-57). *Impact 3.* Same as Impact 5 for Preferred Alternative (4-57). *Mitigation 3a-3c.* Same as Mitigation 5a - 5c for Preferred Alternative (4-57).

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Water Resources (cont'd)			*Impact 6.* Constrictions in the drainage facilities downstream of Main Gate Road would result in continued flood hazards in the Exchange Triangle area and adjacent lands along Pacheco Creek immediately upstream of that area in the 100-year storms, which would be a significant and mitigable impact (4-55). *Mitigation 6.* The deficient drainage facilities should be replaced and expanded as necessary to convey 100-year flood flows concurrent with the redevelopment of the Exchange Triangle area (4-55).	*Impact 4.* Same as Impact 6 for Preferred Alternative (4-57). *Mitigation 4.* Same as Mitigation 6 for Preferred Alternative (4-57).
Traffic and Circulation	No impacts are expected.	No impacts are expected.	*Impact 1.* Some increase in demand for transit services would result from reuse of DODHF Novato. This demand may not be able to be met, resulting in a significant and mitigable impact (4-69). *Mitigation 1.* Internal collector roadways at the Main Site should be constructed or improved to accommodate transit vehicles. Shuttle service should also be provided to bus stops on Nave Drive (4-69).	*Impact 1.* Same as Impact 1 for Preferred Alternative (4-69). *Mitigation 1.* Same as Mitigation 1 for Preferred Alternative (4-69).
Air Quality	No impacts are expected.	No impacts are expected.	*Impact 1.* Building demolition, renovation, and construction would cause significant and mitigable short-term air quality impacts (4-75). *Mitigation 1.* Implement standard dust control practices to reduce impact to not significant level (4-75). *Impact 2.* Vehicle nitrogen oxide (NOx) and reactive organic compounds (ROG) emissions exceed BAAQMD significance threshold of 80 lb/day for ozone precursor emissions. The added emissions are not expected to cause any change in attainment status for ozone (4-76).	*Impact 1.* Same as Impact 1 for Preferred Alternative (4-79). *Mitigation 1.* Same as Mitigation 1 for Preferred Alternative (4-79). *Impact 2.* Vehicle nitrogen oxide (NOx) emissions exceed BAAQMD significance threshold of 80 lb/day for ozone precursor emissions. The added emissions are not expected to cause any change in attainment status for ozone (4-79).

Table 2-2
Summary of Environmental Impacts and Mitigations from the Disposal and Reuse Alternatives

Resource Category	NAVY		COMMUNITY REUSE	
	Disposal	No Action Alternative	Revised Reuse Plan Alternative (Preferred Alternative)	Open Space Alternative
Air Quality (cont'd)			*Mitigation 2.* No feasible mitigation has been identified (4-76).	*Mitigation 2.* Same as Mitigation 2 for Preferred Alternative (4-79).
Noise	No impacts are expected.	No impacts are expected.	*Impact 1.* Building demolition, renovation, and construction in Rafael Village, Commissary Triangle, and Exchange Triangle would cause temporary noise disturbances to adjacent residential land uses, resulting in a short-term significant and mitigable impact (4-84). *Mitigation 1.* Limit the use of heavy construction equipment and outdoor power tools to normal daytime hours during construction and demolition activities (4-84). *Impact 2.* The Preferred Alternative would result in residential reuse in areas that would be exposed to existing high ambient noise levels from traffic significantly above the land use compatibility guidelines provided in the Novato General Plan (4-84). *Mitigation 2.* Soundwall construction would reduce traffic noise impacts, but not to less than significant levels nearest US 101 (4-84).	*Impact 1.* Same as Impact 1 for Preferred Alternative with fewer construction related impacts around Rafael Village (4-85). *Mitigation 1.* Same as Mitigation 1 for Preferred Alternative (4-85). *Impact 2.* Same as Impact 2 for Preferred Alternative except for Rafael Village, which would result in better land use compatibility (4-85). *Mitigation 2.* Same as Mitigation 2 for Preferred Alternative (4-85).
Hazardous Materials and Waste	No impacts are expected.	No significant impacts are expected.	No significant impacts are expected.	No significant impacts are expected.

Note: Numbers in parentheses () indicate page where specific impact or mitigation is discussed in detail.

2.3 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

NEPA requires that an EIS identify the alternative that is considered to be environmentally preferable (40 CFR 1505.2(b)). The environmentally preferable alternative would be the alternative that would promote the national environmental policy as expressed in NEPA. Generally, this would be the alternative that would cause the least damage to the biological and physical environment, and that would best protect, preserve, and enhance historic, cultural, and other natural resource while still meeting the purpose and need for the proposed action.

Because implementation of the No Action Alternative would not result in any significant impacts, the No Action Alternative would be considered the environmentally preferable alternative. An evaluation of the impact summary tables in Chapter 4 shows that each of the reuse alternatives would result in significant and mitigable impacts to utilities, cultural resources, biological resources, geology and soils, water resources, and traffic and circulation. In addition, the reuse alternatives would result in significant unmitigable impacts in air quality and noise. The No Action Alternative would avoid all significant impacts, both mitigable and unmitigable, and for this reason would be the environmentally preferable alternative.

2.4 ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION

Most reuse options that were identified during the public scoping process have been incorporated into one or more of the alternatives analyzed in the EIS. Because reuse of the DODHF Novato property would consist mainly of the utilization of existing structures and the retention of historic land uses, the number of reasonable alternatives are limited. However, several land use alternatives for Rafael Village were considered and eliminated from detailed review in this EIS, as described below.

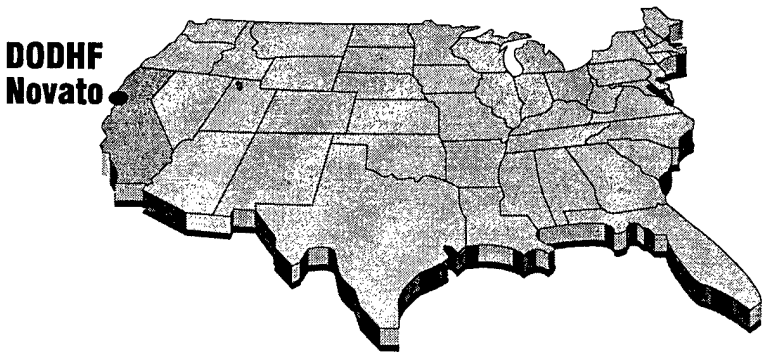
2.4.1 Retain Existing Rafael Village Housing Units

The option of retaining, repairing, and reusing the existing housing structures at Rafael Village was considered but eliminated from detailed consideration. The Hamilton Reuse Planning Authority, in analyzing reuse options, performed a structural analysis of select housing units in Rafael Village. The housing units to be examined were chosen by the Hamilton Homes Task Force, the coalition of homeless providers in the area that was interested in the units for transitional housing purposes. The findings of this analysis, contained in the Reuse Plan Existing Conditions Report (Hamilton Reuse Planning Authority 1995a), along with findings in the Navy report "Economic Analysis of 505 Family Housing Units at Rafael Village," determined that it

would be more costly to renovate the existing units and bring them up to local building code than to demolish them and construct new units. For this reason, the alternative of retaining the existing Rafael Village housing units has been eliminated from detailed consideration in this EIS.

2.4.2 High Density Residential Development

The alternative of developing a larger number of housing units, both on the Main Site and at Rafael Village, was considered but eliminated from detailed consideration. The primary reason for not considering this alternative was the traffic impacts that would result from substantially increased residential development. US 101 is currently experiencing a degraded level of service during certain time periods. Although the reuse alternatives would increase the residential population, the alternatives would generally reuse existing housing stock, or replace existing units at a roughly one to one ratio. Residential development at a substantially higher level also would result in the need for a costly new highway interchange at US 101. For these reasons, this alternative was eliminated from detailed consideration in this EIS.



3.0 AFFECTED ENVIRONMENT

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3. AFFECTED ENVIRONMENT

This chapter provides a description of the existing environmental and socioeconomic conditions at DODHF Novato and the area surrounding the facility. This information is used in Chapter 4 to identify and evaluate environmental impacts resulting from the Navy disposal and community reuse of DODHF Novato.

Existing conditions as of 1995 are presented for most of the resources including land use, visual resources, public services, utilities, cultural resources, biological resources, geology and soils, water resources, and hazardous materials. In addition to existing conditions, several of the resource discussions, including socioeconomics, traffic, air quality, and noise, are supplemented by data from 1990, which provides information about conditions when DODHF Novato was fully occupied.

The setting discussion for each resource area also identifies the region of influence (ROI) applicable to the specific resource area. An ROI is a geographic area in which impacts for a particular resource likely would occur. The ROI for a resource having regional impacts will be different from the ROI for a resource with localized impacts.

3.1 LAND USE

DODHF Novato includes the Navy-owned sites at the former Hamilton Air Force Base (Main Site) and the Rafael Village housing area located approximately one mile northwest of the Main Site. This section describes existing land uses at DODHF Novato and surrounding areas. The ROI applicable to the land use discussion includes DODHF Novato and surrounding properties that could be affected by reuse. Figures 1-1 and 1-2 in Chapter 1 illustrate the regional location of DODHF Novato and the relative locations of Rafael Village and the Main Site.

3.1.1 Land Use Plans and Regulations for DODHF Novato

The following description is limited to plans and regulations pertaining to general land use at DODHF Novato. Regulations of certain specific resources or functions (e.g., biological resources, air quality, hazardous materials, and water resources) are discussed in other sections of this document. Consideration of regulations on surrounding land use is provided in Section 3.1.2. As federally-owned property, DODHF Novato has not been subject to local land use control, although the Navy has imposed its own controls. As parcels are transferred to the City of Novato or other nonfederal entities, land

use decisions regarding these parcels would be subject to Novato land use regulations under its general plan and zoning ordinance.

City of Novato Plans and Regulations

Novato General Plan

As part of the recent general plan update process, a vision statement was approved by the city's planning commission and adopted by the Novato City Council. The vision statement for Novato indicates that the small town character of the community and its beautiful setting and environment should be preserved and that new development within the community should reflect the quality of design and compatibility with the existing community character. The vision statement recognizes the changing demographics of the community, the need for a strong and diverse economy, and the need to resolve transportation problems. The Hamilton facility is specifically addressed in the city's vision statement, as follows:

"Hamilton Field is the largest remaining property left for development in Novato. It should be planned so that the development beneficially integrates into the rest of the community. Development should address Novato's jobs, housing and transportation needs while preserving wetlands and other biotic resources. In keeping with long-standing city policy based on voter direction, there shall be no aviation uses" (Novato 1995b).

The Novato General Plan is divided into nine chapters that correspond to the state mandated elements as shown in Table 3-1. Topics addressed in the land use element of the general plan apply to implementing the general plan land use map, growth management, constraints analysis for new developments, establishing the long range sphere of influence, and coordinating city services with other public agencies. The general plan assumes that the eventual total of housing units at both the Main Site and Rafael Village will not exceed the present 1,500 units.

The general plan specifies a standard of five acres of additional developed parkland per 1,000 residents for all new residential developments. It is assumed that this standard will be applied to the DODHF Novato residential developments in order to provide adequate parks and assure that off-site parks are not impacted by the increased population.

Table 3-1
Relation of Novato General Plan Chapters to State-Mandated Elements

State-Mandated Elements	Novato General Plan Chapter
Land Use Element	Land Use Chapter
Circulation Element	Transportation Chapter
Housing Element	Housing Chapter
Conservation Element	Environment Chapter
Open Space Element	Environment Chapter
Safety Element	Safety Chapter
Noise Element	Safety Chapter
	Economic Development and Fiscal Vitality Chapter (optional)
	Human Services Chapter (optional)
	Public Facilities and Services Chapter (optional)
	Community Identify Chapter (optional)

Source: Novato 1995b

Rafael Village General Plan Designations

The following section contains references to the land use designations found in the Novato General Plan; details of these designations are provided in Table 3-2. The Novato General Plan currently designates Rafael Village with the following land uses:

- Low Density Residential;
- Open Space;
- Medium Density Residential; and
- Medium Density Multiple Family Residential.

The medium density residential and medium density multiple family residential designations are located at the eastern end of Rafael Village near the existing commercial centers and US 101. The low density residential designations are located in the central and western portions of Rafael Village, while the open space designations extend in a linear fashion along San Jose Creek and Ignacio Boulevard.

Table 3-2
Novato General Plan Land Use Designations for DODHF Novato

Designation	Uses Included	Allowable Density Range (Dwelling Units per Gross Acre)
Residential Designations		
Low Density Residential	Detached or attached single-family dwellings, recreation, home occupations, community facilities, and other similar uses.	1.1 to 5
Medium Density Residential	Two-family dwellings, detached or attached single-family dwellings, recreation, home occupations, community facilities, and other similar uses.	5.1 to 10
Medium Density Multiple Family Residential	Multiple-family dwellings, two-family dwellings, detached or attached single-family dwellings, recreation, home occupations, community facilities, and other similar uses.	10.1 to 20
Office, Commercial, and Industrial Designations		
General Commercial	Established commercial areas with off-street parking and/or clusters of street front stores; regional and local-serving retail establishments; specialty shops, banks, professional offices; motels; business and personal services; and other similar uses. This designation is typically assigned to larger parcels, located on a major arterial street.	Floor Area Ratio (FAR) of 0.4
Neighborhood Commercial	Established neighborhood shopping areas, to meet the retail and service needs of nearby residents. This land use designation allows a variety of retail stores, and personal services such as grocery stores, dry cleaners, professional and administrative offices, restaurants, and other similar uses. Multi-family housing integrated with commercial uses is permitted.	FAR of 0.4, with an increase to 0.6 if housing is included, provided the difference between FAR of 0.4 and 0.6 is used for housing.
Conservation, Agricultural and Public Use Designations		
Open Space	Publicly-owned land that is largely unimproved and devoted to the preservation of natural resources, outdoor recreation, floodways and flood control, and the maintenance of public health and safety.	Not applicable.
Parkland	Existing and undeveloped active and passive parks, recreation areas, and community playfields. Permitted uses include shelters, rest rooms, storage sheds, other structures needed to accommodate public use or provide for maintenance of the land, and cultural and recreational facilities.	Not applicable.
Community Facilities and Civic Uses	Public buildings, recreation and cultural facilities, museums, public libraries, city offices, fire and police stations, hospitals, and privately-owned uses operating in conjunction with public uses.	FAR of 0.25

Source: City of Novato 1996

Main Site General Plan Designations

Capehart Housing

General plan land use designations in Capehart Housing include the following:

- Medium Density Residential;
- Open Space; and
- Community Facilities, Public Facilities, and Civic Uses.

The medium density residential designations are located primarily in the northern portion of this planning area but also extend to the southeast. The open space designations are located in the center of the hillside areas and a small strip along the western boundary. The general plan designates the land along the existing unused railroad tracks as community facilities and civic uses.

Commissary Triangle

The entire Commissary Triangle planning area is designated for community facilities, public facilities, and civic uses.

Exchange Triangle

The Exchange Triangle planning area is designated for two acres of neighborhood commercial located somewhere along Main Gate Road and the remainder is designated for community facilities, public facilities, and civic uses.

Town Center

The Town Center planning area is designated for parkland, neighborhood commercial, and community facilities, public facilities, and civic uses.

Bowling Alley

The entire Bowling Alley planning area is designated for parkland.

Officers' Club

The Officers' Club planning area is designated for general commercial and community facilities, public facilities, and civic uses.

Ballfields

This planning area is designated in the General Plan as parkland.

Zoning

Zoning for Rafael Village and Main Site currently is not designated by the City of Novato. Zoning will be developed at the time of reuse plan implementation and will be consistent with the general plan designations described above.

Marin Countywide Plan

The Marin Countywide Plan is a long-range comprehensive plan that governs growth and development in the unincorporated areas of the county. The county's general plan divides the county into three environmental corridors—the city-centered corridor, the inland rural corridor, and the coastal recreation corridor. The city-centered corridor along US 101 and adjacent to the bay includes the Novato Planning Area and the former Hamilton facility. In general, the county's general plan defers to the general plans of incorporated cities within Marin County. The countywide plan states that it should be used as a guide in the development of each city's general plan.

The Marin Countywide Plan addresses future use of the Hamilton facility in the community development element section describing the Novato planning area. The plan recommends that the City of Novato consider including a mix of office and industrial uses in any development at the facility. It also recommends that the facility should be considered for additional housing development (Marin County 1994).

3.1.2 Land Use Regulations for Areas Surrounding DODHF Novato

City of Novato

The land use regulations currently applicable to areas surrounding DODHF Novato are the same City of Novato general plan and zoning regulations that would apply to the DODHF Novato property following disposal.

Properties surrounding Rafael Village are zoned P-C, R-P, R-1 (Single-family), R-2-H (Duplex Residential), R-3 (Multiple Residential), C-P (Planned Commercial), C-1 (Retail Commercial), C-2 (General Business Commercial), and A-2 (Limited Agricultural). The zoning of parcels surrounding Main Site is a mixture of PC, C-1, C-2, M-2 (Heavy Industrial), R-P, R-3, M-P (Planned Industrial), A-P (Administrative Professional), and A-60 (Agriculture).

Marin Countywide Plan

Policy T-3.1 of the countywide plan reflects the county objection to reuse of the Hamilton facility for general aviation uses. This policy states that Gnoss

Field, located north of the City of Novato in an unincorporated area of the county, shall be the only civilian airport facility and be used only for general aviation.

The Marin Countywide Plan designates the lands south of Hamilton Field as public facility, urban and conservation reserve, and tidelands.

Other relevant policies promote enhancement of wildlife and aquatic habitats in bayfront lands, and restoration of levee historic marshland to tidal status, seasonal wetlands, agricultural uses, flood basin, and wastewater reclamation areas.

San Francisco Bay Plan

San Francisco Bay Conservation and Development Commission's (BCDC's) San Francisco Bay Plan was prepared to guide the future protection and use of San Francisco Bay and its shoreline The San Francisco Bay Plan currently designates Hamilton Army Airfield for general aviation use when it is no longer needed by the Department of the Army. It also recommends that areas valuable for wildlife habitat or potentially restorable wetlands should be managed for those purposes in a manner ensuring general aviation use.

The priority land use designation for the Hamilton runway is currently being reconsidered; any change in the designation for the Hamilton runway from airport priority use to another priority use would require an amendment to the bay plan necessitating approval by the commission.

Federal Consistency Review

The authority to evaluate projects conducted, funded, or permitted by the federal government is granted to coastal states through the federal Coastal Zone Management Act (CZMA) of 1972, as amended. Under CZMA, any federal projects or activities affecting the coastal zone must be consistent to the maximum extent possible with the provisions of federally approved state coastal plans, even if the projects or activities occur inland of the coastal zone. The State Coastal Plan for San Francisco is the San Francisco Bay Plan, developed by BCDC, and the San Francisco Bay Area Seaport Plan, developed jointly by BCDC and the Metropolitan Transportation Commission.

Regional Airport System Plan

The Metropolitan Transportation Commission recently updated the Regional Airport System Plan for the San Francisco Bay Area, deleting the Hamilton Army Airfield as a future regional general reliever airport. The plan update also recommends that if the airfield itself is flooded or used for wetlands

restoration, the acreage should be banked as mitigation for possible development of other airport projects in the Bay Area.

3.1.3 DODHF Novato Land Uses

The following descriptions of DODHF Novato are organized by the planning areas identified in the reuse plan and identify predominant existing land uses according to buildings, open space, and specialized facilities or areas. The descriptions are based on a November 1995 site visit and information contained in the 1995 Hamilton Army Airfield Existing Conditions Analysis. Table 3-3 summarizes the land use statistics of each planning area, and Figure 2-2 shows the boundary of each planning area.

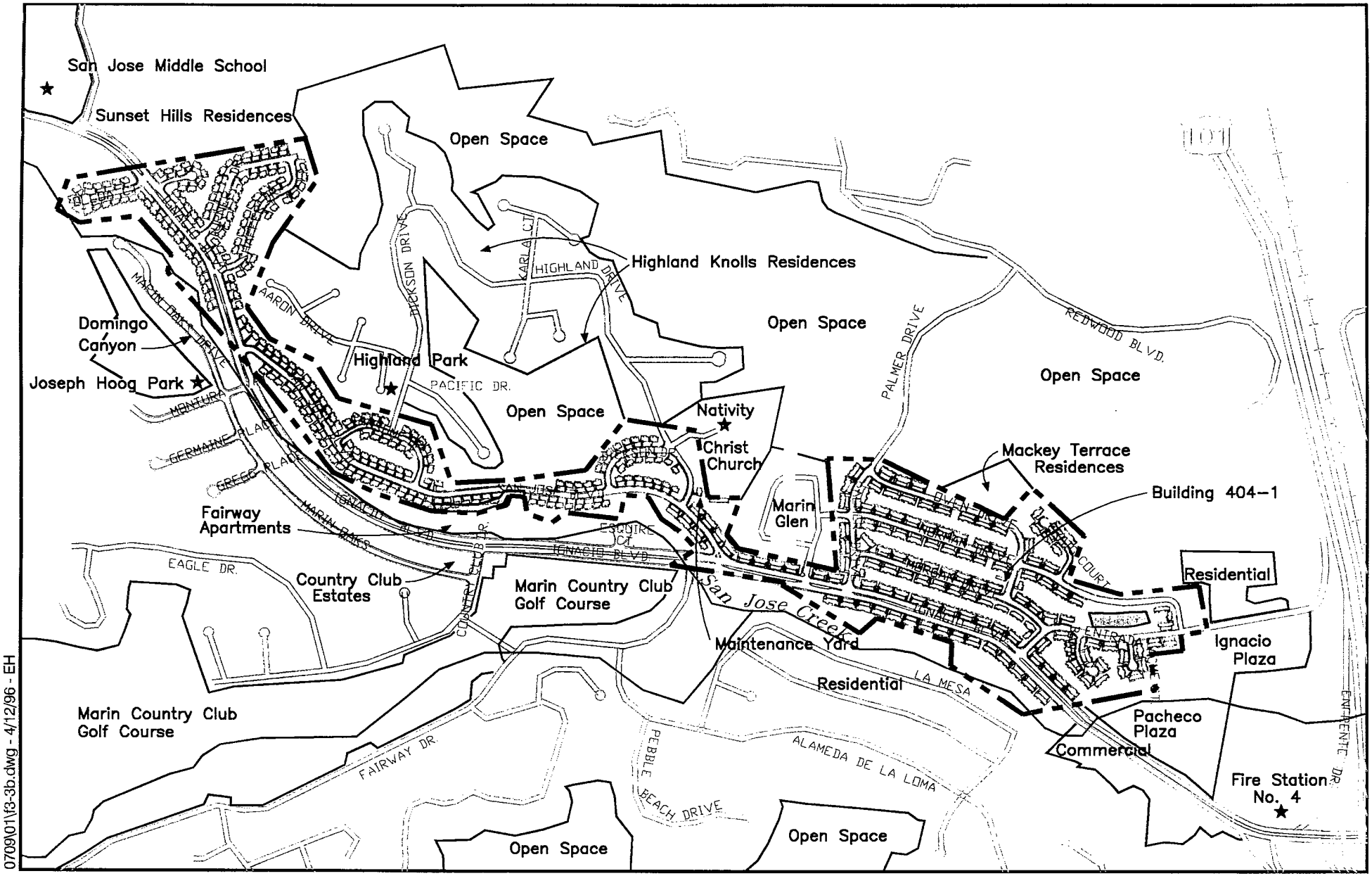
Table 3-3
Land Use Planning Area Statistics

Planning Area	Acreage	Dwelling Units	Open Space Acres
PA 1 Rafael Village	107	503	7
PA 2 Capehart Housing	216	708	85
PA 4 Commissary Triangle	13	0	0
PA 5 Exchange Triangle	28	0	0
PA 6 Town Center	8	0	0
PA 8 Bowling Alley	3	0	0
PA 9 Officers' Club	5	0	0
PA 10 Ballfields	31	0	0
TOTAL	411	1,211	92

Source: Hamilton Reuse Planning Authority 1995b.

Planning Area 1. Rafael Village

Residential. Rafael Village is a residential subdivision with nonlinear streets located on the floor of a steep-sided valley and includes 503 units on 107 acres. There are approximately 209 single-family units, located primarily in the western portion, and 294 duplexes, located primarily in the eastern portion. Among the residences are four tot lots and numerous small-scale open space areas. As military housing, the units are generally not separated by yard fences and do not have property lines. Figure 3-1 illustrates the physical



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Rafael Village is a residential area surrounded mostly by residential and open space land uses.

0 400 800
Approximate Scale in Feet

Source: Tetra Tech 1995

N

Legend:

- DODHF Property Line
- Approximate Boundaries of Existing Land Use
- On Site Residential
- On Site Open Space/Parkland

Rafael Village and Surrounding Area Land Use

DOD Housing Facility
Novato, California

Figure 3-1

layout and significant features of the Rafael Village planning area. Appendix C, Table C-1, details the specific characteristics of residential buildings in each planning area.

The units were constructed in 1950 and were upgraded in 1962 but are currently in varying degrees of disrepair; some are suitable for occupation, but most are uninhabitable due to deterioration. The housing units are boarded up to discourage vandalism and to minimize maintenance.

Nonresidential. A community center and a maintenance yard also are located at Rafael Village. The community center is in Building 404-1 on Owen Drive between Morgan and Norman Drives. This building is approximately 1,000 square feet and historically has been used as an exchange, a community center, and a laundry facility for the residents of Rafael Village; most recently it has been used as a karate center. The maintenance yard is located off Dickson Drive behind Buildings 890 and 892. The yard is approximately 5,000 square feet and contains no structures. Appendix C, Table C-2, details the specific characteristics of nonresidential buildings in each planning area.

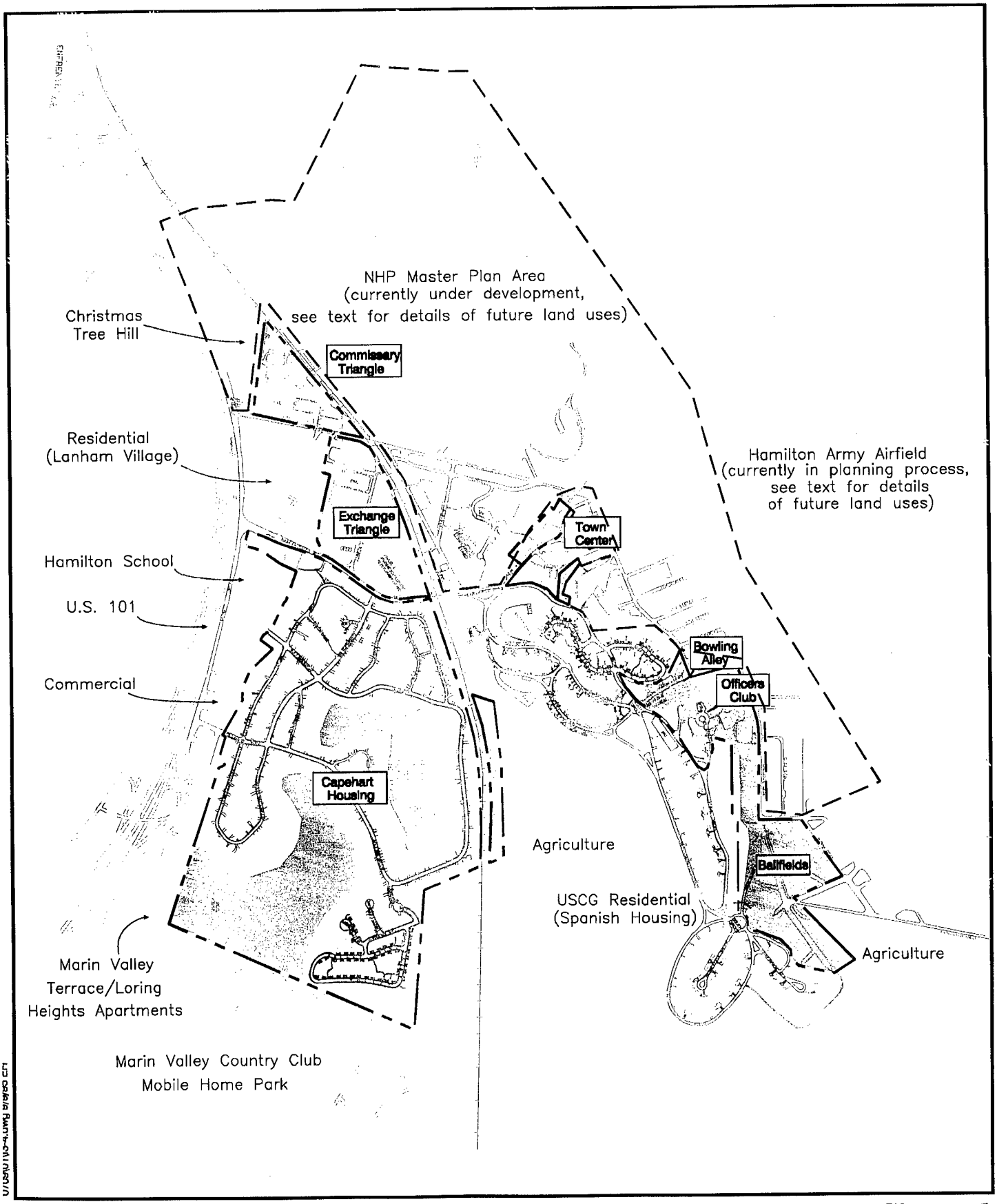
The San Jose Creek corridor crosses Ignacio Boulevard twice and borders the southern edge of the planning area. The creek is further discussed in the Biology and the Water Resources sections of this EIS.

Planning Area 2. Capehart Housing

Residential. Capehart Housing consists of military-style, residential housing and a large hillside open space area. The planning area includes 708 residential units on 216 acres of which 312 are townhouses and 246 are duplexes. All of these units were constructed in about 1960. The Hillside Housing subarea consists of 150 units in six-unit buildings constructed in 1988. Six tot lots are located in the planning area. Figure 3-2 illustrates the physical layout and significant features of the Main Site planning areas (Hamilton Reuse Planning Authority 1995a).

Nonresidential. Open space areas total 85 acres in this planning area and include the steep hill areas near the center of the planning area and Pacheco Creek, which runs along the western edge of the planning area. The hill area is characterized as having steep and unstable slopes, rock outcroppings, hiking trails, and mature oak trees.

The Golden Gate Bridge, Highway, and Transportation District owns the railroad tracks and a 105-foot right-of-way through DODHF Novato. This rail is currently inactive but is intended for use as a commuter rail line. The right-of-way runs from the east side of the Capehart Housing planning area through the Exchange Triangle and Commissary Triangle planning areas. This issue is further discussed in Section 3.10, Transportation and Circulation.



The Main Site and surrounding land uses are a mix of residential, open space, and and community facilities. Section 2.2 maps highlight features within each planning area.

0 600 1200
Approximate Scale in Feet

N

Source: Tetra Tech 1995

Legend:

- NHP Boundary
- DODHF Property Line
- Residential
- Open Space/Parkland
- Administrative/Community Support

Main Site and Surrounding Area Land Use

DOD Housing Facility
Novato, California

Figure 3-2

Planning Area 4. Commissary Triangle

Commissary Triangle is a 13-acre site located north of Lanham Village near the northwestern corner of the Main Site. The nine warehouse-style buildings in this area were constructed just before or during World War II and historically served as an administrative and staff support area. After the closure of the Air Force Base, the operation of the base commissary continued as a staff support function. The commissary continues to operate in three of the buildings as a warehouse/retail area with accessory parking lots to serve the retail functions of the community. This planning area contains no residential units.

The three buildings that currently serve as the commissary were originally constructed as warehouses and are in fair to poor condition. One of the buildings is the actual store, one is used to warehouse the food, and one is used for administration. The large parking lot in front of the store accommodates 180 automobiles. Some of the other buildings in the planning area are vacant, while others are used for storage, an auto hobby shop, a carpentry shop, and vehicle storage.

Planning Area 5. Exchange Triangle

Exchange Triangle is located on flat ground and historically served as an administrative and staff support area near the western edge of the Main Site. This planning area consists of two sites—the primary site is north and east of Lanham Village, and the secondary site is directly south of Lanham Village at the corner of Main Gate Road and Nave Drive. The two sites in the Exchange Triangle planning area include 14 nonresidential structures and total 28 acres.

Current uses of the buildings include retail stores in the exchange building, a credit union, youth centers, a gas station, maintenance buildings, administration buildings, and parking lots. With the exception of the gas station building and the exchange building, which were built in 1974 and 1975 and are in good condition, these facilities were constructed during World War II and are in fair to poor condition. Recreational facilities in the planning area include a tot lot and skateboard ramp.

Planning Area 6. Town Center

Town Center consists of eight acres at the terminus of Palm Drive and was historically used as an administrative and staff support area. Structures in this planning area include the security/arts building, movie theater, chapel, former infirmary, and former officers' mess. Buildings were constructed in the Spanish Eclectic architecture style.

Planning Area 8. Bowling Alley

The Bowling Alley consists of two buildings on three acres with a parking lot on the opposite side of San Pablo Avenue. The buildings house recreational facilities, including a bowling alley with a gym (constructed in 1945 and renovated in 1982) and racquetball courts in the second building, which was constructed in 1994. The areas around these buildings are landscaped.

Planning Area 9. Officers' Club

The Officers' Club planning area is a five-acre landscaped site with two large buildings—the vacant bachelor officers' quarters, constructed in 1934, and the community center, which was constructed in 1930.

Planning Area 10. Ballfields

The Ballfields planning area contains 31 acres and includes recreational fields (little league baseball fields), a swimming pool, and a pool house. Access to this area is via Caliente Real from San Pablo Avenue.

3.1.4 Surrounding Land Uses

Land uses surrounding the project area are discussed in the following section. Consideration of surrounding land uses provides background information for the Chapter 4 analysis describing the compatibility between proposed land uses at DODHF Novato and land uses on the surrounding properties.

Rafael Village Surrounding Land Use

Rafael Village is surrounded by residential, open space, institutional, commercial, and recreational areas. The following descriptions provide details of these surrounding areas.

North. To the north of Rafael Village are single-family residential subdivisions characterized as having fairly new, large, and well-maintained structures. From the east side of Highland Drive, the Nativity of Christ Greek Orthodox Church overlooks Rafael Village, and from this point a large open space area centered around Palmer Drive extends north of Rafael Village. The open space has steep slopes that extend from Rafael Village to the top of the hillside near Redwood Boulevard. Also to the north of Rafael Village is Mackey Terrace, an independent living development for very low income elderly and physically disabled residents. Access to Mackey Terrace and some of the other residential subdivisions is provided via Rafael Village.

East. Between Rafael Village and US 101 are apartment buildings and two commercial centers—Ignacio Plaza, located at Enfrente and Entrada, and Pacheco Plaza on the north side of Ignacio Boulevard. A Novato Fire Protection District fire station is located on Ignacio Boulevard near US 101.

South. South of Rafael Village and Ignacio Boulevard are single-family residential and multi-family neighborhoods. Country Club Estates, a well-maintained single-family neighborhood constructed in the 1970s, is located south of Ignacio Boulevard off Country Club Drive. An apartment complex is located south of Rafael Village and north of Ignacio Boulevard and is separated from Rafael Village by San Jose Creek. The Marin Country Club and Golf Course is also located south of Rafael Village; one of the fairways lies along the south side of and is visible from Ignacio Boulevard. Domingo Canyon, a residential neighborhood constructed in the 1960s and 1970s, is south of Ignacio Boulevard and adjacent to the two isolated portions of Rafael Village. San Jose Creek flows behind the neighborhoods south of Ignacio Boulevard (Hamilton Reuse Planning Authority 1995a).

Northwest. To the northwest of Rafael Village is San Jose Middle School and additional residential subdivisions.

Main Site Surrounding Land Use

The Main Site is surrounded by residential, commercial, open space, and US 101. These uses are detailed below.

North. North and east of DODHF Novato is the New Hamilton Partnership Master Plan area. When this development is completed, it will consist of approximately 920 residences on 415 acres, and several other land uses. This area was previously a part of the Hamilton Air Force Base, but has been transferred to private ownership. A summary of the approved New Hamilton Partnership Master Plan is shown in Table 3-4 and is described in detail in the Reuse Plan.

The Novato Sanitary District's (NSD) dechlorination plant is located on land owned by the State Lands Commission immediately north and east of the airfield. A buried outfall pipeline from the district's treatment plant runs along the northeastern property line of the airfield.

East. East of DODHF Novato are the hospital hill area of Hamilton Army Airfield and the runway parcel of Hamilton Army Airfield. The hospital hill area is currently Army property that is being excessed through the federal real estate screening process with the Department of Veterans Affairs having expressed interest in the acquiring the property. The area contains several buildings including the Hamilton Army Airfield military hospital that is still in partial use by the USCG and nonmedical Army personnel.

Table 3-4
Summary of New Hamilton Partnership Master Plan

Land Use	Gross Acreage	Dwelling Units
Mixed Use Areas	9.4	
Office Uses	25.7	
Residential Uses	131.7	920
Town Center	2.9	
Transit Center	3.6	
Major Roads	21.1	
Level	8.5	
Open Space	166.9	
Parks and Recreation	44.9	
Total	414.7	920

Source: Hamilton Reuse Planning Authority, 1995a.

The Army runway parcel consists of 703 acres and includes the 6,000-foot runway and parking apron complex as well as the undeveloped floodplain to the east of the runway. The parcel is seven to 10 feet below sea level and is protected from flooding by a levee system. The Army is in the process of transferring this to the State Lands Commission as a floodplain. Details of the plan are provided in the Hamilton Army Airfield Disposal and Reuse EIS (US Army 1996).

South. Immediately south of Main Site is the Spanish Housing planning area, which is being transferred to the USCG for use as personnel housing.

The St. Vincent's and Silveira land holdings consist of approximately 1,500 acres of mostly open space in an unincorporated portion of Marin County south of the Capehart planning area and the USCG's Spanish Housing residential area. The land currently is used for grazing and hay production as well as the St. Vincent's School for Boys.

The majority of the St. Vincent's and Silveira land holdings are within the City of San Rafael's Sphere of Influence and urban service area and were studied during preparation of the 1988 General Plan Update. The San Rafael General Plan policies for this area allow mixed use development with up to 2,100 homes, 100,000 square feet of commercial uses, 261,000 square feet of office uses, and open space areas.

The Marin County Club Mobile Home Park is located on 165 acres immediately south of the Hillside subarea of the Capehart Housing planning area. The facility contains 315 mobile homes. The steep hills west of the mobile home park are contiguous with the open space areas inside the Capehart Housing planning area.

West. A small commercial and retail area is centered around Bolling Drive between Nave Drive and the Capehart Housing planning area. The Novato School District owns a 15-acre parcel south of Main Gate Road that has been developed with the Hamilton Elementary School and playground that serve the children of current Main Site residents.

Lanham Village is an 18-acre civilian residential development located between Main Gate Road and State Access Road along Nave Drive. This site was previously part of the Hamilton Army Airfield and consists of 154 units, accompanying parking areas, and open space areas. The property was transferred to the City of Novato by HUD. The Exchange Triangle and Commissary Triangle planning areas are located on the eastern and northern edge of Lanham Village. US 101 runs north/south along most of the western edge of the Main Site and is described in greater detail in the Transportation section.

3.2 AESTHETICS AND SCENIC RESOURCES

Aesthetic and scenic resources consider the natural and built features that make up the distinguishable character of the overall landscape. The ROI for visual resources includes DODHF Novato and the viewshed within five miles of DODHF Novato. A distance of five miles was selected because visual resources at a distance greater than five miles become indistinguishable from the general background of a viewshed.

Since the Proposed Action is primarily adaptive reuse of existing structures and continuation of established land use patterns, a generalized approach to visual assessment has been used for this analysis. The assessment process is based on review of photographs, a site visit in November 1995, and review of material in the Existing Conditions Report (Hamilton Reuse Planning Authority 1995a). For each planning area, the general and dominant visual characteristics are described. The relative importance of the site in terms of the number of viewers and frequency of viewing opportunities also is discussed. Photographs of DODHF Novato are provided in Appendix A.

3.2.1 Aesthetic and Scenic Resource Policies

The City of Novato will have jurisdiction over visual policies after disposal of DODHF Novato. Current Novato visual resource policies found in the General Plan apply mainly to the protection of visual resources on hillsides and ridgelines and would not apply directly to DODHF Novato. The city has a Design Review Committee to review the design features of new developments, such as those proposed at DODHF Novato during the reuse phase. The committee does not have a set of standards by which to review new projects but rather reviews each project on an individual basis in order to consider the appropriateness of the design features with the surrounding community.

The Reuse Plan contains a chapter focusing on urban design guidelines, and the Novato General Plan addresses visual resources in the Community Identity chapter. These two documents contain extensive goals and policies that will serve to guide future development in Novato.

3.2.2 Visual Characteristics of DODHF Novato Planning Areas

Planning Area 1. Rafael Village

The general appearance of Rafael Village is that of a suburban residential housing development with nonlinear streets and mature landscaping. Uniformity dominates the appearance of Rafael Village due to the painting, landscaping, and architectural similarity of the residences. All of the units are

painted the same shade of blue, have a similar level of front yard landscaping, and were constructed using the same design and materials. The uniformity creates a visually monotonous character that contrasts sharply with the varied architectural appearance of surrounding neighborhoods.

Visually enriching attributes of the site include the greenbelt areas mixed among the housing units and mature trees in the yards. Detracting attributes of the site include the architectural monotony, deteriorated condition of the boarded up houses, and the overhead utility lines.

The development was built in 1951, was upgraded in 1962, and shows many signs of age and wear. From the outside, many of the units are in obviously poor condition, with deteriorated landscaping, peeling paint, missing fascia boards, sagging supports, broken gates, and visible termite damage. The windows are boarded up to reduce vandalism, which, combined with the deteriorating structures, detracts from the visual appeal of Rafael Village and the surrounding community. Indications of vandalism include graffiti and scattered trash in the carports. The unoccupied and deteriorating structures contrast with the many newer and well-maintained residences in the surrounding neighborhoods.

The site is prominent because it is on Ignacio Boulevard, the main access road for the surrounding developments. Some of these can be accessed only by driving through Rafael Village. San Jose Boulevard, Dickson Drive, Palmer Drive, Ransome Drive, and Shaeffer Drive are routes to homes in the Highland Knolls and Marin Glen developments.

Views from Rafael Village to the surrounding areas are unremarkable and consist primarily of the residential developments and wooded undeveloped hillsides. Views toward Rafael Village from the surrounding hillsides are enhanced by the mature deciduous trees, which partially obscure the site. During the winter, however, these trees fail to fully obscure the unoccupied homes and overhead utility lines in Rafael Village.

Planning Area 2. Capehart Housing

The general appearance of Capehart Housing is that of a suburban residential housing development set among an open space hillside area. The visual character of Capehart Housing is dominated by the nonlinear street and residential layout and four steep hillside areas that range from 180 to 250 feet in elevation.

The structures and landscaping appear well-maintained and do not have the visually monotonous character of Rafael Village. The residential buildings in the planning area are typically single- and double-story multi-family housing units with attached carports. The nonlinear streets, mature landscaping, and

hillside areas serve to segment the visual flow and to reduce the apparent density of the buildings. These buildings were constructed in the late 1950s and early 1960s and reflect the design of woodframe construction during that era. The range of exterior colors includes warm sand, white, and beige.

The west edge of the planning area along Bolling Drive has views of the adjacent USCG Spanish Housing area. The hilltops allow expansive views of San Pablo Bay and the wooded hills of Novato. Views of the planning area from other sites are fairly limited due to the surrounding hills and vegetation that block adjacent viewing areas.

Planning Area 4. Commissary Triangle

The general appearance of the relatively flat Commissary Triangle is that of a warehouse and parking lot area. This site has minimal landscaping and is dominated by the large amount of paved area and lack of cohesion between the buildings. None of the buildings have remarkable design features.

The site is highly visible due to the immediate proximity of State Access Road, which allows direct visual access.

Planning Area 5. Exchange Triangle

The general appearance of Exchange Triangle is that of a flat developed area with extensive parking lots and a variety of old and new buildings. These buildings vary in size from the 1,750 square foot youth scouting buildings to the large 18,000 square foot public works building. As discussed in the Land Use section, this planning area actually consists of two sites, one north of Main Gate Road and one south. The site north of Main Gate Road contains a landscaped area and a white stucco administration building that enhance visual appeal.

The site south of Main Gate Road has minimal landscaping and unremarkable design features on the buildings. The asphalt, age of the buildings, and lack of visual cohesion among the buildings dominate the visual character of this area. The site has fairly high visibility due to its immediate proximity to Main Gate Road and State Access Road, which allow direct visual access.

Planning Area 6. Town Center

The general appearance of Town Center is that of a well-maintained public area. Visual attributes of the site include the mature landscaping, Spanish Eclectic architecture of the buildings, and Palm Drive, the tree-lined road that serves as a visual gateway to the site.

The large amount of landscaped area surrounding the buildings imparts a visually open character to this planning area. Views of this area are primarily from locations in the off-site USCG Spanish Housing and Hospital Hill areas.

Planning Area 8. Bowling Alley

The general appearance of the Bowling Alley is that of two large buildings and an associated parking lot. When viewed from the parking lot, the landscaped hill of the Officers' Club provides a visually attractive background for this planning area.

The white stucco buildings provide some consistency with design features of the surrounding planning areas, but the lack of other design attributes makes the buildings less visually appealing than the surrounding areas. Visual access to this area is primarily limited to on-site viewers, including those using San Pablo Road as access to the Ballfields planning area.

Planning Area 9. Officers' Club

The general appearance of the Officers' Club is that of a landscaped hill area with two buildings. The buildings are visually attractive and were constructed using the same Spanish Eclectic style architecture found in the adjacent USCG Spanish Housing. The use of the matching architecture style provides aesthetic continuity between the two planning areas. Visual access to this area is limited to on-site viewers with some adjacent viewpoints provided in the Bowling Alley and off-site Spanish Housing planning areas.

Planning Area 10. Ballfields

The general appearance of the Ballfields is that of an open space with partially developed recreational facilities and parking lots. Visually enhancing characteristics of the site include the landscaping and the expansive easterly views toward San Pablo Bay. Viewing opportunities of the site and from the site are fairly limited due to the shielding effect of hills in the adjacent USCG Spanish Housing area.

3.3 SOCIOECONOMICS

This section describes the regional socioeconomic setting. Socioeconomic conditions addressed include employment, population, income, housing, schools, and recreation. This setting describes the social and economic indicators of the region that may be significantly affected by disposal and reuse.

The projected conditions are described for 1996, the year DODHF Novato will close. Socioeconomic data is available up until 1995, and socioeconomic conditions are not expected to differ substantially in 1996. Where more recent or reliable data is unavailable, 1990 census data is used.

Marin County is the ROI for social and economic impacts. This definition was selected because 60 percent of residents of Marin County also work within the county (US Census 1990). Thus the county population and economy will be the area primarily affected by the DODHF Novato closure.

The disposal and subsequent reuse of DODHF Novato is not expected to affect all areas of the ROI equally. Some effects will be felt only within the City of Novato, and specific socioeconomic data is given in those cases.

3.3.1 Regional Employment

Employment

To illustrate employment trends, general and specific employment data for Marin County is given on Tables 3-5 and 3-6 for the years 1980 and 1995.

Table 3-5
1980 and 1995 Labor Force and Employment Data for Marin County (amount in thousands)

Indicators	Marin County		
	1980 (Annl Avg)	October 1995	Percent Change
Labor Force	112.1	132.7	18.4%
Number Employed	106.8	127.3	19.2%
Number Unemployed	5.3	5.4	1.9%
Unemployment Rate	4.7%	4.1%	-

Source: California Employment Development Department 1995; ERA

Table 3-6
Historical Employment Composition for the ROI

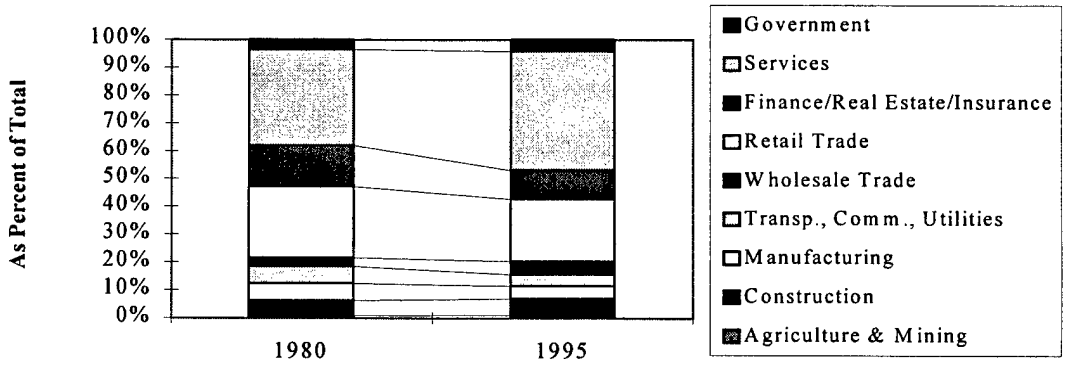
Employment	Marin County (ROI)				
	1980	1995	1995 Job Composition	Change from 1980-1995	Annual Rate of Change
Agriculture & Mining	621	960	1%	55%	2.9%
Construction	4,190	5,940	6%	42%	2.4%
Manufacturing	4,829	4,520	4%	-6%	-0.4%
Transp., Comm., Utilities	4,640	4,130	4%	-11%	-0.8%
Wholesale Trade	2,514	4,830	5%	92%	4.4%
Retail Trade	19,852	22,360	22%	13%	0.8%
Finance/Insurance/Real Estate	11,549	10,420	10%	-10%	-0.7%
Services	26,818	42,910	42%	60%	3.2%
Government	2,840	4,390	4%	55%	2.9%
Total All Industries	77,853	102,455	100%	32%	1.8%

Source: Association of Bay Area Governments 1993; ERA

According to October 1995 data, Marin County had a labor force of 132,700 people, 127,300 of whom are employed. Approximately 5,400 people, or 4.1 percent of the labor force, are unemployed. In comparison, the state's unemployment rate was 7.4 percent during the same period (California Employment Development Department 1995).

As indicated by Table 3-6, Marin County's largest employment industry in 1995 was the service sector (which includes business, repair, personal, entertainment, recreation, health, and educational services). The service sector accounts for 42 percent of total employment for the county. The next largest employment industry is retail trade, which accounts for 22 percent of total employment, and finance/insurance/real estate (F.I.R.E.), which accounts for 10 percent of total employment. The wholesale trade sector has been the fastest growing employment industry, with a 4.4 percent annual growth since 1980. This is followed by the services sector, with a 3.2 percent annual growth rate. Manufacturing, finance/insurance/real estate, transportation, communication and utilities jobs are all in decline. A comparison of Marin County job composition between 1980 and 1995 is shown in Figure 3-3. Overall, Marin County has displayed a 1.8 percent annual employment growth in the past 15 years, gaining 24,602 jobs between 1980 and 1995. Between 1995 and 2020, Marin County is projected to add 51,000 jobs (Table 3-7) (Association of Bay Area Governments 1993).

Figure 3-3
Job Composition in Marin County (ROI) (1980 & 1995)



Source: Association of Bay Area Governments 1993

Table 3-7
ROI Employment Projections (1995-2020)
(amount in thousands)

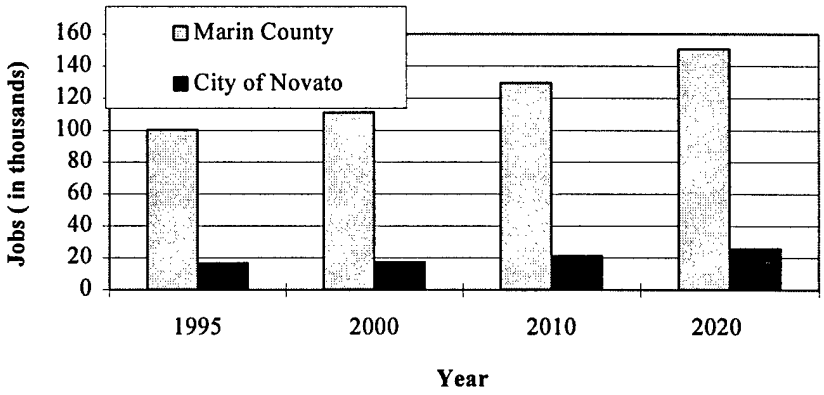
Area	1995	2000	2010	2020[1]
Marin County Jobs	100	111	130	151
Annual % Change from Previous Period	not avail.	1.0%	1.5%	1.5%
City of Novato Jobs	17	17	21	26
Annual % Change from Previous Period	not avail.	0.4%	2.0%	2.0%

[1] Estimates based on annual growth rate from 2000 to 2010.
Source: Association of Bay Area Governments 1993; ERA

During the last 15 years (1980-1995), the number of jobs in Novato increased from 13,783 to 17,360. Novato is projected to add approximately 9,000 jobs between 1995 and 2020 (see Table 3-7 and Figure 3-4) (Association of Bay Area Governments 1993).

The projected increase in employment will affect the balance between jobs and housing. In 1995, there are more employed residents in Novato than there are jobs. This means that a significant proportion of employed residents commute outside the city. Increasing the number of jobs, particularly in the retail and service sectors, will result in an increased demand for affordable housing (Novato 1995d).

Figure 3-4
ROI Employment Growth (1990-2020)



Source: Association of Bay Area Governments 1993; ERA.

Personal Income

The mean household income in 1995 for Marin County was $72,700. This is projected to increase to $103,500 (a 1.4 percent annual increase from 1995) by 2020. These figures are expressed in constant 1990 dollars. The mean household income for the City of Novato in 1995 was lower at $61,600. This figure is expected to steadily increase to $89,800 (a 1.5 percent annual increase from 1995) by 2020 (Association of Bay Area Governments 1993).

3.3.2 Population and Housing

Population

Marin County's population growth has been one of the slowest of all Bay Area counties, averaging 0.6 percent annual growth or an absolute increase of 22,000 residents between 1980 and 1995. Marin County is expected to maintain low levels of population growth between 1995 and 2020, with an estimated increase of 26,000 residents or 0.4 percent annual growth during this period. Novato's population growth parallels that of the county, as shown in Table 3-8.

Table 3-8
Historical and Projected Population, 1980-2020
(amount in thousands)

Area	1980	1995	2000	2010	2020[1]
Marin County	223	245	254	261	270
Annual % Change from Previous Period	not avail.	0.6%	0.7%	0.3%	0.3%
City of Novato	51	56	59	61	64
Annual % Change from Previous Period	not avail.	0.6%	1.0%	0.4%	0.4%

[1] Estimates based on annual growth rate from 2000 to 2010.
Source: Association of Bay Area Governments 1993; ERA

Housing at DODHF Novato and the City of Novato

Housing at DODHF Novato. DODHF Novato contains 1,490 residential units. Of these, 503 are located in Rafael Village, west of US 101. At the Main Site, there are 708 units in Capehart Housing, including 150 units in the subarea referred to as Hillside Housing. The housing units at Rafael Village are at the end of their lifespan with substandard structural conditions. The remaining housing units are generally in good building condition and are structurally adequate with correctable building code violations. There are also 282 units in the off-site USCG Spanish Housing area, of which 150 are located in the area called Knoll Housing.

As of January 1996, approximately 546 of the 1,490 units were occupied by Army, Navy, Air Force, USCG, and Marine military personnel. No one resides at the Rafael Village housing area. The 282 units in Spanish Housing are being transferred to the USCG.

Home Value and Housing Composition. Novato's housing stock includes a mixture of single-family and multi-family housing units (Table 3-9). Single-family homes represent 72 percent of Novato's 19,179 total residential units. Townhouses (attached dwellings) constitute about 20 percent of Novato's single-family housing, a far greater proportion than any of the other largest North Bay cities, which include Fairfield, Napa, Petaluma, San Rafael, Santa Rosa, Vacaville, and Vallejo. As shown in Table 3-10, homeowners occupy 60 percent of Novato homes, while renters occupy 37 percent (Novato Chamber of Commerce 1995; California Department of Finance 1995).

Table 3-9
Number and Type of Housing, Novato 1995

Type of Housing	Number	Percent
One Unit Detached	10,450	55%
One Unit Attached	3,535	18%
Two to Four Units	1,073	6%
Five or More Units	3,481	18%
Mobile Home	640	3%
TOTAL Units	19,179	100%

Source: California Dept. of Finance 1995

Table 3-10
Housing by Type of Tenure, Novato

Type of Tenure	City of Novato	
	1990	
	Number of Units	As a % of Total
Owner-occupied	11,289	60.1%
Renter-occupied	6,947	37.0%
Vacant	546	2.9%
Total	18,782	100.0%

Source: California Department of Finance 1995; US Census 1990; ERA

Housing Costs and Resale Prices. According to 1990 census data, the median value of a Novato home is $279,600. This represents a 114 percent increase over the median value of $130,754 in 1980. Table 3-11 shows the distribution of housing by value (Novato Chamber of Commerce 1995).

Table 3-11
Value of Owner-occupied Housing Units in Novato, 1990

Value of Home	Percent of Novato Housing
Under $100,000	1.0%
100,000-150,000	5.4%
150,000-200,000	7.7%
200,000-250,000	20.3%
250,000-300,000	22.9%
300,000-400,000	25.4%
400,000-500,000	8.6%
500,000 and Over	6.6%

Source: Novato Chamber of Commerce 1995

The desirability of living in the Novato area, along with the supply of more affordable housing than southern Marin County, has created a steady demand and turnover of Novato housing. The 1990 census showed Novato median home value was $279,600 compared to the Marin County median of $354,200. About 1,300 Novato households a year in recent years have turned over in the form of resales or new tenants in rental units, according to the 1991 Novato Household Survey. In 1993, 646 homes were resold in Novato, about 21 percent of all sales in Marin County that year (Novato Chamber of Commerce 1995).

Housing Rental Costs. The Novato area offers nearly 7,000 rental housing units in a broad range of prices. Table 3-12 shows prevailing rental rates for all types of housing available in Novato (Novato Chamber of Commerce 1995).

Table 3-12
Monthly Rental Ranges, Novato 1994

Type of Unit	Monthly Rental Range
Apartment	
1 BR	$550-735
2 BR	$710-870
3 BR	$900-1,050
Townhouse/Condo	
1 BR	$600-800
2 BR	$800-1,160
3-4 BR	$1,030-1,375
Detached Single-family	
1-2 BR	$850-975
3 BR	$1,050-2,100
4 BR	$1,450-2,500

Source: Novato Chamber of Commerce 1995

Vacancy Rate. The California Department of Finance reports a vacancy rate of three percent in 1994 in Novato. It is generally accepted that a vacancy rate of 4.5 percent is needed to provide for normal turnover in housing units. Novato's low vacancy rate indicates a continuing strong demand for rental housing in the community (Novato 1995d).

Below Market Rate Housing. Novato-based Northbay Ecumenical Homes (NEH) (formerly Novato Ecumenical Housing) is a non-profit corporation founded in 1978 to create affordable housing for rent or ownership. To date, NEH, in conjunction with the City of Novato, has helped develop, assisted, and/or sponsored over 1,500 housing units in the Novato area, 30 percent of which are affordable units. Within the Novato area, there are about 400 below-market rate housing units in the planning phase for low- and moderate-income families and seniors. The majority of these planned affordable housing

units are included in the privately developed New Hamilton Partnership project and proposed Bel Marin Keys housing developments (Novato Chamber of Commerce 1995).

The reuse of DODHF Novato will contribute to the creation of affordable units in Novato. The Reuse Plan specifies the location, number, and ownership structure of affordable residential units planned at DODHF Novato. A total of 718 affordable units are planned, with 324 units for ownership and 393 units for rental (Hamilton Reuse Planning Authority 1995b).

Household Size and Projections. Statistics on average size and numbers of households for the City of Novato and Marin County are presented in Table 3-13. Between 1980 and 1995 the number of households in Novato grew from 17,962 to 20,216, a 12.5 percent increase. This is compared to a seven percent increase in Marin County. The average household size in Novato in 1995 was estimated to be 2.64 persons per household, which is expected to decrease steadily to 2.55 by 2020 (Association of Bay Area Governments 1993).

Table 3-13
Characteristics of Households, 1980-2020

Location	1980	1990	1995	2000	2010	2020[1]
Persons per Household						
Novato	2.79	2.60	2.64	2.61	2.55	2.55
Marin County	2.43	2.33	2.38	2.35	2.31	2.31
Number of Households						
Novato	17,962	20,216	21,040	22,330	23,630	25,330
Marin County	88,723	95,006	98,910	103,250	107,210	111,322

[1] Estimates of persons per household based on previous decade's average persons per household.
Number of households estimates based on annual growth rate from 2000 to 2010.
Source: Associations of Bay Area Governments 1993; ERA

The forecast household growth for the City of Novato from 1995 through 2020 is approximately 4,290 new households, or a 20 percent increase in a 25-year period. This reflects Novato's slow projected population growth, which has characterized overall growth in Marin County in the last few decades (Association of Bay Area Governments 1993).

3.3.3 Schools

The following discussion on area schools was adapted from the Hamilton Army Airfield Existing Conditions Analysis, May 1995 (Hamilton Reuse Planning Authority 1995a) and the Existing Conditions Report, City of Novato General Plan Revision (Novato 1995d).

The Novato Unified School District (NUSD) serves the former Hamilton Air Base Field site with Novato High School, San Jose Middle School, and Hamilton Elementary School. The NUSD currently provides education to nearly 7,022 students at seven elementary schools, three middle schools, two high schools, one continuation high school, and one independent study school. The average class size in the district is 27.58 students. Specific capacity and enrollment data is given for these schools in Table 3-14.

Table 3-14
Novato Unified School District Enrollment and Capacity

School	School Capacity	Enrollment (Feb. 95)	Enrollment/ Capacity
Elementary Schools	**3,584**	**3,170**	**88%**
Hamilton	672	507	75%
Loma Verde	476	385	81%
Lu Sutton	504	501	99%
Lynnwood	448	373	83%
Olive	476	403	85%
Pleasant Valley	476	524	110%
Rancho San Ramon	532	477	90%
Middle Schools	**2,024**	**1,880**	**93%**
San Jose	728	556	76%
Hill	540	570	106%
Sinaloa	756	754	100%
High Schools	**2,263**	**1,972**	**87%**
Novato	1,213	1,052	87%
San Marin	1,050	920	88%
Total	**7,871**	**7,022**	**89%**

Source: Hamilton Reuse Planning Authority 1995a

Student enrollment has declined in recent years at each of the schools in the DODHF Novato area. Between 1993 and 1995, enrollments declined by 15.9 percent at Hamilton Elementary School, 6.1 percent at San Jose Middle School, and 9.5 percent at Novato High School, largely due to the reductions in the number of military families at the base. Based on the school capacity

figures above, Hamilton Elementary School is operating at 25 percent below capacity, San Jose Middle School at 24 percent below capacity, and Novato High School at 13 percent below capacity.

The reuse of military housing by civilian families poses a significant challenge to the district in terms of short- and long-range planning. In the short term, the district will be faced with reduced revenues and the need to use and maintain the affected school facilities so that they can be readily reoccupied. In the long term, the district must try to anticipate the phasing of development and reoccupation of the Navy housing.

The NUSD has also expressed interest in acquiring additional land at DODHF Novato for school facilities. The request includes the following:

- Two acres adjacent to Hamilton Elementary School where the housing office is located,
- Two and one-half acres with light industrial zoning for a corporation yard and operations facilities (maintenance, transportation, stores, purchasing, grounds, food service),
- One acre zoned for office use for a new administrative center, and
- Five to eight acres with institutional zoning for a charter school.

Table 3-15 shows NUSD assumptions for the number of students per household. These rates will be applied in estimating the additional enrollment associated with increases in housing units.

Table 3-15
Student Generation Factors

Grade Range	No. of Students/Household Single-family Household
K-6	0.055
7-8	0.042
9-12	0.042

Source: Novato 1995d

3.3.4 Recreation

As a housing and community support facility, DODHF Novato owns and maintains the indoor and outdoor recreational facilities listed in Table 3-16.

Table 3-16
Existing DODHF Novato Recreational Facilities

Planning Area	Recreational Facility
Rafael Village	Four tot lots
Capehart Housing	Six tot lots
Commissary Triangle	None
Exchange Triangle	One tot lot; skate board ramp; youth center
Town Center	None
Bowling Alley	Gym; bowling alley; racquetball courts
Officers' Club	Community center
Ballfields	Pool; poolhouse; four ballfields

Source: Hamilton Reuse Planning Authority 1995a

The City of Novato owns and maintains 59.16 acres of developed parks and recreation area. In addition, the city owns 140 acres of undeveloped future parklands and 26 acres of recently purchased wetlands known as Scottsdale Marsh. The bulk of its undeveloped parkland is the 100-acre Neil O'Hair Park site. There are numerous publicly-owned parks and recreation facilities, as well as privately-owned recreation facilities, within the Novato sphere of influence. City facilities include 13 mini-parks, five neighborhood parks, three district parks, seven specialized facilities, plus five other jointly developed recreation facilities (Novato 1995d).

Since 1970, the city and the Novato Unified School District have codeveloped recreation areas at four elementary school sites, providing another 12 acres of play fields and neighborhood parks. Within its inventory of public land, the city has title to approximately 550 acres of public open space. During fiscal year 1986/1987, title to 470 acres of open space was transferred to the Marin County Open Space District (Novato 1995d).

Under the Marin Countywide Plan Parks and Recreation Element, the county is proposing to increase support for local communities and districts and to assist these jurisdictions with providing local parks and recreation facilities. The local communities have been evaluated to assist with planning park and recreation facility improvements. Based on standards established under the maximum dedications of the Quimby Act, which permits an agency to require land dedications or to charge user fees to new residential subdivisions, the county estimates a shortage of 56 acres of parks within the Novato community (based on a five acre per 1,000 resident standard). Further, the county has identified those portions of individual communities that are

currently lacking adequate park and recreation areas. All neighborhoods within Novato are considered to be under provided with parks. Additionally, the Countywide Plan notes that all active recreation areas, community centers, and school sites with athletic fields are overused (Novato 1995d).

3.3.5 Environmental Justice

On February 11, 1994, President Clinton issued the Executive Order on Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. This order requires the relative impacts of any federal actions on minority and/or low-income populations be addressed to avoid the placement of a disproportionate share of burden of the adverse impacts of federal policies and actions on these groups. Therefore, demographic information on ethnicity, race, and poverty status for the City of Novato has been included.

The City of Novato has been established as the relevant ROI for analyzing environmental justice issues because the nature of the significant impacts associated with disposal and potential reuse would occur primarily at the local city and neighborhood levels. A discussion of environmental justice and potential impacts from disposal and reuse is presented in Section 5.

Based on the 1990 census data, 89.6 percent of Novato's population is Caucasian, 2.8 percent is African American, 5.0 percent is Asian and Pacific Islander, 0.5 percent is Native American, and the remaining 2.1 percent is made up of other groups (see Table 3-17 and Figure 3-5). Of the total city population, persons of Hispanic origin make up 7.4 percent. This figure is based on the number of persons who classify themselves as Hispanic based on their language, ancestry, and country of origin (i.e., Spain, Mexico, Puerto Rico, Dominican Republic, and any other Central and South American countries). Therefore, persons of Hispanic origin may be of any race.

According to 1990 census data, approximately 1,971 of Novato's residents (4.1 percent of the population) were living in poverty. The Census Bureau determines poverty status for families and individuals based on 48 threshold variables; these include income, amount spent on food, family size, number of children under 18, and number of family members over 65. The average poverty threshold for a family of four persons was an income of $12,674 or below in 1989 (US Census 1990).

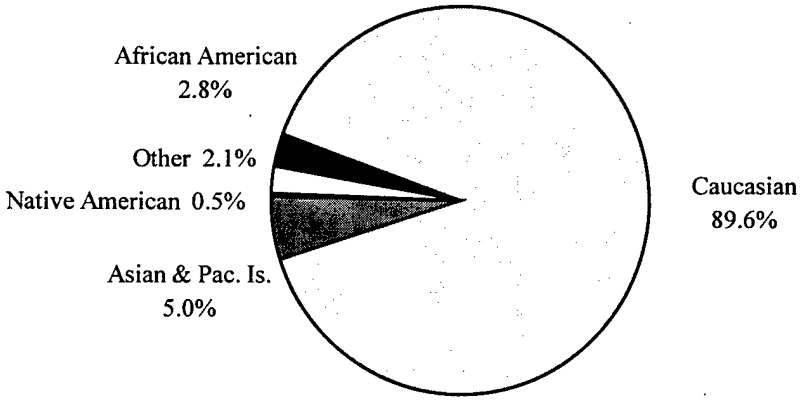
Of the residents classified as poor, people who identified themselves of Hispanic origin are disproportionately represented in Novato (see Table 3-17). Hispanics made up 7.4 percent of the population of Novato, but according to census data, they represent 17.9 percent of all persons below the poverty level.

Table 3-17
1990 Race/Ethnic Composition and Poverty Status

Race/Ethnicity	City of Novato			
	Total population		Persons below poverty level	
	Number	As a % of Total Population	Number	As a % of Total In Poverty
African American	1,328	2.8%	75	3.8%
Caucasian	42,622	89.6%	1,671	84.8%
Asian & Pacific Islander	2,390	5.0%	92	4.7%
Native American	237	0.5%	3	0.2%
Other	1,008	2.1%	130	6.6%
Total	47,585	100.0%	1,971	100.0%
Hispanic[1]	3,522	7.4%	352	17.9%

[1] Persons of Hispanic origin may be of any race.
Source: US Census 1990; ERA

Figure 3-5
Race/Ethnic Composition of Novato



Source: US Census 1990

3.4 PUBLIC SERVICES

This section describes the fire protection, emergency medical, and police protection services for DODHF Novato. These services and the agencies that provide them insure the protection of life, health, and property from fire, crime, and other emergencies. The ROI for public services is the City of Novato, which includes DODHF Novato. Regional fire protection, emergency medical services, and police protection are provided by agencies of the City of Novato. Services to DODHF Novato are provided through a contract with the Navy. The Navy also contracts with a private security firm to provide supplemental security services to DODHF Novato.

3.4.1 Plans and Policies

Novato General Plan

The general plan has several objectives related to public services, including the reduction of fire hazards and the maintenance of effective police and emergency medical services. To implement these objectives, the City of Novato and the Novato Fire Protection District (NFPD) have developed an ordinance prohibiting combustible roof materials, a vegetation abatement and fire hazard reduction program, a homeowner guide for survival of woodland fires, and a sprinkler ordinance. The sprinkler ordinance requires all new single-family dwellings and new buildings 2,500 square feet or larger to have automatic sprinkler systems. In addition, the city has established a minimum flow requirement in city fire hydrants of 1,000 gallons per minute with 20 pounds per square inch residual pressure.

In response to the objective for effective service, the NFPD has set a goal of responding to 90 percent of emergency incidents within five minutes. The Novato Police Department seeks to foster community-police cooperation in the prevention of crime and delinquency and to meet the public demands for noncrime police services. Approximately 85 percent of police calls are requests for service rather than responses to crime.

The City of Novato General Plan Revision, Existing Conditions Report (Novato 1995d) outlines the following fire protection policies: new residential projects proposed in areas with extreme fire hazards should be allowed only where it is determined that adequate on- or off-site fire suppression water supply is or can be made available; fire trails, fuel breaks, and fire-resistant plant materials should be used and required; and designated routes of safe pedestrian and vehicular evacuation should be required. The NFPD is working towards its goal of responding to 90 percent of emergency incidents within five minutes through the following activities: procurement of funds to purchase land for future fire station sites; continued analysis of disasters to

develop a learning base for future disaster preparedness; continued improvement of the disaster planning process with the City of Novato and Marin County; development of a procedural manual for NFPD operations during a natural or accidental disaster; and model fire prevention program with residents in Blackpoint, an unincorporated community located approximately five miles north of DODHF Novato along Highway 37.

New policies related to police protection include ensuring that through the city's regulatory measures and project review process each development will have adequate emergency access and promoting physical design measures that maximize security from crime and facilitate law enforcement. The plan states that there are 1.2 police officers per 1,000 residents, which is below the federally-accepted standard of 1.7 officers per 1,000 residents.

The Marin Countywide Plan

The plan states that a new fire station will be required to serve the DODHF Novato development. It also describes a 1992 county ordinance requiring the installation of automatic sprinklers in all new structures in the county and in most structures undergoing substantial remodeling.

3.4.2 Fire Protection and Emergency Medical Services

The NFPD is an independent agency that serves the fire protection needs of a 75 square mile area with a population of approximately 57,700. In 1995, the district received 3,726 emergency calls, an increase of 6.9 percent from 1994. Seventy-two emergency response personnel are employed by the district, at least 20 of whom are on duty at any one time. The NFPD maintains four fire stations, each with responsibilities for both primary and secondary response to fire emergencies. A mutual aid program has been established with other Marin County fire departments to provide additional equipment and personnel in the event of large fires or other emergencies. The NFPD has set a goal of responding to 90 percent of all emergency calls within five minutes. In 1995, the NFPD responded to 87 percent of calls within five minutes.

NFPD Station 4 on Enfrente Road is the primary response station and emergency service provider for DODHF Novato. The station has one fire engine staffed by three fire suppression personnel and one ambulance staffed with two paramedic personnel. The station has a total staff of 20 personnel who rotate through the five on-duty positions. Station 4 received 434 fire suppression calls in 1995, an increase of 19.6 percent from 1994 (Arendell, personal communication). Response times to incidents at the Main Site range from four minutes up to seven minutes when serious traffic delays are encountered. The response time to emergency incidents at Rafael Village is approximately two minutes.

The NFPD is also responsible for providing emergency medical services for the region. These incidents account for over 60 percent of the district's total emergency responses. Station 4 received 613 emergency medical calls in 1995, a decrease of 10.4 percent from 1994 (Arendell, personal communication). All uniformed personnel have dual responsibilities for fire suppression and emergency medical service. All NFPD personnel are qualified Emergency Medical Technicians or Paramedics (Novato 1995b). The nearest emergency room is within Novato Community Hospital, approximately four miles from DODHF Novato.

3.4.3 Police Protection

Police protection for the DODHF Novato is provided by the Novato Police Department, located on Machin Avenue. The department employs 58 sworn personnel and 22 nonsworn personnel, giving the city a ratio of 1.0 officer per 1,000 residents, the lowest ratio in Marin County (Barner, personal communication; Hamilton Reuse Planning Authority 1995a). The Novato Police Department has set itself a goal of 1.3 officers per 1,000 residents (Brady, personal communication). In 1995, the police department dispatched approximately 27,078 service calls, a decrease of 6.3 percent from 1994 (Brady, personal communication). In 1989/1990, the department was reorganized due to state budget cutbacks, and a few positions were eliminated. Due to fluctuations in state funding, the department has since been operating under a transitional plan that allows modifications to staffing levels. The department currently is increasing the number of staff (Barner, personal communication).

A private firm, under contract to the Navy, maintains a 20-person staff that provides on-site security service and nonemergency response to DODHF Novato. The police department provides police protection and criminal investigation services to DODHF Novato and works cooperatively with the private security firm. Both the department and the private security personnel respond to 911 emergency service calls. In 1994, Novato police responded to 2,062 incidents at Rafael Village and the Main Site and filed reports on 611 of those incidents.

3.5 UTILITIES

This section presents an overview of the utilities at the DODHF Novato property, including the water distribution, wastewater, storm drainage, electrical, natural gas, telephone, cable television, and solid waste management systems. Utilities diagrams are included in Appendix F. Information on the system was obtained from the Hamilton Army Airfield Reuse Plan (Hamilton Reuse Planning Authority 1995b), the 1995 Existing Conditions Analysis (Hamilton Reuse Planning Authority 1995a), the 1986 DODHF Novato Master Plan (US Navy 1986), and personal communications with employees of EFA West, PWCSFB, and utility providers.

Potable water is provided to the DODHF Novato property from the Marin Municipal Water District and North Marin Water District, and the Novato Sanitary District (NSD) provides sanitary sewer treatment services. Electrical power and natural gas are provided by Pacific Gas and Electric Company (PG&E). Telephone systems and service are provided by Pacific Bell. Cable television service is provided by Horizon Cable Company. Solid waste disposal is provided by a private contractor to the PWCSFB. PWCSFB owns and operates most of the utility systems within the DODHF Novato property, including electrical, natural gas, telephone, water distribution, and wastewater collection systems. Exceptions are the cable television system; portions of the sanitary sewer system, owned by NSD; the electrical and natural gas systems at Rafael Village, owned by PG&E; and the telephone system at Rafael Village, owned by Pacific Bell. The ROI for utility service is the service areas of the individual service providers, because analysis for each utility will be analyzed based on potential effects within the service area of each service provider.

3.5.1 Utility Regulations

Each utility is subject to different local, state, or federal regulations. These may be in the form of municipal codes, permitting requirements, state legislation, or federal agency requirements. Applicable regulations are described under the individual utility system sections below.

3.5.2 Water Distribution System

DODHF Novato lies within the Marin Municipal Water District and the North Marin Water District service areas. The Marin Municipal Water District currently serves the DODHF Novato Main Site including the Commissary and Exchange Triangles and the majority of Capehart Housing. The North Marin Water District currently serves Rafael Village and a small portion of the development within Capehart Housing. The water system is shown in Appendix D, Figures D-1a and D-1b.

The DODHF Novato domestic water distribution system has been developed in stages since the early 1930s. The existing on-site water system receives water from local supplies and the Russian River via the Marin Municipal Water District and the North Marin Water District delivery systems. The water is then delivered to DODHF Novato through master water meters located at the boundaries of the base.

There are three major water distribution systems within DODHF Novato—Rafael Village, Capehart Housing, and the USCG Spanish Housing. Although Spanish Housing is not part of this project, the water system is described here because it interconnects to the rest of the water infrastructure at DODHF Novato. The water distribution system in Hillside Housing is a subpart of the Capehart Housing distribution system, while Commissary Triangle, Exchange Triangle, Town Center, Bowling Alley, Officers' Club, Ballfields, and the off-site Knoll Housing are subunits of the Spanish Housing distribution system.

Rafael Village

The North Marin Water District services Rafael Village from Pressure Zones 1 and 2. These pressure zones comply with the district's existing criteria. The original domestic water distribution system was built in 1950 and consists of galvanized steel and cast iron pipelines ranging in diameter from 2-inches to 10-inches. The 503 residential units are served via 57 master meters.

According to the North Marin Water District, the existing water system will not be accepted since it does not meet the existing district design criteria and would require extensive easements for the maintenance of the lines. The Reuse Plan recommends that the existing system be completely replaced and relocated within public rights-of-way or public streets. These pipelines should be capable of providing fire flow of at least 1,000 to 1,500 gallons per minute (gpm) for two hours. The plan also recommends that additional fire hydrants be installed to satisfy the current fire hydrant spacing criteria of 350 feet, since the current maximum fire hydrant spacing is approximately 880 feet. This would be required due to the fact that several of these pipelines are located within the rear yards of houses.

Capehart Housing

The northern portion of Capehart Housing (560 units) is within Marin Municipal Water District's service area and the remaining portion (Hillside Housing - 150 units) is within the North Marin Water District's service area. Under a contract with DODHF Novato, Marin Municipal Water District currently provides water service for the majority of the planning area located in North Marin's service area. The North Marin Water District has always protested such service. The two districts are working towards a settlement for this long-standing dispute.

The original domestic water distribution system was built in the late 1950s and includes 2-, 6-, 8-, and 10-inch asbestos cement (AC) and cast iron (CI) pipelines. The pipelines in Capehart Housing are located either in the front yard of the dwellings or in locations remote from the streets. The original installation of these pipelines was done in the same trench with cathodically protected natural gas pipelines. This cathodic protection system is no longer operated since it increased corrosion of the water piping system, which now may need to be abandoned and replaced.

The Marin Municipal Water District provides water to this development via the existing 1.0 million gallon (MG) air base tank owned and operated by the Marin Municipal Water District. The tank is situated south of the base at a pad elevation of 250 feet and high water line of 274 feet. This tank provides for adequate static pressure of over 60 pounds per square inch (psi) at the highest pad elevation within the Capehart Housing development. In addition, the Marin Municipal Water District has indicated that this tank can provide adequate storage for DODHF Novato.

The North Marin Water District supplies water to one master meter for 150 dwelling units at Hillside Housing, located at the southern end of Capehart Housing. This system, constructed in 1988, is completely separate from the remainder of Capehart Housing and consists of 2-1/2, 6-, and 8-inch polyvinyl chloride (PVC) pipe located in the front yard of the dwellings. The North Marin Water District provides adequate storage and supply for this development from its Zone 2 system.

If this area is subdivided it will be necessary to replace the existing system, relocate the facilities into public rights-of-way, and install new individual service lines and meters at the subdivided parcels or dwelling units. In the event the entire Capehart Housing area is under a single ownership and provided that the existing pipelines are capable of providing fire flow of 1,000 to 1,500 gpm for two hours, the Marin Municipal Water District has indicated that it can continue with the existing arrangement without the need to upgrade the system. However, the Marin Municipal Water District would not own or operate the subject system.

The Reuse Plan recommends that additional fire hydrants be installed to satisfy the current fire hydrant spacing criteria in Capehart Housing of approximately 480 feet.

Commissary and Exchange Triangles

The Commissary and Exchange Triangles are located to the north of Main Gate Road north of Capehart Housing.

The pipelines are located under the buildings and are not located in streets or in public rights-of-way. These facilities are about 30 years old and consist of 2-inch to 8-inch AC and CI pipelines. Fire flow tests carried out by the Marin Municipal Water District indicated that these pipelines are not capable of providing adequate commercial fire flow of 3,500 gpm for two hours. In order for the water distribution system to meet the existing standards, these pipelines should be abandoned in place, relocated into public rights-of-way, and upsized to be capable of providing the required fire flow.

Town Center, Bowling Alley, Officers' Club, and Ballfields

The domestic water system for the Town Center, Bowling Alley, Officers' Club, and Ballfields consists of pipelines ranging from 4-inch to 12-inch AC and CI. The pipelines are not located in streets or in public rights-of-way. These pipelines have been tentatively scheduled for replacement as part of the NHP project.

3.5.3 Sanitary Sewer System

The original DODHF Novato sewer system is over 45 years old and consists of gravity pipelines, force mains, and lift stations. This system also includes a new pump station constructed in 1983 known as East Hamilton Pumping Station. The sewage from DODHF Novato is discharged into the NSD sewer system for conveyance and treatment at the Ignacio Sewage Treatment Plant. The sewer system is depicted in Appendix D, Figures D-2a and D-2b.

DODHF Novato is outside the NSD's service area, but an existing agreement with NSD allows the wastewater to be treated and disposed of in the NSD facilities. There are existing NSD-owned facilities located on the Hamilton Army Airfield, outside DODHF Novato boundaries. These facilities include the East Hamilton Pumping Station, 15-inch sewer in San Pablo Avenue and Escolta Avenue, 6- and 12-inch PVC force mains in Escolta Avenue, 15-inch sewer along the Northwestern Pacific Railroad, and the 12-inch force main to the Ignacio Sewage Treatment Plant (Figure D-2b).

The district's Ignacio wastewater treatment plant existing design capacity is 2.02 million gallons per day (MGD), with an ultimate capacity of 2.55 MGD. The current flow treated at the plant is approximately 1.61 MGD. The estimated flow contributed by DODHF Novato is 0.80 MGD.

The DODHF Novato sewer system is split geographically into two areas—east and west of US 101. The area to the west of US 101 consists only of the Rafael Village Housing. The area to the east consists of the remainder of the DODHF Novato, which is also known as Main Site.

The district's board of directors adopted a policy on May 24, 1994, addressing the reuse of the existing DODHF Novato sewer facilities. The policy requires that any planning agency that proposes to reuse any portion of the existing sewer system as public sewers to be owned, operated, and maintained by the district, must thoroughly evaluate the conditions of those facilities and conclude through an engineering report that the existing system meets the district's current standards. If such studies are not performed, it should be assumed that all sewer facilities must be completely replaced.

As an alternative to the district owning and operating the sewer facilities within DODHF Novato, the district may be willing to provide contract services to another entity that would own the sewer facilities within DODHF Novato. This would be similar to the existing arrangement. Under this scenario, the owner, not the district, would be responsible for operating and maintaining the sewer system. However, even in the case of private ownership of sewer facilities, certain district standards would have to be met. Examples of this include, but are not limited to, infiltration/inflow limitations, requirements for points of connection, and easements for lines crossing other properties.

Rafael Village

The sewage flows by gravity into the NSD trunk sewer along Ignacio Boulevard. It is then conveyed to the Ignacio Sewage Treatment Plant. The gravity sewer system consists of vitrified clay pipe (VCP) and PVC pipe ranging from 4-inch to 10-inch. The NSD trunk sewers range from 6-inch to 15-inch VCP and CI pipe. There are approximately 150 manholes in the system.

The sewer pipelines in Rafael Village Housing are located in the rear yards of the dwellings. The manhole spacing throughout this system ranges between approximately 20 feet and 480 feet. Based on the little known conditions of the sewer system, its age and the policy adopted by the district's board of directors, the Reuse Plan recommends replacement of the entire system.

Capehart Housing

The sewer system consists of 6-, 8-, and 12-inch VCP and CI gravity pipelines, an 8-inch CI force main, and approximately 110 manholes. The sewer pipelines are located in the front yards of the dwellings and are not located in public rights-of-way. The manhole spacing throughout this development ranges between 20 feet and 440 feet. The sewer system also includes a lift station with a capacity of 150 gpm in Building 3132.

Most of the sewage flows by gravity in a northerly direction to the 12-inch pipeline running along West Kelly Drive. The 12-inch pipeline continues on

until it connects with the NSD trunk sewer along the Northwestern Pacific Railroad. Approximately 6,300 feet of the total 27,700 feet of sewer pipeline in Capehart Housing was sliplined in 1983 as part of the extensive repair work done on the DODHF Novato sewer system.

Capehart Housing also includes Hillside Housing, a development with 150 dwelling units that was built in 1988. The wastewater generated from this development is collected by an 8-inch main that empties into the Building 3132 lift station.

The existing sewer system in Capehart Housing does not meet the current standards of the district. It may be necessary to relocate the sewer pipelines from the front yards of the dwellings to public rights-of-way. Additional manholes may also be necessary to satisfy the district's required maximum 350 feet spacing between manholes. Based on the above conditions, the age of the sewers, and the policy adopted with the board of directors, the Reuse Plan recommends replacement of the entire system.

Commissary and Exchange Triangles

The sewer system in the Commissary and Exchange Triangles, located to the north of Main Gate Road, consists of pipe diameters ranging from 4-inch to 12-inch VCP, CI, and reinforced concrete (RC) gravity pipelines, 8- and 12-inch PVC force mains, a 15-inch RC NSD trunk sewer, approximately 35 manholes, and an abandoned lift station with a capacity of 75 gpm.

Most of the sewage from the Commissary Triangle flows directly into the 15-inch NSD trunk sewer. The sewage from the Exchange Triangle flows by gravity into 12-inch pipelines. These pipelines then connect with the NSD trunk sewer at a point north of State Access Road.

The sewer system in the Commissary and Exchange Triangles is old, the condition of the pipelines is believed to be poor, and the system does not satisfy the current district standards. The Reuse Plan recommends that the pipelines be relocated to public rights-of-way, additional manholes be installed to satisfy the district's current spacing standards, and deteriorated pipelines be replaced.

Town Center, Bowling Alley, Officers' Club, and Ballfields

The Town Center, Bowling Alley, Officers' Club, and Ballfields are located along the eastern boundary of the off-site USCG Spanish Housing area. The sewer system includes 4-, 6-, 8-, and 16-inch CI, VCP, and ductile iron (DI) pipelines, force mains ranging from 4- to 12-inch CI, PVC, AC, steel and reinforced plastic mortar (RPM), and two pump stations. Several sewer pipelines are located under buildings and should be abandoned and replaced.

The two pump stations are located in Buildings 89 and 125. In general, the system is in poor condition due to age and does not meet current district standards.

The Reuse Plan recommends that the pipelines be relocated to public rights-of-way, additional manholes be installed to satisfy the district's current standards, and deteriorated pipelines be replaced.

3.5.4 Storm Drainage

Overall, DODHF Novato maintains somewhat less than a 10-year level of flood protection. The DOD originally designed on-site drainage facilities for 10-year flows using rainfall data defined during the 1940s. Current City of Novato standards call for 25-year, on-site design with all habitable structures protected from a storm with a 100-year recurrence interval. Design rainfall information has been revised upward since most of the on-site project infrastructure was constructed. Flood protection is not provided in several areas for a 100-year storm. Section 3.9.3 describes current flood patterns and proposed projects that would affect these flood patterns.

Rafael Village

The site is drained by a local underground storm drain system discharging to earth swales that ultimately flow to San Jose Creek. San Jose Creek runs adjacent to the southerly planning area boundary, crossing Ignacio Boulevard near the easterly planning area boundary. In general, the system appears to be in fair to good condition with isolated areas in need of repair (Hamilton Reuse Planning Authority 1995a). Building pads are drained by concrete swales that collect runoff from the rear of the building pads and direct it to the street through parkway culverts. Some of these swales are above the adjacent area they are supposed to drain. Catchbasin placement and capacity appears adequate to serve the site. The local storm drain system was designed for a 10-year storm recurrence interval, which is inconsistent with the City of Novato standard of a 25-year recurrence interval. A portion of the site is also drained by an open channel system adjacent to Norman Drive.

There is a need to regrade many areas where the ground slopes toward the dwelling units creating ponding problems. Some of the site concrete v-ditches also may need to be replaced subject to a grading study in the identified problem areas.

Capehart Housing

Capehart Housing is located along a ridge that rises to an elevation of about 260 feet. The site drainage system is comprised of concrete-lined interceptor ditches collecting runoff from around the housing units and conveying it to

the local streets. Street flow is intercepted by standard inlets and conveyed to the local underground storm drain system. The storm drain system discharges to Pacheco Creek to the north and west, and to a detention pond to the west side ditch along USCG Spanish Housing to the south. All storm drain infrastructure in the Capehart Housing area was designed using a 10-year storm frequency.

In general, the facilities in Capehart Housing have sufficient capacity to convey discharges resulting from a 10-year storm. A chronic flooding problem exists at Building 140 on West Kelly Drive. Pacheco Creek passes near the housing area at this location just upstream of Main Gate Road. Previous studies determined that when the flow in Pacheco Creek exceeds 220 cubic feet per second (cfs), runoff begins backing up on West Kelly Drive in the subject area. When the discharge in Pacheco Creek exceeds ??? cfs, Main Gate Road is overtopped. These discharges correspond to rainfall events of about two years and five years, respectively.

The chronic flooding problems relating to the capacity of Pacheco Creek are primarily due to undersized restrictions where the creek flows underground into culverts downstream in off-site Lanham Village and on-site Exchange and Commissary Triangles.

Drainage from the eastern portion of Capehart Housing flows to an existing retention and detention basin located between the southeast Navy property line of the housing complex and the existing railway line embankment. A 36-inch outlet pipe discharges from the basin to St. Vincent's property; however, there is a significant amount of dead storage in the basin below the outlet pipe elevation. Sump inlets upstream of this basin do not have a secondary overflow outlet.

The flood control infrastructure is in generally good condition within Capehart Housing. The system was designed to convey runoff from a 10-year storm event and appears to have adequate capacity for this frequency. Secondary overflow paths are required for sump basins on East and West Kelly Drive. Building 140 must be elevated out of the 100-year floodplain or Pacheco Creek must be improved to convey the predicted 100-year discharge. The local drainage around Building 140 appears poorly designed and regrading of this area may be the most economical solution. Adjacent units in these areas also may be within the 100-year floodplain of Pacheco Creek. The Reuse Plan recommends enhanced safety fencing and maintenance access for the site retention/detention basin along the southeast property line.

Commissary and Exchange Triangles, Town Center, Bowling Alley, Officers' Club, and Ballfields

The Commissary Triangle, Exchange Triangle, Town Center, Bowling Alley, Officers' Club, and Ballfields are served by underground storm drain systems and surface flow to gutters, ditches, and channels. In general, the systems were designed to convey 10-year discharges and appear to be in operable condition; however, some portions may be assumed to be nearing the end of their design life.

The condition of pavement in the street and parking areas is significant relative to the efficiency of surface drainage. Pavement deterioration and subsidence has created local undrained depressions in parking areas, gutters and streets. Additionally, some local inlets are in need of repair to replace broken grates and crushed entrances. Pacheco Creek flows adjacent to and west of the Commissary Triangle and the Exchange Triangle. A 60-inch reinforced concrete pipe (RCP) conveys flows from Main Gate Road to State Access Road. In addition, three 66-inch RCPs originate about 600 feet northerly, acting as an overflow system for the single 60-inch RCP; these pipes intercept surface overflow and convey it to a box culvert located north of the railroad tracks in the vicinity of the Navy Exchange. Pacheco Creek in this reach has the capacity to convey flows expected from a 10-year storm.

The Commissary Triangle and Exchange Triangle have acceptable local drainage facilities; however, these parcels are within the 100-year floodplain for Pacheco Creek. The undersized Pacheco Creek culvert systems described above require improvements to remove these parcels from the flood hazard. Local storm drain systems must be improved or installed in the Town Center, Officers' Club, and Bowling Alley areas.

The local storm drain system for the commercial area is generally inadequate to convey 10-year storm discharges. In many locations, City of Novato criteria is exceeded for the placement of catchbasins, resulting in unacceptable flooded widths on local streets. Deterioration of local pavement has created adverse slopes and local undrained sumps. The Bowling Alley and Officers' Club have inadequate or improper drainage facilities.

The Ballfields fall within the 100-year floodplain. Inadequate pumping capacity, coupled with inadequate capacity in the perimeter channels and underdesigned airfield levees create a condition wherein the Ballfields have flood protection for less than a 10-year event. Few local drainage improvements exist, and water collects in adjacent ditches when the airfield perimeter channels create an adverse backwater condition.

The new levee and pumping facilities proposed for the NHP developments will provide flood protection for Ballfields 1 and 2 north of Caliente Real.

Ballfields 3 and 4 south of Caliente Real would be subject to tidal flooding as a result of the proposed Hamilton Field wetlands restoration project.

3.5.5 Electrical System

PG&E provides electrical service to Rafael Village and the Main Site. The electrical system is shown in Appendix D, Figures D-3a and D-3b.

Rafael Village

The current power distribution system is a 12-kilovolt (kV) overhead line. This system is fed from PG&E with a single metering point. The 12-kV system is owned and maintained by PG&E. The existing equipment is in fair to poor condition with rust showing on some of the transformer enclosures.

Future upgrades to the power distribution system should include additional primary points of connection to limit long power outages (the existing system has only a single feed).

Capehart Housing

The existing power distribution system is a 4,160-volt loop fed from the PG&E substation just northeast of the Capehart Housing area. The housing units are fed from pole-mounted step-down transformers.

The existing 4,160-volt system is unacceptable to PG&E. The current system will need to be upgraded to meet current PG&E standards, including undergrounding utilities and constructing a new main substation to provide 12 kilovolts primary power.

Commissary and Exchange Triangles

The existing power distribution system is a 4,160-volt loop from the PG&E substation located southeast of these planning areas. The system is run overhead; feeders to the existing buildings are drops from pole-mounted transformers.

The system would need to be upgraded to 12 kV and undergrounded to meet PG&E standards. In addition, a new main substation would be required to deliver 12 kV to these areas.

Town Center, Bowling Alley, Officers' Club, and Ballfields

The existing power distribution system is a 4,160-volt underground radial loop. The existing system is over 40 years old. The source for the power distribution is a substation located west of these planning areas.

The system will need to be upgraded to 12 kV to meet PG&E standards, including construction of a new main substation to deliver 12 kV to these areas.

3.5.6 Natural Gas

PG&E provides natural gas service to Rafael Village and the Main Site. These systems are shown in Appendix D, Figures D-4a and D-4b.

Rafael Village

The natural gas system was built in 1950 and is owned, maintained, and master metered by PG&E. A four-inch steel, underground pipe main supplies gas at five pounds per square inch gauge (psig) from a master meter and 50 psig regulator station; piping is located in the street. It is understood that the piping system is well maintained and has a cathodic protection system.

There has been a consistent upgrading of the system by keeping in concert with the development of the housing area. PG&E has indicated its willingness to continue to provide gas to the area. Individual tenant meters would need to be installed for future individual customers.

Capehart Housing

Originally installed in 1957-1960, the gas piping system was upgraded in 1990. The system is served from a PG&E master meter and regulating station and is distributed at 15 psig. Individual tenant meters would need to be installed for future individual customers.

Commissary and Exchange Triangles

PG&E has indicated that they would require a new primary gas distribution system to and within this area, as the existing system is old and does not have the capacity to serve potential future commercial users.

Town Center, Bowling Alley, Officers' Club, and Ballfields

The system is served from a PG&E master meter at 50 psig from PG&E and distributed at approximately 15 psig throughout the base via a pressure

reducing station. Pipe routing is installed in the streets or public ways. Piping size is generally four-inch and three-inch.

Due to its age (installed in 1933-1934), condition, and capacity, a new primary gas main and distribution system should be installed to replace the existing system in this area (Hamilton Reuse Planning Authority 1995b).

3.5.7 Telephone System

Pacific Bell currently provides telephone service to DODHF Novato. Most of the telephone wires are run overhead on the electrical power poles. Exceptions are Town Center, Bowling Alley, Officers' Club, and Ballfields where the lines are run underground.

In the event that the electrical system's overhead lines are relocated underground to meet future requirements, the telephone lines should also be included within a new "joint" trench, which would accommodate electrical, telephone, and cable television lines.

3.5.8 Cable Television

Horizon Cable Television Company provides service to the Rafael Village and Capehart Housing areas. The service is run overhead on the electrical power poles in Rafael Village and Capehart Housing.

In the event that the electrical system overhead lines are relocated underground to meet future requirements, the cable television lines also should be included within a new joint trench, which would accommodate electrical, telephone, and cable television lines.

3.5.9 Solid Waste Management

Bay Cities Refuse Company provides solid waste collection service to all government properties at the former Hamilton Air Force Base, including DODHF Novato (US Army 1996). The Novato Disposal Service provides solid waste collection service for the Novato Sanitary District, which includes the City of Novato and surrounding areas. Ninety-four percent of all solid waste generated in Marin County, including DODHF Novato, is disposed of at the Redwood Landfill, located four miles north of the City of Novato (Novato 1995d). Redwood Landfill is permitted as a Class II and III facility, capable of accepting solid waste, which includes mixed municipal refuse, construction/demolition materials, sewage sludge, leaves and yard clippings, tires, and asbestos, a hazardous waste.

Redwood Landfill has a life span of approximately 45 years, based on 1990 projections (Frost, personal communication). The total available capacity of the landfill is approximately 10.9 million tons.

In 1994, the most recent year for which data is available, government facilities at the former Hamilton Air Force Base, including DODHF Novato, generated approximately 1,893 tons of solid waste (Marin County Office of Waste Management 1996). At present, military families are issued two garbage cans, which is slightly greater than average within the City of Novato (Hamilton Reuse Authority 1995a).

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county to prepare a Solid Waste Source Reduction and Recycling Element for its general plan. The element must include a solid waste management program to achieve goals of diverting 25 percent of all solid waste from landfills by 1995 and 50 percent by 2000. Marin County and Novato have achieved the goal for 1995. In 1993, the most recent year for which recycling data for DODHF Novato were available from the Marin County Office of Waste Management, 254 tons of waste were diverted from landfills from curbside pickup at DODHF Novato.

3.6 CULTURAL RESOURCES

The term "cultural resources" includes any object, site, area, building, structure, or place that is archeologically or historically significant or that has traditional cultural value (e.g., properties sacred to Native Americans or other ethnic groups). The definition includes assets significant in the architectural, scientific, engineering, economic, agricultural, educational, social, political, military, or cultural annals of California.

Background Studies

Cultural resources background studies for DODHF Novato have been ongoing for many years and include archeological and architectural inventories of the entire base undertaken both by the Navy and by the Army Corps of Engineers (COE), respectively. Recent archeological work within the Navy property occurred in 1995 and was conducted by Basin Research, Inc. (Basin) of San Leandro. A prehistoric and historic site record and literature search was completed by personnel of the Northwest Information Center of the Historical Resources File System, Sonoma State University, Rohnert Park (NWIC File No. 95-157). Material on file at the Bancroft Library, the Anthropology Library, and the Hearst Museum of Anthropology, all of the University of California, Berkeley, and Basin's extensive in-house library was also examined. A complete summary of archeological surveys and excavations completed at DODHF Novato to date is provided in Basin's report (Busby et al. 1995). The known sites are all prehistoric in nature; no historical archeological sites (e.g., sites dating from Spanish occupation to 1946) have been identified at DODHF Novato, and the potential for their existence is low. The potential for paleontological resources is also low, based on soil composition and geologic formation of the project area (McGowan, personal communication).

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the COE assumed the lead role during the excess property sale of GSA/Army land to the New Hamilton Partnership. The COE negotiated an agreement with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and other agencies on the steps to be taken to mitigate and accept the transfer and/or demolition of individual buildings and structures. Mitigation measures included documentation of all contributing buildings and structures within the district to Historic American Buildings Survey standards (regardless of ownership), preparation of a documentary video chronicling the mission and history of the base, preparation of a brochure for public dissemination, assistance in developing a local curation facility dedicated to Hamilton's history, and identification and coordination of inventorying and preparing records and maps for transfer to a federal archives facility.

The architectural inventory and historical evaluation of Hamilton Field, completed by PAR Environmental Services, Inc. (PAR) in 1993 for the COE, was used to assess the National Register status of buildings within DODHF Novato. PAR's work included extensive research at DOD archives, state agencies, National Archives, local historical societies, and local libraries. Oral interviews with a variety of people stationed at Hamilton Field during the 1930s and 1940s were also conducted. While this inventory and evaluation was completed for the COE, it included all buildings now owned by the Navy.

3.6.1 Regulatory Framework

Section 106 of the NHPA and implementing regulations (36 CFR 800) require federal agencies to consider the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places (NRHP). It also requires that agencies allow the ACHP an opportunity to comment on actions that will directly or indirectly affect resources. In addition to NHPA, the Archeological and Historic Preservation Act of 1974 (P.L. 93-291 and 96-625) and cultural resources requirements of DOD and the US Navy (DOD Directive 4710.1 of 21 June 1984, Archeological and Historic Resources Management; Department of the Navy OPNAVINST 5090.1B, Historic and Archeological Resources Protection, 1 November 1994, Chapter 23) require the Navy to consider the effects of its undertakings on cultural resources.

3.6.2 Archeology

DODHF Novato is situated in an area near the western shores of San Pablo Bay. Seasonal freshwater streams enhanced a sheltered coastal environment with abundant resources from both the sea and the inland ecosystem. These resources served to make the project area attractive as an occupation site. Information gleaned from extensive excavations in the Bay Area, including numerous sites in Marin County, suggests that the Hamilton Field area was occupied as early as 5,000 years ago. The aboriginal population may have been impacted by fluctuating sea levels during the Holocene, which would have resulted in changing settlement and resource-gathering locations (Bickel 1978a, 1978b; Moratto et al. 1978). Use of the region appears to have been continual until the historic period (Busby et al. 1995).

The project area appears to have been prehistorically within the range of the Southern or Marin dialect group of the Coast Miwok. The area of Native American occupation nearest to the project area is *puyuku*, located south of the present town of Ignacio. The reader is referred to Chavez (1986) and Goerke and Cowan (1983) for more ethnographic information related to the project area (Busby et al. 1995). The Coast Miwok people followed a hunting and gathering lifeway. Their way of life disappeared by the mid-1800s, following impact of the

mission system, introduced diseases, and a declining birth rate (Busby et al.1995; Kelly 1978).

Numerous prehistoric archeological sites have been identified in and around DODHF Novato. These consist primarily of shell mounds with some flaked stone tools and other cultural artifacts. Two prehistoric sites, CA-MRN-166 and CA-MRN-168, are located within or partially within Rafael Village. These have been described as shell mounds (Busby et al.1995). CA-MRN-168 was subjected to salvage excavations in 1969 by Archaeological Survey, a group associated with the Adan E. Treganza Museum at San Francisco State University (Melander and Slaymaker 1969). Another site, CA-MRN-165, is situated south of San Jose Creek, adjacent to DODHF Novato. Eight additional archeological sites are located within a half mile of Rafael Village.

Prehistoric sites have also been documented in the Main Site area. CA-MRN-150 and CA-MRN-158 were recorded in the early twentieth century and were categorized as shell heaps. Both were located in Capehart Housing. CA-MRN-151, also recorded as a shell deposit, is just outside DODHF Novato near Capehart housing. CA-MRN-149 also was recorded many years ago (Busby et al. 1995). In addition, two other possible prehistoric archeological sites have been reported at North Circle and Long Point within Spanish Housing but have not been recorded formally. Ten additional archeological sites are within a half mile of the Main Site.

During construction of Hamilton Field in 1932 the local newspapers reported that Native American burials were uncovered while grading for a new school site in North Circle, within the Spanish Housing Planning Area (San Rafael Independent 1932). According to the newspaper, the remains were within a mound that measures about 250 feet in diameter and four feet in height. The remains were removed and transported to the base office, along with associated artifacts (mortars and pestles, stone hammers, projectile points). The mound was then leveled and construction proceeded. Building 227 now occupies the leveled mound area.

In accordance with the Navy's responsibilities under the Native American Graves Protection and Repatriation Act (NAGPRA), a focused effort was made by Basin to locate the skeletal remains and artifacts removed from North Circle in 1932. NAGPRA's intent is to ensure that museums and federal agencies identify human remains and cultural items in their collections that may be affiliated with contemporary Native American peoples and to return them as appropriate. In addition to the archives and repositories visited (discussed above), Basin contacted the Novato History Museum, Marin Museum of the American Indian, and the Miwok Archaeological Preserve of Marin to identify the repository of the skeletal remains removed from North Circle. No further information was obtained regarding the collection from the archival/literature search or consultation with knowledgeable parties, and the only data on the site

and collection are contained in the newspaper accounts from 1932 (Busby et al. 1995).

The Navy property was subjected to an archeological survey during the summer of 1995 by Basin. In Rafael Village, four areas with a surface scatter of shell, corresponding to locations of CA-MRN-166 and CA-MRN-168, were identified and subsequently tested with an auger to ascertain the presence of a subsurface deposit. Although some evidence of a cultural deposit was found, these sites have been impacted by development and do not appear to meet NRHP criteria as important resources (Busby et al.1995). Test excavations at three locations on the Main Site with surface shell exposures did not expose intact cultural deposits. No evidence was found of the recorded sites on the Main Site. The reader is referred to Busby et al. (1995) for a more comprehensive description of their testing program and conclusions. See Table 3-18 for a list of archeological sites within the project area.

Table 3-18
National Register Status of Known Archeological Sites Within the Project Area

Site	Location	Description	National Register Status
CA-MRN-166	Rafael Village	Reported shell mound; minimal cultural deposit present on Navy property	Appears ineligible
CA-MRN-168	Rafael Village	Reported shell mound; small cultural deposit represents impacted remnants of a former site	Appears ineligible
West Kelly Drive	Main Site - Capehart Housing	Surface shell flecks; not a cultural deposit	Appears ineligible
Westover CircleNo evidence of a site	Main Site - Capehart Housing N/A	Surface shell flecks; not a cultural deposit	Appears ineligible

Source: Busby et al. 1995

In February 1996 the Navy and COE staff met with representatives of the Federated Coast Miwok (FCM), a group of approximately 200 individuals of Miwok ancestry. The FCM are in the process of becoming federally recognized as a tribe. They are concerned about potential Native American burials at North Circle and future provisions to stop work if burials are discovered.

3.6.3 History

DODHF Novato is within the historical Rancho San Jose, granted to Ignacio Pacheco as a temporary grant in 1833 and finalized in 1840. By 1850 Marin County was formed, one of the original 27 counties in California. Until 1930 DODHF Novato was used for grazing and agricultural production and remained undeveloped (Beck and Haase 1974; Maniery et al. 1993).

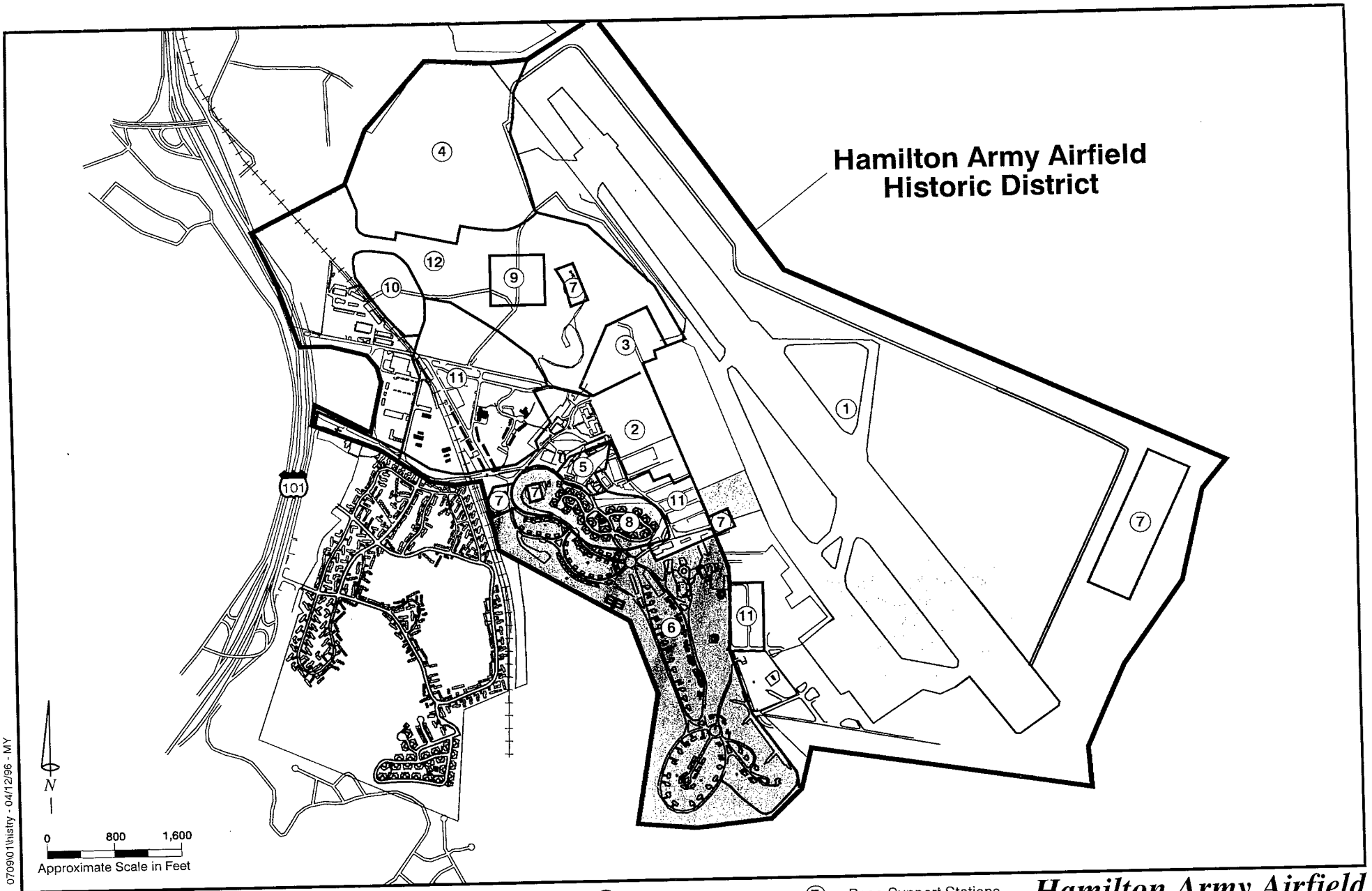
The history of the project area is intimately tied to formation of an airfield in the early 1930s. Established on San Pablo Bay just north of San Francisco in the early 1930s, Hamilton Field was an integral part of the Army's Pacific Coast defense mission, as well as an example of a modern aviation station. The initial construction of the permanent base occurred between 1932 and 1935, under the direction of Captain Howard B. Nurse, Construction Quartermaster. Nurse chose a Spanish Eclectic design for the base, in appreciation for the Spanish Mission heritage of the region. His carefully planned landscaping, which incorporated natural oak groves, knolls, and hills, cohesive building design, and the conception of an Army base as a planned community, were creative and daring innovations in the 1930s and represented a significant departure from traditional Army base layout and architecture.

Hamilton Field operated as a bombing center and a temporary pursuit plane station until the onset of World War II. During World War II, the primary mission of the base was to support training operations and the activities of the Air Transport Command, making the base an important "jumping off" point from which units were ferried to various places in the Pacific war theater. During the war years, the appearance of the base was altered by the emergency need for temporary housing, administration, and training facilities, which quickly outnumbered the permanent buildings on the base and continued to fill nearly every available building space.

From 1947 through 1960, the Air Force conducted defense and training operations at Hamilton Field, renaming it Hamilton Air Force Base. During this period, the base continued to develop architecturally, but at a reduced level and without further alteration of the original base appearance. In addition to the 132 housing units constructed in the 1930s, 505 housing units were built in Rafael Village in 1951 to accommodate the increase in base personnel during the Cold War-era military buildup. An additional 560 units in Capehart Housing were constructed between 1960 and 1963, as base population continued to increase (Maniery et al. 1993). The major base expansion period ended in the 1970s when Hamilton Air Force Base was excessed by DOD. By 1974 the Air Force ceased operations and over the next decade the facilities were transferred to other defense branches and to the General Services Administration. The housing and community services portions of the base were transferred to the Navy and named DODHF Novato. The Army took possession of the runway and

associated facilities and in 1984 named their portion of the base Hamilton Army Airfield. Although major building construction ended on base at this time, 96 medium-density multiple-family units were built on a knoll near Radio Hill (now called Knoll Housing) by the Navy in 1986.

The architectural resources within DODHF Novato were included in PAR's 1993 National Register evaluation of Hamilton Field (Maniery et al. 1993). The buildings, structures, objects, and landscaping associated with Hamilton from 1931 to 1946 have been determined eligible for inclusion in the National Register as a historic district under Criteria A (historical importance) and C (architectural significance). Figure 3-6 shows the boundary of the Hamilton Army Airfield Historic District. Appendix E contains a listing of the DODHF Novato buildings and structures that contribute to the National Register-eligible historic district. The Army and New Hamilton Partnership lands contain additional eligible buildings not listed in Appendix E. Units within Rafael Village were constructed in 1951 and those in Capehart Village and Knoll Housing in the early 1960s and 1986, respectively. Both of these areas were developed after the period of significance established for the base and as such are not eligible for inclusion in the National Register, either as part of the district or as individual properties. The SHPO concurred with this finding in January 1993 (McGowan, personal communication). In the wake of the demolition within the Hamilton Army Airfield Historic District carried out by the New Hamilton Partnership since it acquired title to the property disposed of by GSA and the Army early in 1996, the Navy will reevaluate the eligibility of the historic district in consultation with the SHPO. The results of this reevaluation should be known by mid-December 1996.



The buildings, structures, objects and landscaping associated with Hamilton Field from 1931 to 1946 have been determined eligible for inclusion in the National Register as a historical district because of their historical importance and architectural significance. The Rafael Village housing units, constructed in 1951, are not eligible.

LEGEND:

- Department of the Navy
- Department of the Army
- New Hamilton Partnership
- U.S. Coast Guard

(1) Airfield and Hangers
(2) Main Base Area
(3) Base Industry
(4) Ammunition Storage
(5) Hospital and Ward
(6) Officers' Housing
(7) Base Support Stations
(8) Radio Hill
(9) Temporary Base Industry
(10) Base (Civil) Engineering Group
(11) Temporary Housing Areas
(12) Open Space

Hamilton Army Airfield Historic District

DOD Housing Facility
Novato, California

Figure 3-6

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3.7 BIOLOGICAL RESOURCES

Biological resources addressed in this analysis include vegetation, wildlife, sensitive species, and sensitive habitats on the site and in surrounding areas. Rafael Village, Capehart Housing, and adjacent areas contain the native habitats found within DODHF Novato. Other parts of DODHF Novato, such as the ballfields, contain only developed, paved, regularly mowed, or landscaped areas. The ROI for biological resources includes DODHF Novato and the surrounding areas within one-half mile to provide an area large enough to include any species that may use habitats on DODHF Novato but small enough to not include species that regularly use habitats not found within DODHF Novato.

Information regarding biological resources was obtained from the California Natural Diversity Database (California Department of Fish and Game 1996a), a scoping letter from the US Fish and Wildlife Service (USFWS), the Fish and Wildlife Management Plan (US Navy 1988), the Flood Control and Maintenance Plan for San Jose Creek and Pacheco Creek (US Navy 1987a), the Master Plan (US Navy 1986), and the Hamilton Army Airfield Reuse Plan (Hamilton Reuse Planning Authority 1995b). Site visits were conducted on July 20 and November 13, 1995, and biological surveys were completed on January 22, 25, 26, and 29, 1996 (Appendix F). All wetlands that provide potential habitat for the red-legged frog were surveyed on April 10, 22, and 29 (spring surveys) and on June 9 and July 24, 1996 (summer surveys)(US Navy 1996b).

3.7.1 Plans and Policies

Endangered Species Act (Section 7 and 10a Consultation)

Federal law directs that all federal agencies and departments use their authority to conserve endangered and threatened species under the guidance of the federal Endangered Species Act (ESA).

The ESA requires that the USFWS issue a permit prior to actions that would result in the killing, harming, or harassing of a federally-listed endangered or threatened species. This permit process is directed under Section 7 of the ESA for actions in which a federal agency is involved and in a similar process under Section 10a of the ESA for state and local agencies, as well as for individuals. Federal agencies are required to consult with the USFWS prior to undertaking actions that may adversely affect endangered species and to confer with the USFWS prior to undertakings that may adversely affect species proposed for listing. A federal agency is required to obtain a biological opinion from the USFWS on whether its actions may jeopardize the continued existence of any threatened or endangered species. Federal agencies are prohibited from

enacting activities that would jeopardize the continued existence of these species. This EIS will be used as a biological assessment for purposes of consultation and conference under Section 7 of the ESA.

Upon disposal of the federal property at DODHF Novato, all nonfederally held lands would be subject to ESA Section 10a requirements. Actions of the City of Novato or other nonfederal entities would be subject to these requirements and to state endangered species laws.

California provides similar procedures under the California Endangered Species Act, California Fish and Game Code Section 2090. The California Department of Fish and Game (CDFG) can adopt a federal biological opinion as a state biological opinion under California Fish and Game Code Section 2095. Plants listed as rare by the CDFG are listed under the Native Plant Protection Act, California Fish and Game Code Section 1900. Consultation with the CDFG is not required under this act but is recommended (Shaffer, personal communication).

Wetlands Regulations

Wetlands are considered sensitive and declining resources by several regulatory agencies, including the CDFG and the USFWS. The Army Corps of Engineers (COE) considers wetlands to be important to the public interest in that they perform significant biological functions, such as providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory animal species (33 CFR 320.4). Wetlands also provide for the movement of water and sediments, ground water recharge, water purification, and storage of stormwater runoff.

Under Section 404 of the Clean Water Act (CWA) wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Indicators of all three wetlands parameters (hydric soils, hydrophytic vegetation, wetlands hydrology) must be present for a site to be considered a jurisdictional wetland (Environmental Laboratory 1987).

Pursuant to Section 401 of the CWA, any applicant for a federal permit to conduct any activity that may result in any discharge into navigable waters must provide a certification from the regional water quality control board that such discharge will comply with the CWA. Water quality certification is a certification that there is reasonable assurance that an activity that may result in discharge to navigable waters of the United States will not violate water quality standards, where the activity requires a federal license or permit

(Section 3830 of the California Administrative Code). This requirement would be applicable to state, local, or federal actions.

The CDFG has the authority to reach an agreement with an individual proposing to affect intermittent or permanent streams and other wetlands pursuant to Section 1603 of the California Fish and Game Code. In accordance with its policy of "no net loss" of wetland habitat, the CDFG encourages completion of a streambed alteration agreement, which includes a mitigation program for impacts to all wetlands, regardless of acreage.

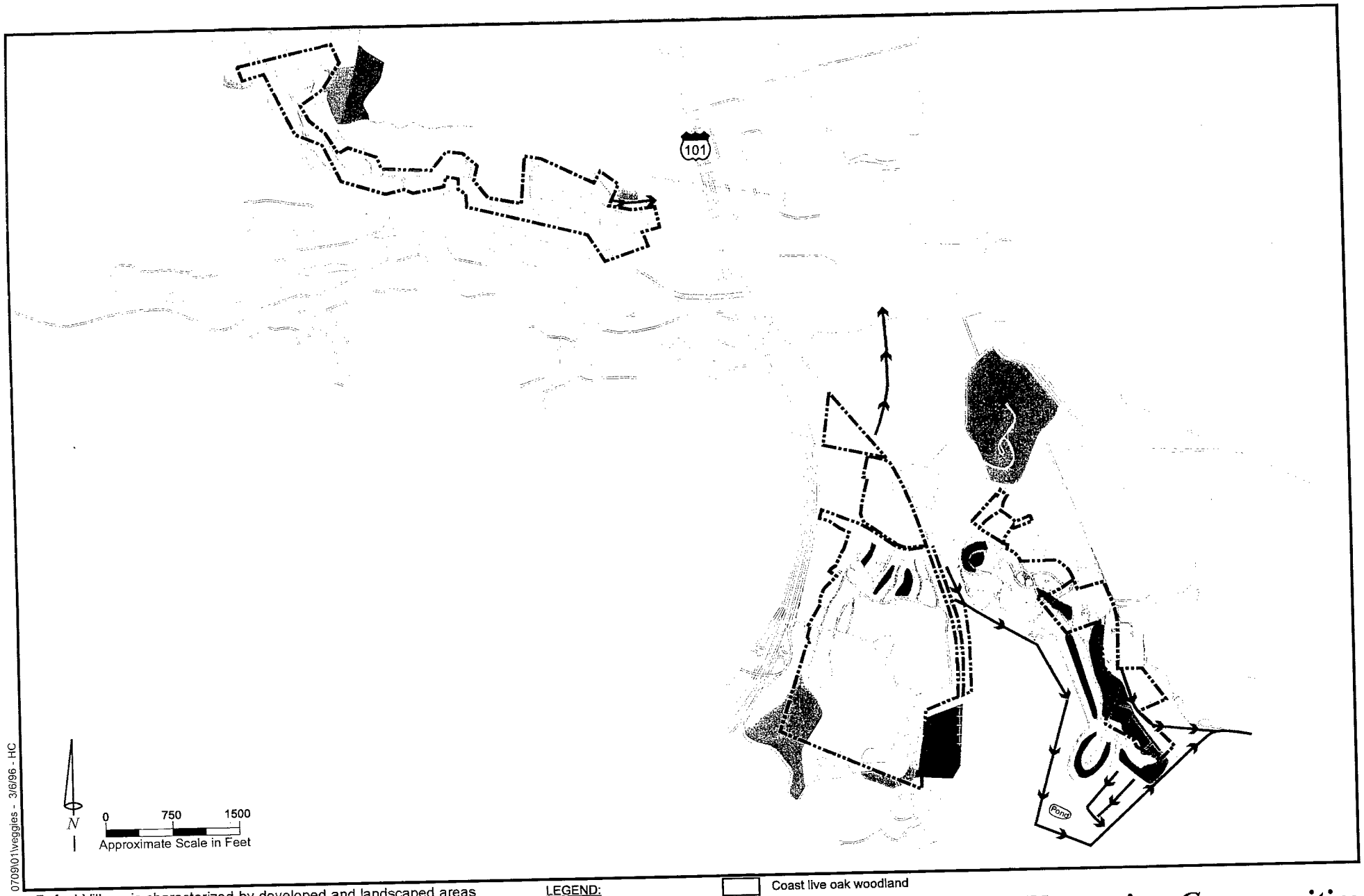
3.7.2 Vegetation

Ten vegetation communities were mapped during January 1996 surveys at DODHF Novato (Figure 3-7). Five of these are considered sensitive communities by the CDFG and are discussed in Section 3.7.5 below as sensitive habitats.

Nonnative grasslands are found throughout DODHF Novato. This vegetation community is characterized as annual grass cover that generally produces green and flowering cover in the spring with plants dead in the summer and fall months (Holland 1986). Nonnative grasslands are often found at elevations below 3,000 feet on clay soils adjacent to oak woodlands, as is the case at DODHF Novato. Nonnative grasslands at DODHF Novato support many annual species, including wild oats (*Avena fatua*), soft chess (*Bromus mollis*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), foxtail fescue (*Festuca megalura*), broadleaf filaree (*Erodium botrys*), redstem filaree (*Erodium ciutarium*), turkey mullein (*Eremocarpus setigerus*), sweet clover (*Melilotus* spp.), and bur clover (*Medicago hispida*) (Hamilton Reuse Planning Authority 1995a).

Coast live oak woodland is found within Capehart Housing and adjacent to Rafael Village. The coast live oak (*Quercus agrifolia*) is the dominant species in this community, which is found at elevations below 4,000 feet and also may contain a mixture of other oaks and broad-leafed trees (Holland 1986), as is the case at DODHF Novato. Other species within this community at DODHF Novato include valley oaks (*Quercus lobata*), Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californicus*), and poison oak (*Toxicodendron diversilobum*).

Mixed native/nonnative woodland is defined here as a vegetation community that supports many native tree species within it but also contains nonnative species, landscaping species, and sometimes has an understory that is regularly maintained. This community is found in several patches within Capehart



Rafael Village is characterized by developed and landscaped areas bordered by nonnative grassland, California bay forest, coast live oak woodland, valley oak woodland to the north, and a riparian corridor to the south. Spanish and Capehart Housing are dominated by developed areas and landscaped vegetation with nonnative grasslands, coast live oak woodlands, valley oak woodlands, and riparian/wetland communities in surrounding areas.

Source: Buescher Biological Consulting 1996

LEGEND:

- Native/nonnative grasslands
- Freshwater marsh
- Riparian forest
- Valley oak woodland
- DODHF property line
- Coast live oak woodland
- California bay forest
- Eucalyptus woodland
- Mixed native/nonnative woodland
- Developed/landscaped
- Drainage ditch

Vegetation Communities

DOD Housing Facility
Novato, California

Figure 3-7

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Housing. Dominant species found in this community include native species, such as coast live oak, valley oak, and California bay, and nonnative species such as Monterey pine (*Pinus radiata*), maple (*Acer* spp.), date palm (*Phoenix dactylifera*), fan palm (*Washingtonia* sp.), and blue gum.

Developed/landscaped areas include areas that are primarily paved or completely landscaped and maintained with nonnative trees, shrubs, and grasses. This community generally provides very little habitat for native plant and animal species.

3.7.3 Wildlife

Wildlife present in the ROI is typical of that found in urban areas in the San Francisco region and includes invertebrates, reptiles, birds, and mammals. Reptile species common to the area include the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*). Bird species detected at the facility include the common crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock dove (*Columba livia*) in the urbanized areas and great blue heron (*Ardea herodias*), belted kingfisher (*Ceryle alcyon*), scrub jay (*Aphelocoma coerulescens*), brown towhee (*Pipilo fuscus*), and black phoebe (*Sayornis nigricans*) in the riparian (streamside) area. Mammal species common to the project area include the house mouse (*Mus musculus*), California ground squirrel (*Spermophilus beecheyi*), black-tailed hare (*Lepus californicus*), and mule deer (*Odocoileus hemionus*).

3.7.4 Sensitive Species

Sensitive species include those that are listed by USFWS or by the CDFG as endangered, threatened, proposed for endangered or threatened status, or candidate species for endangered or threatened status. Also included as sensitive species are those plants listed by the California Native Plant Society (CNPS) and species of special concern to the CDFG. Table 3-19 lists sensitive species known or suspected to transit, forage in, or inhabit the ROI. This discussion focuses on those species listed by either the USFWS or CDFG as endangered or threatened and those proposed for listing as endangered or threatened. Proposed species are included here because these species may be officially listed prior to the completion of this EIS.

Plants. No plant species listed by the USFWS or CDFG as endangered or threatened are known or are likely to inhabit the DODHF Novato due to the highly disturbed nature of the site. Two listed species, the soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*) and the Marin western flax (*Hesperolinon congestum*), may inhabit areas near the ROI.

Table 3-19
Sensitive Species Within the ROI

Common Name	Scientific Name	Federal Status	State Status	CNPS Status	Habitat at DODHF
ENDANGERED AND THREATENED SPECIES					
Plants					
soft bird's beak	*Cordylanthus mollis* ssp. *mollis*	PE	R	1B	N
Marin western flax	*Hesperolinon congestum*	T	T	1B	N
Fish					
tidewater goby	*Eucyclogobius newberryi*	E	CSC	none	Y
winter-run chinook salmon	*Oncorhynchus tshawytscha*	E	E	none	Y
Amphibians					
California red-legged frog	*Rana aurora draytonii*	T	CSC	none	Y
Birds					
California black rail	*Laterallus jamaicensis coturniculus*	SC	T	none	N
California clapper rail	*Rallus longirostrus obsoletus*	E	E	none	N
Mammals					
salt marsh harvest mouse	*Reithrodontomys raviventris*	E	E	none	N
OTHER SENSITIVE SPECIES					
Plants					
Point Reyes bird's-beak	*Cordylanthus maritimus* ssp. *palustris*	SC	none	1B	N
dwarf downingia	*Downingia pusilla*	C3c	none	2	Y
fragrant fritillary	*Fritillaria liliacea*	SC	none	1B	Y
Baker's navarretia	*Navarretia leucocephala* ssp. *bakeri*	none	none	1B	Y
Marin knotweed	*Polygonum marinense*	SC	none	3	N
Mount Tamalpais jewelflower	*Streptanthus glandulosus* var. *pulchellus*	C3c	none	1B	Y
Invertebrates					
California brackishwater snail	*Tryonia imitator*	SC	none	none	N
Fish					
green sturgeon	*Acipenser medirostris*	SC	none	none	N
longfin smelt	*Spirinchus thaleicthys*	SC	CSC	none	Y
Amphibians					
foothill yellow-legged frog	*Rana boylii*	SC	CSC	none	Y
Reptiles					
northwestern pond turtle	*Clemmys marmorata marmorata*	SC	CSC	none	N
Birds					
Cooper's hawk	*Accipiter cooperi*	none	CSC	none	Y
burrowing owl	*Athene cunicularia*	none	CSC	none	Y
California horned lark	*Eremophila alpestris*	SC	CSC	none	Y
loggerhead shrike	*Lanius ludovicianus*	SC	CSC	none	Y
Mammals					
Point Reyes jumping mouse	*Zpaus trinotatus orarius*	SC	CSC	none	N
Point Reyes mountain beaver	*Aplodontia rufa phaea*	SC	CSC	none	N
pallid bat	*Antrozous pallidus*	SC	CSC	none	Y
Townsend's western big-eared bat	*Plecotus townsendii townsendii*	SC	CSC	none	Y
California mastiff bat	*Eumops perotis californicus*	SC	CSC	none	Y

Source: CDFG 1994, 1996a, 1996b, 1996c, 1996d; USFWS 1994a, 1994b, 1995a, 1995b, 1995c, 1996

Federal Status
E = Endangered
PE = Proposed endangered
T = Threatened
SC = Species of Concern (Former C2)*
SCR = Proposed for Species of Concern*
C3c = Too widespread or not threatened*

State Status
E = Endangered
T = Threatened
R = Rare
CSC = California Species of Special Concern

California Native Plant Society (CNPS) Status
1B = Plants rare and endangered in California and elsewhere
2 = Plants rare and endangered in California but more common elsewhere
3 = Plants about which additional dara are needed.

Habitat at DODHF Novato?
N = No
Y = Yes

Soft bird's-beak is an annual hemiparasite in the snapdragon family. This species is restricted to salt and brackish water marshes in the northern Bay Area. Potential habitat is not present in the ROI but is found in the northernmost parts of Hamilton Airfield just north of the ROI boundary. No observations of this species have been recorded within the ROI.

The USFWS no longer maintains a list of C2 or C3 species, but remains concerned about the conservation status of these species and retains information on them in case future reviews are conducted.

Marin western flax inhabits chaparral and valley foothill grasslands on serpentine soils. Serpentine soils are not present on DODHF Novato. The closest known location of this species, recorded in 1992, is three miles southwest of Rafael Village (CDFG 1996a).

Four other sensitive plant species that are considered Species of Concern by USFWS or are listed by CNPS could inhabit DODHF Novato. The dwarf downingia (*Downingia pusilla*) inhabits ditch areas of heavy clay soils, and the fragrant fritillary (*Fritillaria liliacea*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), and Mount Tamalpais jewelflower (*Streptanthus glandulosus* var. *pulchellus*) inhabit hilly grasslands and oak woodlands within the ROI (Skinner and Pavlik 1994).

Wildlife. Two fish, one amphibian, two bird, and one mammal species that are state- or federally-listed as endangered or threatened have been observed near the ROI. Habitat for two of these species exists at DODHF Novato. All of these species are discussed separately below.

The tidewater goby (*Eucyclogobius newberryi*) inhabits brackish and freshwater lagoons and streams where water is slow moving and aquatic vegetation is present. The tidewater goby has disappeared from about 50 percent of its historic range in California (Biosystems Books 1994). This species has not been detected in the DODHF Novato but marginal habitat for this species exists in the lower reaches of San Jose Creek adjacent to Rafael Village. The closest known location of this species, recorded in 1984, is two miles north of Rafael Village (CDFG 1996a).

The winter-run chinook salmon (*Oncorhynchus tshawytscha*) does not currently have an established migration "run" in the creeks in this area, but salmon historically may have inhabited the San Jose drainage (US Navy 1987b) and habitat for such a run does exist in San Jose Creek. The closest known location of this species is from salmon observed in 1990 at Mare Island in the Napa River drainage, over five miles to the northeast.

The California red-legged frog (*Rana aurora draytonii*) requires a permanent or semipermanent pond or slow-moving water source with deeper pools and

extensive aquatic vegetation in which to breed. Suitable breeding habitat exists in San Jose Creek within and adjacent to Rafael Village, Pacheco Creek within Capehart Housing, and several of the drainage ditches surrounding Rafael Village and Capehart Housing. No observations of California red-legged frogs have been recorded within the ROI, but the DODHF Novato is located within the historic range of this species. Although suitable habitat is present at DODHF Novato, no California red-legged frogs were observed at the site during surveys conducted in the spring and summer of 1996 (US Navy 1996b). Appendix F contains the final survey reports for the California red-legged frog.

The California black rail (*Laterallus jamaicensis coturniculus*) and California clapper rail (*Rallus longirostrus obsoletus*) inhabit northern coastal saltmarsh areas outside the ROI. The closest known locations of these species, recorded in 1986 and 1975 respectively, is at the mouth of Novato Creek, about one-half mile north of Capehart Housing (CDFG 1996a).

One endangered mammal species, the salt marsh harvest mouse (*Reithrodontomys raviventris*), inhabits the region. The salt marsh harvest mouse lives in tidal wetland habitats dominated by pickleweed (*Salicornia virginica*). No habitat for this species exists within the ROI. The closest known location of this species, recorded in 1986, is over four miles to the south of the DODHF Novato (CDFG 1996a).

Several other sensitive species listed in Table 3-19 may inhabit DODHF Novato. San Jose and Pacheco Creeks and associated riparian areas may provide habitat for the longfin smelt (*Spirinchus thaleicthys*), foothill yellow-legged frog (*Rana boylii*), and Cooper's hawk (*Accipiter cooperi*). Grasslands and valley oak woodlands (which have a grassland understory) may provide habitat for the burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris*), and loggerhead shrike (*Lanius ludovicianus*). Vacant buildings could provide habitat for three sensitive bat species, the pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Plecotus townsendii townsendii*), and California mastiff bat (*Eumops perotis californicus*).

3.7.5 Sensitive Habitats

Sensitive habitats are ecosystems that provide a vital role in the health of the local natural environment, that are protected by regulatory agencies, or that are of local concern. Several of the vegetation communities found at and adjacent to DODHF Novato are listed by the CDFG as sensitive communities including coastal and valley freshwater marsh, central coast live oak riparian forest, central coast riparian scrub, valley oak woodland, and California bay forest. Central coast live oak riparian forest, central coast riparian scrub, and valley oak woodland are found within DODHF Novato. Additionally, several areas within and adjacent to DODHF Novato would

likely be considered jurisdictional wetlands under the qualifications used by the COE.

Riparian corridors and stream beds are protected by the CDFG and are important resources to most wildlife species, providing water, cover, nesting habitat, and foraging habitat. Riparian areas associated with San Jose and Pacheco Creeks support a mixture of central coast live oak riparian forest and central coast riparian scrub. Central coast live oak riparian forest is generally dominated by coast live oak and found in canyon bottoms and floodplains from Sonoma County south to Point Conception, California (Holland 1986). Central coast riparian scrub is characterized as a scrubby streamside thicket dominated by willows (*Salix* spp.) that varies from being fairly open to nearly impenetrable and is found along most perennial and many intermittent streams between the Bay Area and Point Conception, California (Holland 1986). Other species associated with the riparian areas of San Jose and Pacheco Creeks include the red willow (*Salix laevigata*), yellow willow (*Salix lasiandra*), valley oak, California bay, white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), and hinds walnut (*Juglans hindsii*) (Hamilton Reuse Planning Authority 1995a). The riparian area surrounding Pacheco Creek within the Capehart Housing area also supports a mixture of central coast live oak riparian forest and central coast riparian scrub.

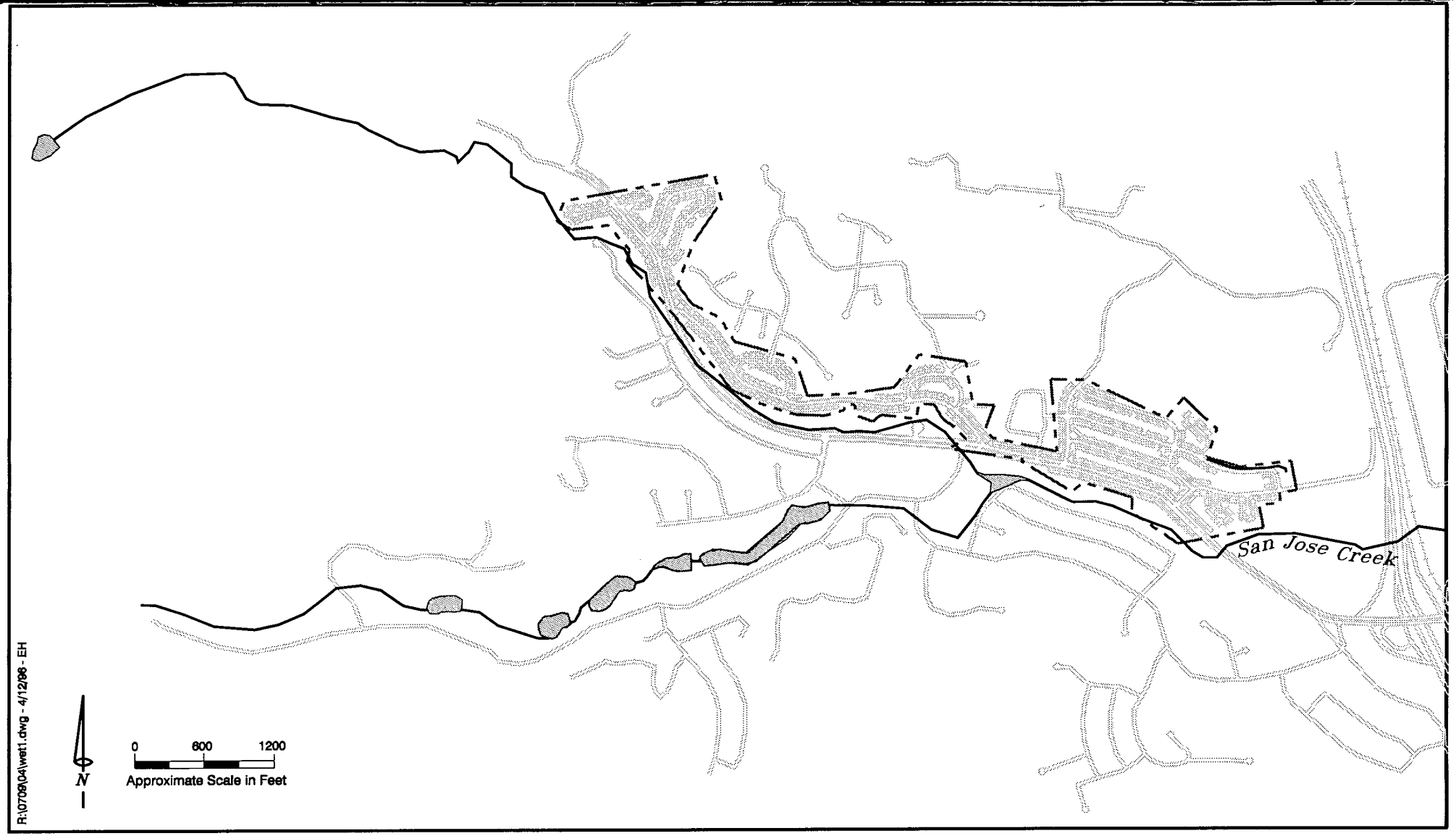
Some areas of oak woodland within the Capehart Housing area are valley oak woodland. Valley oak woodland typically occurs at elevations below 2,000 feet, contains only one tree species, the valley oak, and forms an understory of grassland instead of a more closed woodland such as coast live oak woodland. The valley oak is California's largest broad-leafed tree and may grow to 110 feet at maturity (Holland 1986).

Coastal and valley freshwater marsh is a vegetation community seasonally found adjacent to Capehart Housing within the railroad right-of-way and within the agricultural fields between Capehart and the off-site Spanish Housing area. This community typically is dominated by tules (*Scripus* spp.) and cattails (*Typha* spp.) (Holland 1986).

California bay forest is found in two small areas adjacent to Rafael Village to the southwest and northeast. This vegetation community typically consists entirely of a dense stand of California bay with little or no understory. Most stands of California bay forest are small and found at elevations below 3,000 feet (Holland 1986).

Wetlands are a declining resource that are considered sensitive habitats by the CDFG and the USFWS. The US Congress has declared wetlands to be important to the public interest in that they perform significant biological functions, such as providing nesting, breeding, foraging, and spawning habitat for a variety of resident and migratory animal species. Wetlands also provide

for the movement of water and sediments, ground water recharge, flood control, water purification, and stormwater runoff storage. No formal wetlands delineations have been performed at DODHF Novato and none were performed as a part of the January 1996 surveys. San Jose Creek, Pacheco Creek, and the drainage ditches on DODHF Novato would likely qualify as jurisdictional wetlands, warranting protection by the COE under Section 404 of the Clean Water Act. The National Wetlands Inventory map for the area depicts San Jose Creek and Pacheco Creek as wetlands (National Wetlands Inventory 1985). Figures 3-8 and 3-9 depict wetlands on and adjacent to DODHF Novato, as determined by preliminary assessment from the January 1996 surveys and the National Wetlands Inventory map.



Wetlands in Rafael Village and the surrounding area include San Jose Creek and a drainage ditch in the northeastern area of Rafael Village.

LEGEND:

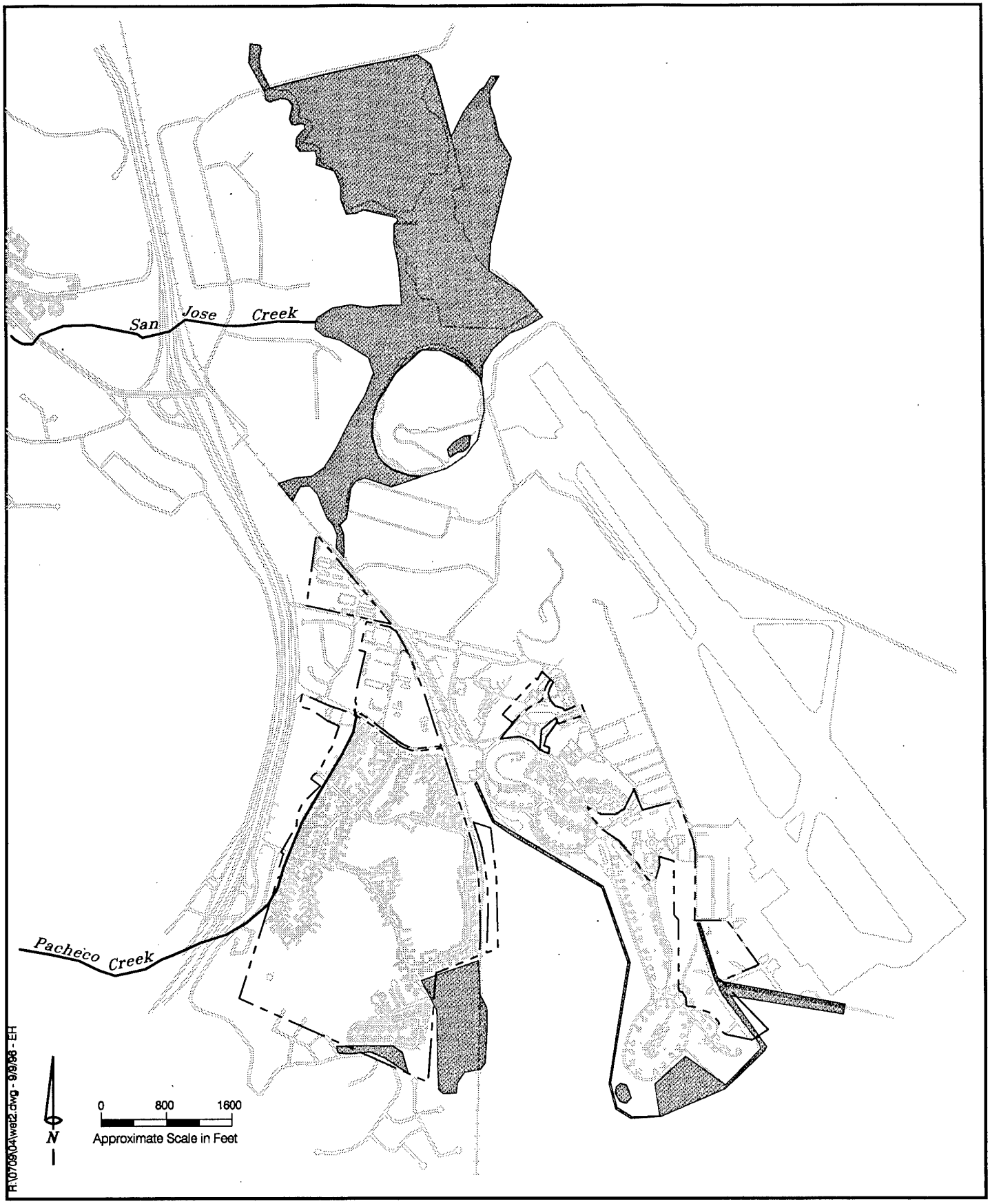
- Wetlands
- Creek
- DODHF boundary

Rafael Village Wetlands

DOD Housing Facility
Novato, California

Figure 3-8

Source: National Wetlands Inventory 1985; Buescher Biological Consulting 1996



Wetlands on the main site and adjacent areas include Pacheco Creek, drainage ditches, and marshes.

LEGEND:

Wetlands

DODHF boundary

Source: National Wetlands Inventory 1985; Buescher Biological Consulting 1996

Main Site Wetlands

DOD Housing Facility
Novato, California

Figure 3-9

3.8 GEOLOGY AND SOILS

The geology of DODHF Novato is discussed in this section in the context of the regional geologic setting. Issues related to geological conditions in the area of the proposed action include seismic hazards, slope stability, and soil erosion. The ROI for the proposed action includes lands within the boundaries of DODHF Novato and immediately adjacent lands.

3.8.1 Plans and Policies

California Building Code, Seismic Design Requirements

The California Code of Regulations (CCR), Title 24, Part 2, also known as the California Building Code (CBC), contains enforceable state building standards. Earthquake design requirements are contained in Chapter 16, Division III, and other selected portions of the CBC. The 1995 edition of the CBC incorporates by reference the 1994 edition of the Uniform Building Code (UBC, International Conference of Building Officials, 1994), with the applicable California amendments. A more stringent set of standards applies to construction of public schools and medical facilities. These regulations are promulgated by the Division of the State Architect/Structural Safety Section, and the Office of Statewide Health Planning and Development. The provisions of the 1995 edition of the CBC became effective on December 28, 1995 (180 days after the date of publication, July 1, 1995). The California Building Standards Commission is responsible for coordinating all building standards in California. The City of Novato Department of Public Works is responsible for enforcing these standards within the City of Novato.

DODHF Novato is located within seismic zone 4, as defined in the CBC. UBC seismic standards represent minimum requirements for new construction within zone 4. Zone 4 is a region in which the effective peak ground acceleration assumed in design calculations is 0.4 times the acceleration of gravity(g). In areas in which effective peak ground accelerations are likely to be greater than 0.4 g, the minimum UBC requirements may not be adequate. The UBC defines two alternative methods for calculating design seismic forces—a static procedure and a dynamic procedure. The dynamic procedure must be used in designing certain structures, such as those that have an irregular shape or that exceed certain height limitations.

Alquist-Priolo Earthquake Fault Zoning Act

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Division of Mines and Geology has delineated seismic zones that are deemed to be "sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep." The state geologist also is

required to review continually new geologic and seismic data and to revise the earthquake fault zones or delineate new zones based on new information. No active faults have been identified within the boundaries of DODHF Novato. The nearest delineated active fault zone is the Hayward Fault, located approximately seven miles southeast of DODHF Novato.

Marin Countywide Plan

The Marin Countywide Plan presents extensive policies regarding urban development in areas of geologic and seismic hazards. Specific issues addressed by these policies include protection from ground rupture, protection from ground shaking, protection from slope stability and landslide hazards, and protection from subsidence and differential settlement hazards. The policies and actions address these issues through requirements for geologic studies, identification of areas where development shall not occur (Alquist-Priolo Study Zone), and minimum construction standards to reduce potential hazards.

Novato General Plan

The 1996 Novato General Plan provides a detailed list of objectives and programs related to geologic conditions in the Environment and Safety and Noise Chapters of the document. Three objectives define the City of Novato's position on geologic resources:

1. Protect mineral resources;

2. Reduce seismic hazards; and,

3. Minimize the risk of personal injury and property damage resulting from slope and soil instability.

For each objective, the City of Novato has developed one or more specific programs to achieve these objectives. The city has designated a department of city government with the responsibility for carrying out these programs.

3.8.2 Regional and Site Geology

Physiography

DODHF Novato is located within the Coast Ranges geologic area. The Coast Ranges consist of diverse geologically young terrains. The dominant geological processes that have shaped the landscape include faulting associated with the San Andreas fault system and fluctuations in sea level associated with geologically recent glaciation. North of San Francisco Bay the Coast Ranges

are typically more than 40 miles wide and reach elevations of up to 8,000 feet (Christensen 1966).

The region surrounding DODHF Novato west of US 101 is characterized by steep, narrow, northwest-trending ridges and linear drainages, with topographic relief on the order of 1,000 to 1,600 feet. Land elevations in Rafael Village range between about 30 feet above mean sea level at the eastern end of the property to about 160 feet above mean sea level on the west. Rafael Village is located along the north bank of San Jose Creek. The channel of the creek is incised about 20 feet below the surrounding valley floor.

Elevations in the planning areas east of US 101 range from sea level to about 260 feet above mean sea level. The highest elevations are in the Capehart Housing area, which covers the north shoulder of Pacheco Hill. Developed areas are concentrated on lower slopes surrounding the central ridge, at elevations between about 10 to 120 feet above mean sea level. Pacheco Creek runs along the western boundary of Capehart Housing and the Exchange Triangle.

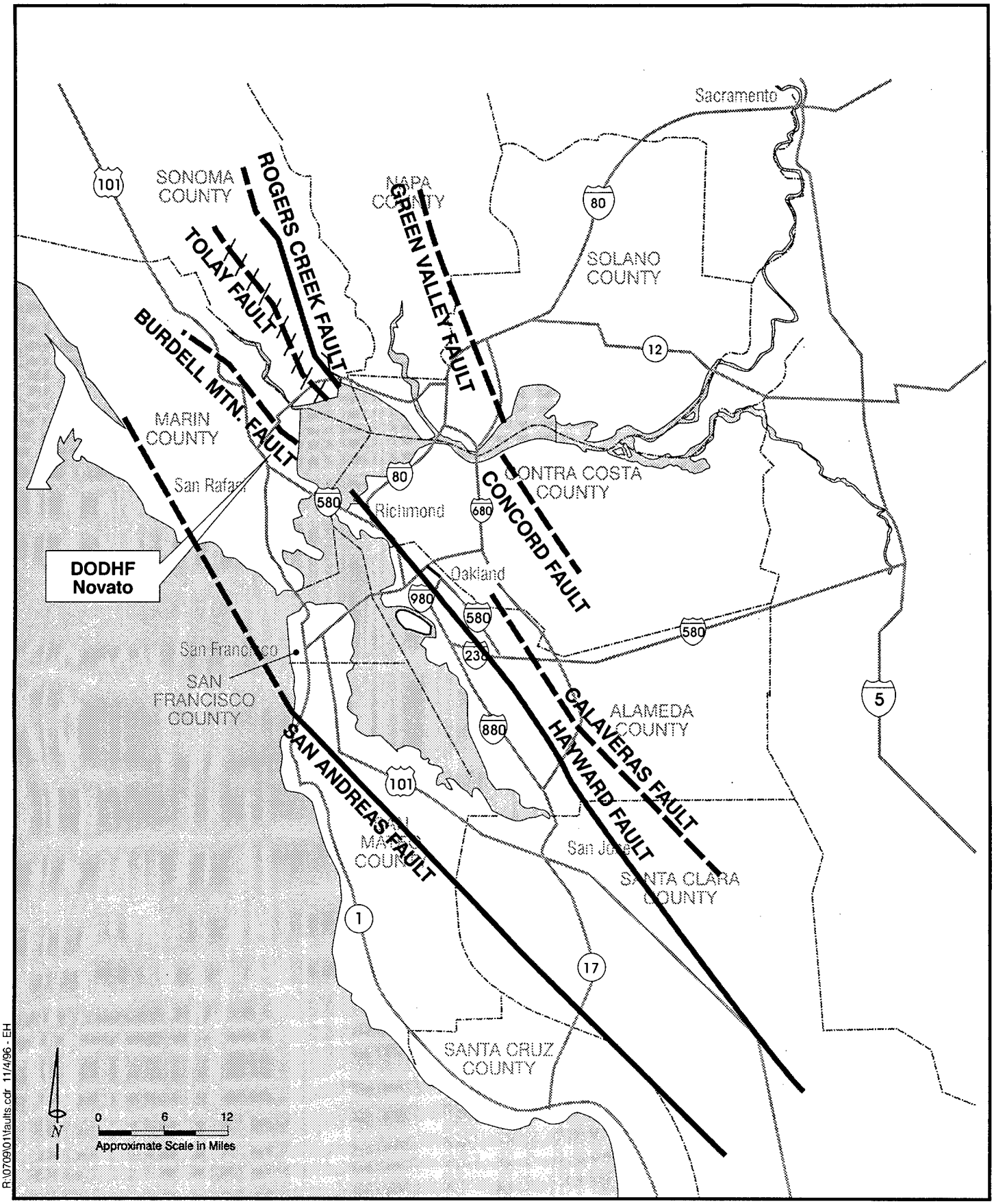
The Exchange Triangle is located on the northern extension of the central ridge of Capehart Housing. The land slopes from an elevation of about 50 feet along the Main Gate Road to about 30 feet along the rail line marking its eastern margin.

The Commissary Triangle, northwest of the Exchange Triangle, slopes gently northeast from about 40 feet to about 25 feet along the rail line that marks its northeast boundary. A narrow strip along the south side of Main Gate Road and west of Capehart Housing, with elevations over 40 feet above mean sea level, also belongs to the Exchange Triangle.

Elevations in Town Center, located at the base of two low hills, range between 30 feet on the west to 20 feet above mean sea level on the east. The Officers' Club is located on a small knoll that rises from about 35 to 80 feet above mean sea level. The Bowling Alley lies in a swale, with elevations ranging between about 20 feet to 10 feet above mean sea level. The Ballfields area contains some of the lowest-lying land, with elevations ranging from about 30 feet adjacent to Spanish Housing down to sea level.

Regional Geology

Bay Area geology is dominated by the San Andreas Fault system, a collection of northwest-trending strike-slip faults. The locations of the principal active faults in the Bay Area are shown on Figure 3-10. Active faults are those for which there is evidence of movement during the past 11,000 years. The active faults within a radius of 20 miles of the project area include the San Andreas



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Three major active faults are located within the DODHF Novato Region: the San Andreas, Burdell Mountain, and Tolay Faults.

LEGEND:

- Active fault. Fault has the evidence os surface displacement within the last 11,000 years.
- Active fault concealed
- Potentiallly active fault concealed

Source: Hamilton Reuse Planning Authority, 1955a

Locations of Principal Active Regional Faults

DOD Housing Facility
Novato, California

Figure 3-10

Fault, the San Gregorio Fault, the Hayward Fault, and the Rogers Creek Fault (Wallace 1990). The Burdell Mountain Fault, located about two miles north of the project area, is a Quaternary fault (evidence of movement within the past 1.6 million years).

Most of the Coast Ranges in the region of the site are underlain by marine cherts, sandstone, and volcanic rocks of the Franciscan assemblage. North of Novato, Miocene (about 5 to 20 million years ago) volcanic mudflow deposits belonging to the Tolay Volcanics group are present on the south side of the Quaternary Burdell Mountain Fault. Small outcrops of Pliocene (1.6 to 5 million years ago) volcanic ash deposits belonging to the Sonoma Volcanics also are exposed in this area.

DODHF Novato lies within a portion of the Franciscan assemblage called melange, which consists of sheared, interbedded, fine-grained mudstone and sandstone, with minor amounts of greenish radiolarian-bearing volcanic ash deposits (Wahrhaftig and Wakabayashi 1989). This melange weathers to clay that is gray to greenish, generally expansive and plastic.

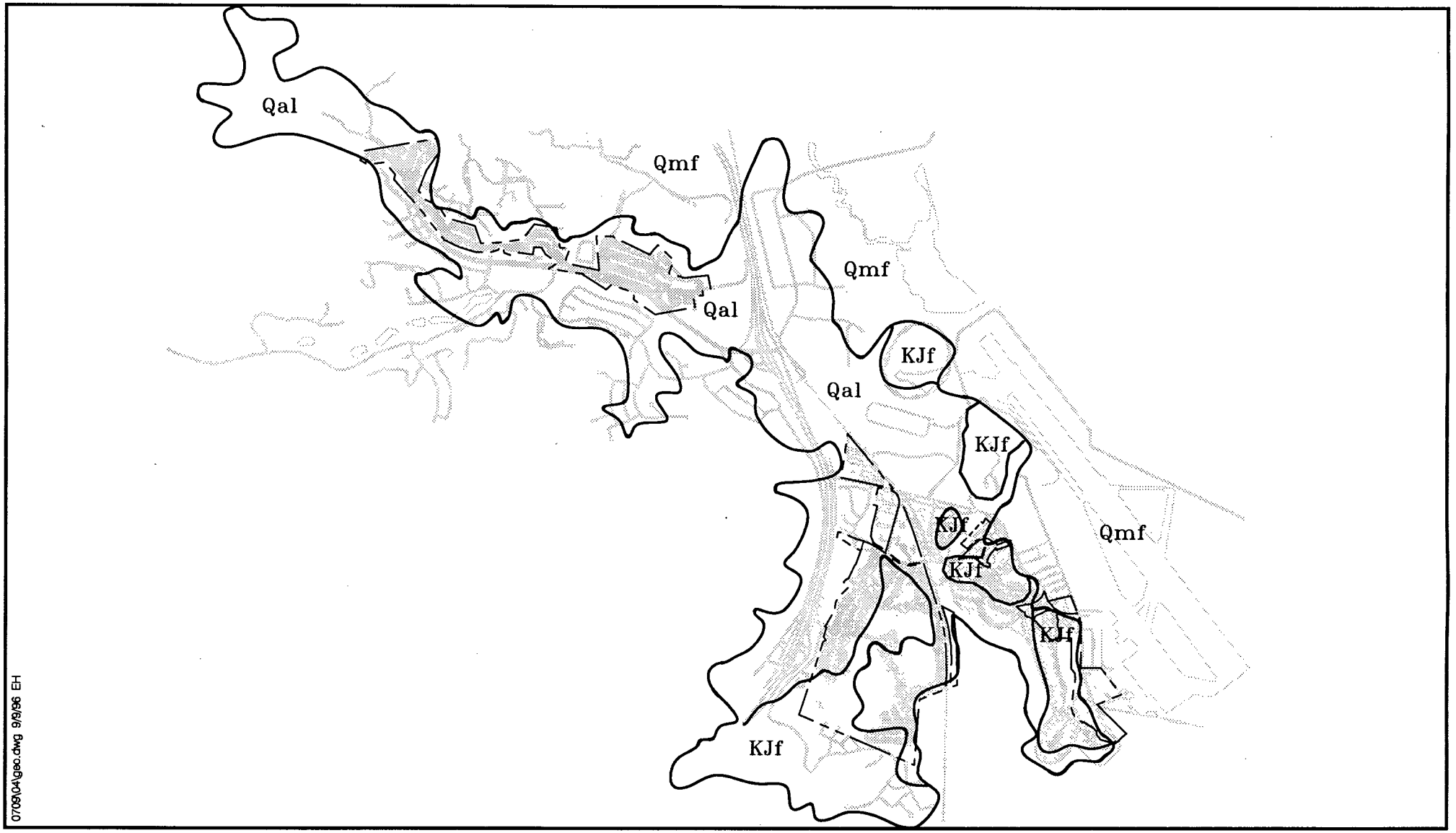
Blake, et al. (1974) state that most geologic contacts within this portion of the Franciscan are probably faults. Their geologic mapping of the area indicates a fault beneath the channel of San Jose Creek, which is buried except for occasional exposures and extends from near the east end of Rafael Village to the south end of the adjacent USCG Spanish Housing area. The age of the fault is not reported but it is not considered to be active.

In the region of DODHF Novato, hills and ridges consist mainly of massive sandstone and shale (Novato 1995d; Rice 1973). These weather to sandy and silty soils that erode easily and are susceptible to liquefaction during periods of very heavy rainfall.

The San Francisco Bay basin is underlain by a thick sequence of fine-grained sediments called the Bay Mud, which consists of clays and silty clays, with lenses of sand or shell material. Locally, the underlying sediments consist largely of alluvium carried to the bay by the Petaluma River or smaller streams that emanate from the Coast Ranges to the west. Much of the land east of US 101 lies within the historic margin of San Francisco Bay and has been reclaimed by filling. Figure 3-11 shows the geology in the vicinity of DODHF Novato.

Site Geology

Rafael Village is underlain by colluvial deposits consisting of loose sand, gravel, silt, and clay derived from the Franciscan sandstone and shale that form the nearby hillslopes. The depth to bedrock beneath the colluvium is not



Much of the area east of US 101 lies within the historic margin of the San Francisco bay that has been reclaimed by filling.

LEGEND:

Qmf = Bay Mud

Qal = Alluvium

KJf = Franciscan Formation

— — — — = DODHF Boundary

N

0 1,250 2,500

Approximate Scale in Feet

Source: USGS 1978

Geology

DOD Housing Facility
Novato, California

Figure 3-11

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known. Most of the Main Site planning areas are located directly on exposures of weathered Franciscan bedrock, consisting primarily of sandstone, shale, and greenstone, with minor amounts of other lithologies. Alluvial deposits derived from erosion of the adjacent hillslopes skirt the base of the hills. The bottom lands consist of imported fill placed on the historic tidal flats.

3.8.3 Seismicity

DODHF Novato is located approximately 12 miles east of the trace of the San Andreas fault, about eight miles west of the trace of the Rogers Creek Fault, and roughly seven miles northwest of the Hayward Fault. The only other fault within a 20-mile radius of DODHF Novato that is known to have been active within the past 10,000 years is the southern segment of the West Napa Fault.

Earthquake magnitude is a measure of the amount of energy released at the origin of an earthquake within the earth's crust and is expressed as a number on the Richter Magnitude scale. Each integer increase in magnitude represents a 10-fold increase in energy released. The maximum earthquake magnitude that could reasonable be expected for the Hayward, San Andreas, and Rogers Creek Faults are 7.5, 8.3, and 7.2, respectively.

Incorporating data from the Loma Prieta earthquake of October 17, 1989, the US Geological Survey (1990) estimated a 67 percent probability that one or more large earthquakes (magnitude 7.0 or greater) would occur on the San Andreas, Hayward, or Rogers Creek Faults during the next 30 years (WGCEP 1990).

The amount of damage caused by an earthquake is dependent on a wide range of factors. These include the distance of the source of the earthquake from the site, the nature of the geologic materials underlying the site, the duration of the shaking, and the nature of the structure. For an earthquake of a given magnitude, duration, and distance from the site, the intensity of ground shaking is highly dependent on the way in which the seismic waves are transmitted by the underlying geologic materials. Dense bedrock tends to cause the least amount of shaking, while thick unconsolidated materials tend to amplify seismic waves, resulting in stronger shaking.

A recent report prepared by the Association of Bay Area Governments (Association of Bay Area Governments 1995; Perkins and Boatwright 1995), indicates that the amplification of seismic waves on land underlain by Bay Mud east of US 101 would be "extremely high," while west of US 101 the amplification varies from low to very high depending on the nature of the underlying materials. The results of the ABAG study also indicate that the intensity of ground shaking at DODHF Novato would be most severe for

earthquakes centered on the northern segment of the Hayward Fault or on the Rogers Creek Fault.

The ABAG study provides an estimate of the intensity of ground shaking in the region of DODHF Novato, with a margin of error of about one intensity unit on the modified Mercali scale. This scale provides a description of the amount of damage that can be expected under earthquakes of varying intensities and ranges from I (least) to XII (greatest). In the vicinity of Rafael Village, and in most of the planning areas east of US 101, the modified Mercali intensity is expected to range from VII to VIII for a 7.1 magnitude earthquake on the Rogers Creek Fault or the northern Hayward Fault. Nonstructural to moderate structural damage is commonly associated with this intensity range. At a Mercali intensity of VII, plaster and weak masonry materials may be damaged, and weak slopes in sand or gravel banks may collapse. At a Mercali intensity of VIII, damage would occur to good quality reinforced masonry, chimneys may fall, and frame houses may move on foundations if not bolted down. Local conditions can increase the hazards.

The ABAG study suggests that the most severe ground shaking at DODHF Novato would occur in areas underlain by Bay Mud east of the USCG Spanish Housing area. This would apply to most of the Ballfields planning area and to the Town Center planning area. Areas underlain by Bay Mud are expected to be subject to a Mercali intensity of IX for a magnitude 7.1 earthquake centered on the northern Hayward Fault. At a modified Mercali intensity of IX, good quality reinforced masonry is seriously damaged, underground pipes are broken, and unreinforced structures may collapse.

In addition to ground shaking, structural damage can be caused directly by differential movement along faults, or by collapse of the ground surface and can be caused indirectly by flooding from seismically-generated sea waves or collapse of dams. Ground failure may include liquefaction, differential settlement, or lateral spreading. Liquefaction tends to occur in sandy materials with a shallow water table. Liquefaction potential is low in most of the planning areas due to the relatively high clay content of the soil, but it could be a factor locally, in imported fill areas or areas underlain by sandy alluvium. High water table conditions probably occur only at the base of the hills in the Main Site planning areas. Likewise, differential settlement is not expected to be a severe problem in most planning areas because of the relative cohesiveness of clayey soils but it could be a factor locally in filled areas. Lateral spreading can be induced by ground shaking in soft, saturated materials. Lateral spreading is likely to be limited to the Ballfields area but also could affect other areas built on fill, such as Town Center.

3.8.4 Soils

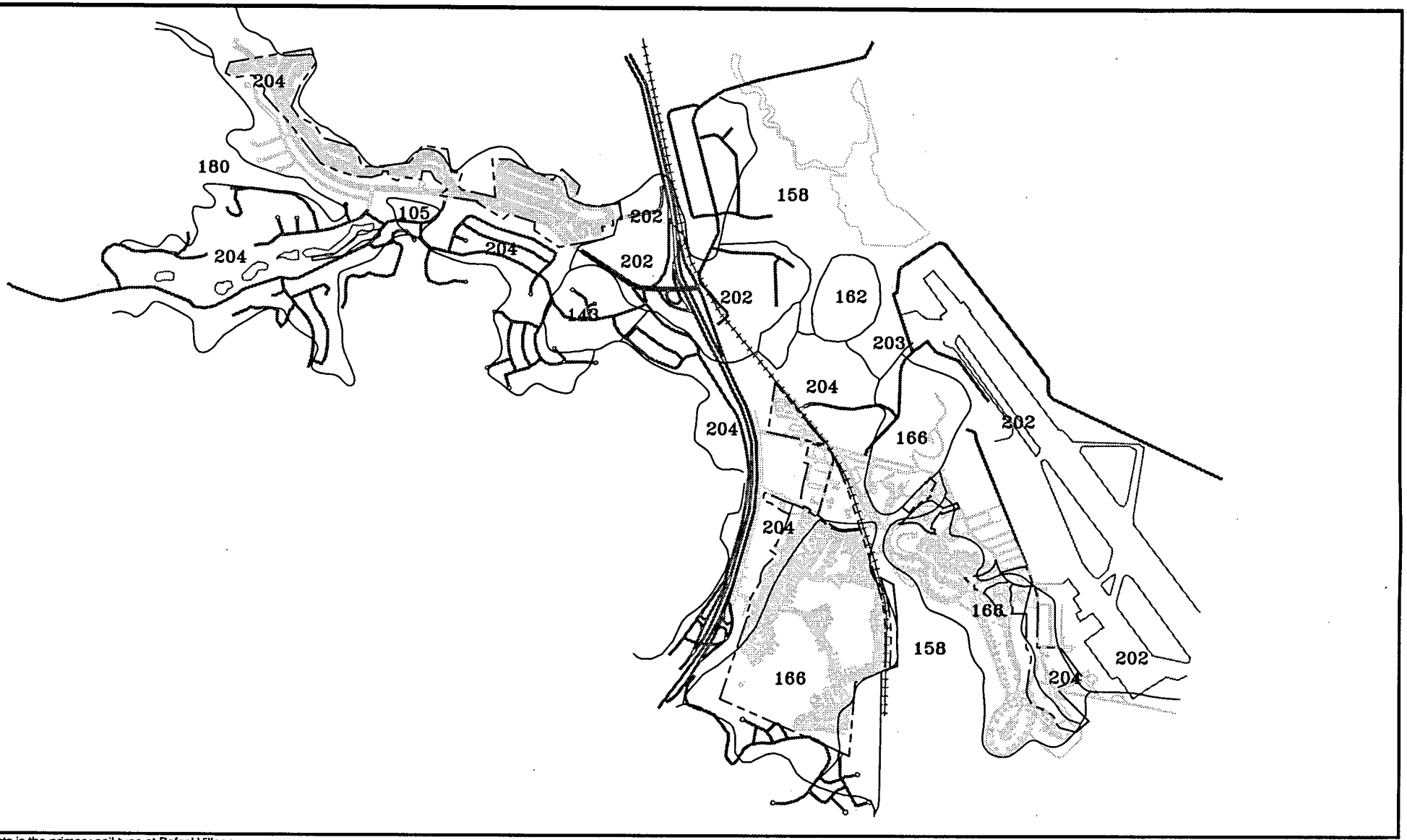
Figure 3-12 shows the distribution of major soil units at DODHF Novato. Surface soils throughout Rafael Village, the Commissary Triangle, the Exchange Triangle, the Town Center, the Bowling Alley, the Ballfields, and the western edge of Capehart Housing consist of a combined unit called xerorthents-urban land complex, which occurs on valley floors in urban areas with 0 to 9 percent slopes (Kashiwagi 1985). Xerorthents consist of cut or fill areas and are characterized by mixed soils containing man-made debris and imported materials. Urban land consists of areas covered by roads, driveways, houses, parking lots, and other structures.

Surface soils in most of the upland areas of Capehart Housing, as well as the Officers' Club, consist of the Saurin-Urban land-Bonnydoon complex, which occurs on 30 to 50 percent slopes. The complex is 30 percent Saurin clay loam (on convex side slopes), 25 percent urban land, and 20 percent Bonnydoon gravely loam (on ridgetops). These areas also include bare rock outcrops. Saurin soil is derived from sandstone or shale and is moderately deep and well drained. Depth to bedrock ranges from 20 to 40 inches. The main limitation of the soil for homesite development is steepness of slope. The soil tends to erode easily.

3.8.5 Slope Stability

Slope stability is related to a combination of factors including the nature of the geologic materials supporting the slope, the steepness of the slope, and the amount of water that infiltrates the materials underlying the slope. Slope failure can be gradual or rapid. Rapid slope failures include landslides, debris flows, and debris avalanches. Gradual processes include earthflows, creep, and erosion. Rapid slope failure in susceptible areas may be triggered by seismic events, rainfall, undercutting of slopes by construction activities, and overloading of upslope deposits.

Davenport (1984) analyzed slope failures that occurred in selected study areas in eastern Marin County as a result of a major storm on January 3rd and 4th, 1982. No evidence of slope failures was identified near DODHF Novato from evaluation of aerial photographs. The report concluded that most slope failures following the storm occurred on slopes of between 26 to 45 degrees (about 1:2 to 1:1 slopes, respectively), although slope failures were common in colluvial materials on slopes of 18 to 26 degrees (about 1:3 to 1:2 slopes, respectively). The maximum slopes on the hills north of Rafael Village are about 26 degrees.



Xerorthents is the primary soil type at Rafael Village.
Sawrin is the primary soil type at the Main Site.

0 1200 2400
Approximate Scale in Feet

N

Source: Kashiwagi, 1985

LEGEND:

202	Urban land - Xerorthents, 0.9% slopes
203	Xerorthents - fill
204	Xerorthents - Urban land, 0.9% slopes
166	Sawrin - Urban land - Bonnydoon, 30-50% slopes
158	Reyes Clay
— - - —	DODHF Boundary

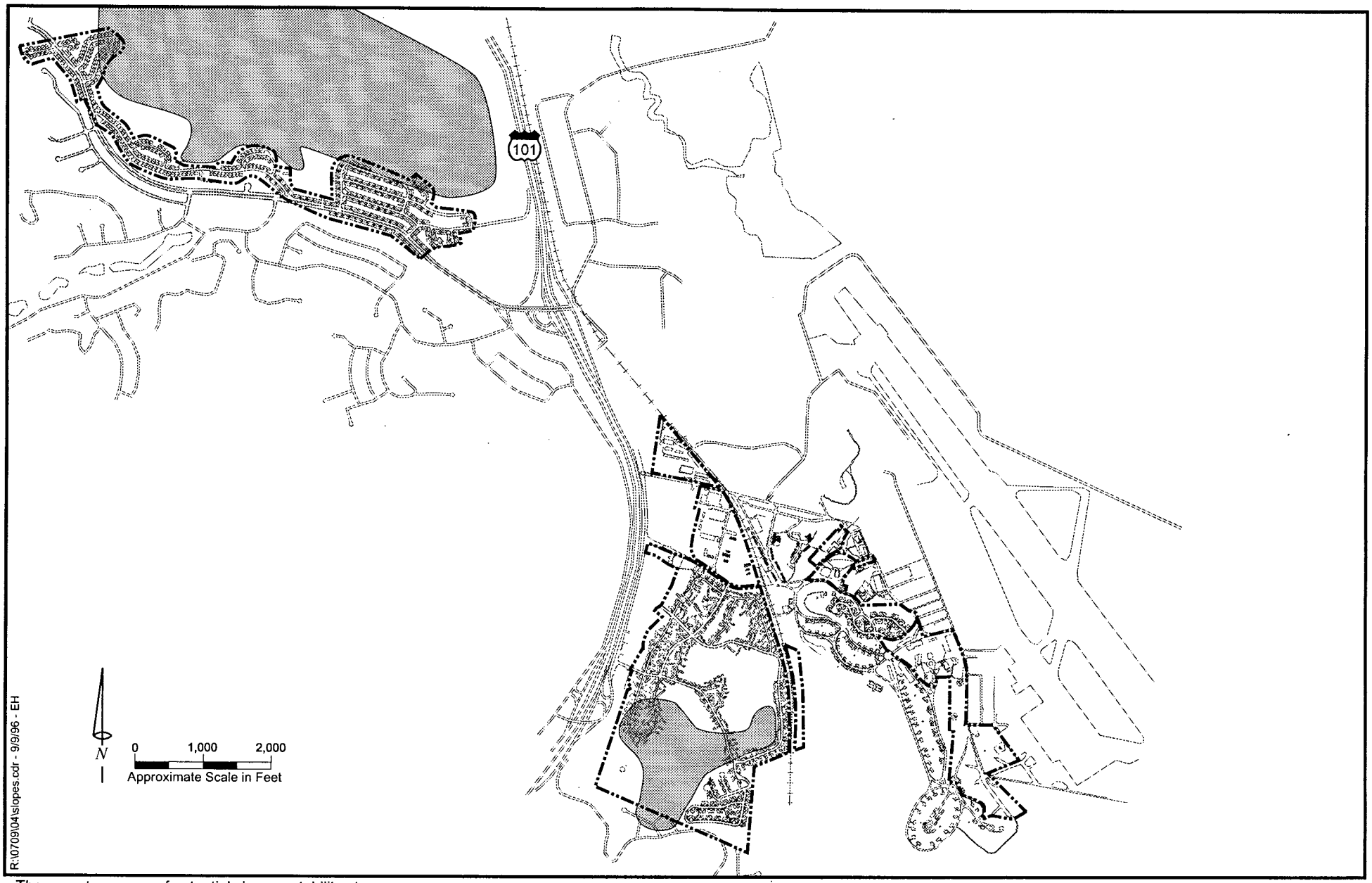
Map of Soils at DODHF Novato

DOD Housing Facility
Novato, California

Figure 3-12

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The area upslope of Rafael Village was included in a slope stability study performed by Rice (1973). Most of the area upslope of Rafael Village was assigned to the most stable or next-to-most stable slope categories, based on a four-point rating scale. Existing landslide deposits are an indication of general slope instability. No existing landslide deposits were identified by Rice (1973) upslope of Rafael Village. Saturation of slope deposits can reduce the cohesiveness of the deposits, leading to slope failure. Springs or seeps have been observed at the base of some of the slopes north of Rafael Village. As a result, slope stability has been identified as a concern in planning the development of the area upslope of Rafael Village (Balestro, personal communication). No areas within DODHF Novato are identified in the City of Novato General Plan as having unstable slopes (Novato 1995b). Figure 3-13 shows the areas with steep slopes and areas with identified landslide potential.



There are two areas of potential slope unstability at DODHF Novato, one in the southwest part of the Main Site area and one north of the Novato Housing area.

LEGEND:

Lands with unstable slopes

Source: City of Novato 1995b

Unstable Slopes at DODHF Novato

DOD Housing Facility
Novato, California

Figure 3-13

3.9 WATER RESOURCES

Water resource issues relevant to the proposed action include flood hazards, surface and ground water quality, and drainage issues. Flood hazards at the site are associated with high tides, substandard levees and other drainage facilities, and high runoff in Pacheco Creek and its tributaries. Flood hazards at the Rafael Village site are associated with substandard storm drain systems and high flows in San Jose Creek. Water quality impacts can result from ground water contamination (see Section 3.13, Hazardous Materials and Waste), construction and demolition activities, and cumulative discharge of pollutants into local and regional receiving waters including San Pablo Bay. Drainage is addressed in this chapter as it affects flood hazards; storm drain systems are addressed in Section 3.5, Utilities.

The ROI for water resources is limited to the immediate DODHF Novato sites, areas directly downstream from those sites, and surrounding receiving water bodies (Novato Creek, western San Pablo Bay, and adjacent wetlands).

3.9.1 Plans and Policies

City of Novato

The project site lies within the City of Novato and would fall under the city's jurisdiction upon transfer from the Navy. The Safety and Environment chapters of the 1996 Novato General Plan include policies that promote the protection of wetlands and riparian areas; that preserve, protect, and enhance streams, wetlands, marshes, and other bodies of water; that preserve, protect, and enhance water resources and water quality; that control flooding problems and reduce flood hazards; and that prepare a plan for responding to a potential rise in sea level. The General Plan restricts new development in 100-year floodplains east of US 101.

The City of Novato has adopted Development Requirements that include drainage facility design. Under these requirements, the city Public Works Department must approve plans for the project's on-site drainage system as well as for any required off-site system improvements. On-site culverts and drainage improvements must be designed to accommodate runoff from a rainfall with a 25-year recurrence interval, and drainage plans must demonstrate that a proposed project will not alter off-site flow characteristics of runoff. Major drainage systems, such as Pacheco Creek, must be designed to accommodate runoff from a 100-year recurrence interval storm.

The city also has adopted a Flood Damage Protection Ordinance (Chapter 5-31 of the Municipal Code) that establishes requirements for construction within city-designated 100-year floodplains. The ordinance also establishes

floodplain zoning districts, depending on the likelihood and extent of flood hazards, and regulates development within those districts. These regulations generally limit the construction of new structures to above the 100-year flood elevation. The project site is not located within a city-designated flood zone district; however, portions of the site are within Federal Emergency Management Agency (FEMA)-mapped 100-year flood zones and, as such, the city requires that all on-site structures be protected from 100-year floods, and project development must not worsen existing 100-year flood conditions on adjoining properties or elsewhere in the Pacheco Creek or San Jose Creek Drainage Basins (EIP Associates, Inc. 1993). The city also has developed a Multi-hazard Emergency Plan that includes provisions to respond to flooding.

Marin County

Most of the upstream reaches of Pacheco and San Jose Creeks fall under the jurisdiction of the Marin County Flood Control and Water Conservation District (MCFCWCD). The District does not maintain Pacheco Creek at Hamilton. The City of Novato relies on the MCFCWCD for review of projects that may significantly affect major drainage facilities such as Pacheco and San Jose Creeks. MCFCWCD's review would seek to ensure that the project would not adversely affect the capacity of Pacheco and San Jose Creeks, that all proposed buildings are either raised above 100-year flood level or protected from flooding by levees, and that the project's internal storm drain system has sufficient capacity to accommodate anticipated peak storm water runoff.

State of California

Stream channels in the state of California are subject to Sections 1600-1603 of the Fish and Game Code. These regulations require landowners to obtain permits prior to modifying any existing natural stream channel, up to the top of the bank. Any proposed stream modifications should be designed and sited to prevent increased erosion, scour, or contaminant discharge and to avoid adverse impacts to riparian areas and wetlands.

Federal Government

Water quality in surface water bodies, including Pacheco and San Jose Creeks and San Pablo Bay, is subject to the Federal Clean Water Act. As part of that act, the National Pollution Discharge Elimination System (NPDES) program was developed to control and reduce the addition of pollutants to water bodies from point sources, such as industrial facilities and stormwater sewers. In the Bay Area, the program is implemented by the San Francisco Bay Regional Water Quality Control Board (RWQCB), a state agency. Pursuant to Section 319 of the Clean Water Act, the state has the lead role in identifying and controlling nonpoint sources of pollution. The RWQCB implements the

NPDES program through the issuance of permits for construction and industrial discharges.

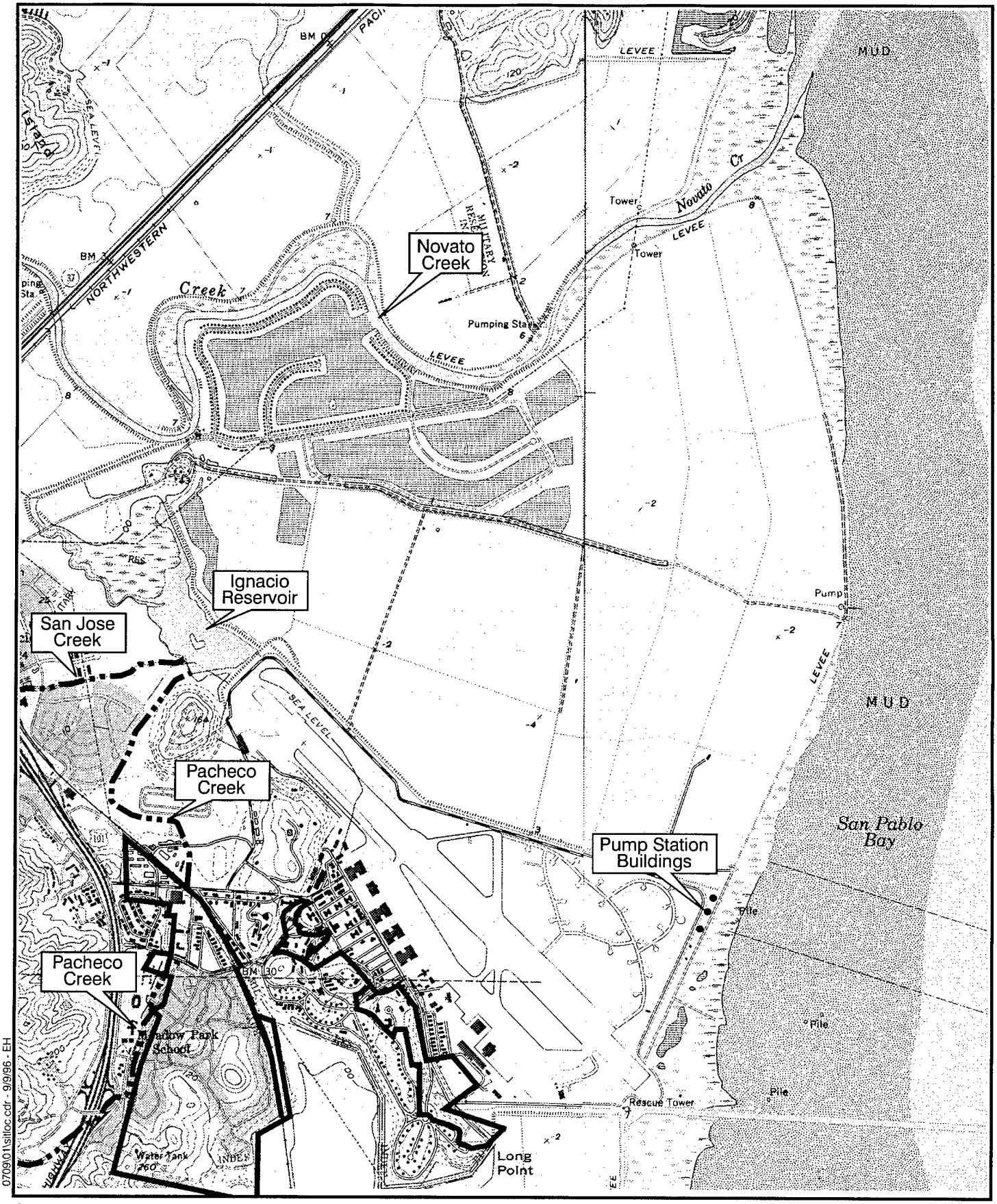
The RWQCB also regulates water quality in accordance with state laws and policies identified in the San Francisco Basin Plan. The basin plan identifies beneficial uses of surface and ground waters, wetlands, and marshes and sets forth water quality objectives to protect the beneficial uses. Beneficial uses of the inland surface waters on the site (Pacheco and San Jose Creeks) are limited primarily to wildlife habitat. The related water quality objectives specify that the presence or concentration of constituents, including floating, suspended, or settleable materials, oil and grease, biostimulatory substances, sediment, bacterial and toxic substances, among others, shall not cause a nuisance or adversely affect beneficial uses. Beneficial uses for San Pablo Bay include industrial uses, navigation, contact and noncontact recreation, fishing, wildlife habitat, species preservation, and fisheries habitat.

3.9.2 Surface Water

The project area is located on the eastern side of the Marin portion of the California Coast Ranges. Drainage from this side of the range flows generally eastward towards San Pablo Bay. Regional surface water is shown on Figure 3-14. Precipitation in the project area is about 28 inches annually, falling mostly during the October through April rainy season.

The project site is comprised of two distinct areas separated by US 101; the 107-acre Rafael Village located in a valley west of the highway and the 304-acre Main Site on the bay plain east of the highway.

The Main Site includes several small hills and a portion of the broad floodplain at the edge of San Pablo Bay. Runoff from the area east of the hills flows eastward through a series of swales, ditches and culverts through the New Hamilton Partnership property, discharging into San Pablo Bay via three pump stations that lift runoff over existing levees east of the site. Runoff from the area west of the hills flows westward and northward to drainage ditches and Pacheco Creek. Pacheco Creek originates in the hills west of US 101, crossing to the east side of the freeway about half a mile south of the Capehart Housing. It then flows northward through the Capehart area and crosses Main Gate Road via five 60-inch culverts (terminating in twin box culverts) that carry it under the Commissary Triangle and State Access Road to a trestle at the Northwestern Pacific Railroad right-of-way. Past environmental documentation has noted that several of the culverts are clogged and carry very little water (EIP Associates, Inc. 1993). Northeast of the railroad trestle, Pacheco Creek enters a concrete-lined channel that winds north and west, intersecting the base boundary about 900 feet east of US 101. The channel



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Surface water in the vicinity of DODHF Novato flows to the San Pablo Bay.

LEGEND:

DODHF Novato Boundary

N

0 1,000 2,000

Approximate Scale in Feet

Regional Surface Water

DOD Housing Facility
Novato, California

Figure 3-14

Source: USGS 7.5' series, Novato Quadrangle 1980; US Army 1996

veers north just north of the base and follows the base boundary to the north end of Ammo Hill, where it joins San Jose Creek, which flows northward to its discharge into Pacheco Pond.

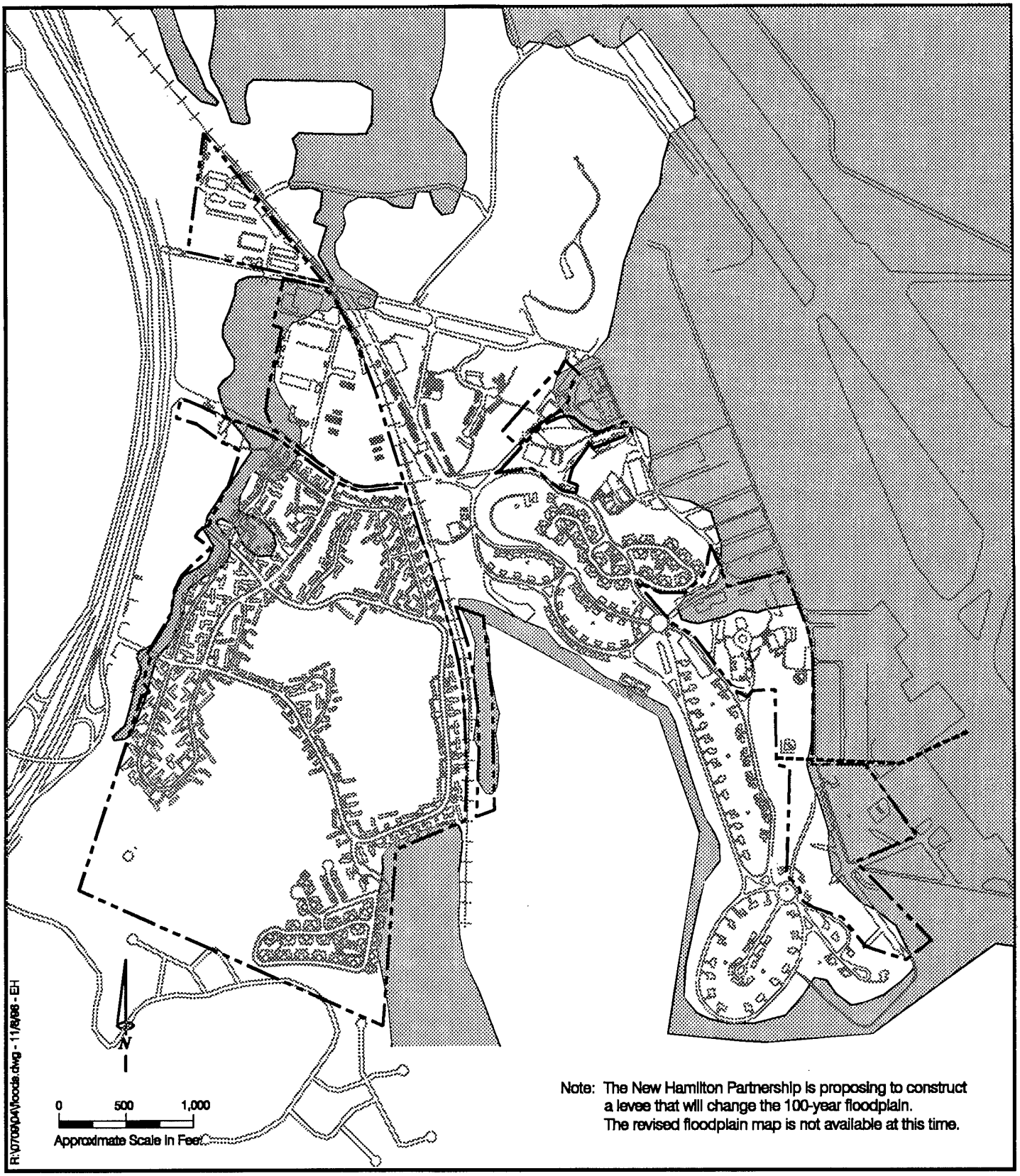
Pacheco Pond is a 120-acre wetland managed jointly by the MCFCWCD and the CDFG as a flood protection retention basin and seasonal freshwater wetlands and permanent wildlife habitat. When the pond is filled, discharge from Pacheco Creek and San Jose Creek (also called Arroyo San Jose) flows through a ditch to Novato Creek at Bel Marin Keys. Novato Creek empties into San Pablo Bay about three miles northeast of the site. Discharge is controlled by weirs, tide gates, and siphons.

Rafael Village is adjacent to, and in the drainage area of, San Jose Creek. The southern portions of this planning area drain directly to that creek, while the northern parts of Rafael Village drain into swales and storm drains that, in turn, discharge into the creek.

3.9.3 Flooding

Many low-lying areas of the base are subject to flooding during a 100-year flood event. FEMA has mapped 100-year flood areas on the base (see Figure 3-15). Low-lying areas at the base of the small hills on the site, including the eastern edge of Town Center, the Bowling Alley, and the Ballfields, are mapped as subject to 100-year flood hazards. The Little League fields, which are part of the Ballfields planning area, serve as a detention basin in heavy rainfall events. In addition, the southern and southeastern portions of Capehart Housing, as well as the western fringe of Capehart Housing along Pacheco Creek, are subject to flooding. Other areas along Pacheco Creek, including portions of the Exchange Triangle, the Commissary Triangle, Main Gate Road, and State Access Road, are in the FEMA-mapped floodplain. Pacheco Creek frequently floods along West Kelley Drive, across the Main Gate Road, and into the commissary area. (US Department of Agriculture 1987). The Comprehensive Drainage Study for the base notes that Main Gate Road is subject to flooding in the five-year event. (A-N West, Inc. 1989) According to the Base Master Plan (US Navy 1986), additional residential areas just outside of the FEMA flood areas on the east side of Capehart Housing also are subject to periodic flooding.

The eastern edge of the base is protected from tidal flooding by levees. Existing levees are deficient to protect against the 10-year tidal runup, and have a 2,575-foot long gap southeast of the runway parcel. This allows flooding of low-lying areas east of the hills on the site during major tidal/storm events. Runoff reaching the levees is pumped to San Pablo Bay by a series of pump stations. Three pump stations serve an area of about 1,600 acres of the Hamilton site.



The Federal Emergency Management Agency (FEMA) has mapped 100-year flood areas at the former Hamilton Air Force Base. Most of the DODHF Novato property falls outside of the flood areas. Rafael Village is not within the 100-year flood area, though FEMA has mapped a narrow corridor along most of San Jose Creek adjacent to Rafael Village as an area of special flood hazard subject to inundation in a 100-year flood (see Figure 3-8).

LEGEND:

- 100 Year Flood Zone
- Proposed NHP Master Plan Levee
- DODHF Boundary

100-Year Flood Area

DOD Housing Facility
Novato, California

Figure 3-15

Source: U.S. Navy 1986

Combined operating capacity of the three pumps is about 160 cfs, less than 20 percent of peak runoff (950 cfs) calculated by the Corps of Engineers for the drainage area in a 10-year storm. In addition, none of the pumps have backup power, and the largest pump must be started manually. Discharge to San Pablo Bay is via 18 36-inch diameter steel culverts. The pumping stations currently are being refurbished (Miller, personal communication). Flows exceeding the pumps' capacity back up behind the levees north of the runway. Flooding occurs frequently in this area during rainy periods; however, because of available flood storage capacity in the area, significant flooding occurs only when high runoff coincides with high tides (EIP Associates, Inc. 1993).

Tidal flooding issues and drainage to the bay are in the process of being altered due to the recent start of construction on two projects adjacent to the site on the east. These are the NHP mixed-use development and the Hamilton Field Wetlands Restoration project. The NHP project currently is upgrading drainage through the portion of the base to the east of Planning Areas 4-10. The drainage system, when completed, will be sized to accommodate the 25-year runoff, in conformance with city standards. Major creek channels and pump facilities serving that area will be sized to carry the 100-year flows (EIP Associates, Inc. 1993). The drainage system for that area assumes existing flows from upstream areas, including the Main Site and Rafael Village areas.

The wetlands restoration project would flood the existing 700-acre runway area directly east of the NHP area and Ballfields 3 and 4 outside the NHP levee. This project will result in the removal of the existing substandard levees protecting low-lying areas of the base from tidal flooding. This will allow regular tidal flooding of areas below seven feet above mean sea level (msl). A new levee will be constructed to the west of the runway to an elevation of 10 feet msl. This levee is intended to protect low-lying areas from 100-year high tides and to allow for future local subsidence/settlement. With the new levee in place, stormwater runoff from the Navy housing area and part of the NHP site would no longer be able to drain by gravity to the existing pump station. The new pump station will be constructed where the proposed new flood control levee crosses Caliente Real and intersects the hills in the USCG Spanish Housing. The pumps would be sized to accommodate 100-year flows from both the NHP site and the contributing DODHF Novato areas. The portion of the Ballfields south of Caliente Real would be used for emergency flood storage in the event of a major pump failure.

In the Rafael Village area, FEMA has mapped a narrow corridor along most of the reach of San Jose Creek adjacent to Rafael Village designated as an area of special flood hazard subject to inundation in the 100-year flood (FEMA 1989). The FEMA map indicates that flooding in a 100-year event would spread across Ignacio Boulevard between its intersection with San Jose Boulevard west of Ransome Street and its intersection with San Jose Boulevard east of Fairway Drive. Due to the deeply incised stream channel, the mapped 100-

year floodplain of San Jose Creek adjacent to Rafael Village is very narrow, and flooding probably affects only the yards of existing Rafael Village houses adjacent to the creek, not the houses themselves.

Flood hazards in low-lying areas of the base would be exacerbated if rising sea levels restricted or backed up flows from local drainages, or if levees were overtopped. There are wide variations in the predictions of future accelerated sea level rise due to global warming. The EPA recently projected a 50 percent likelihood that by 2025 sea levels will rise four inches and by 2050 sea levels will rise about eight inches. This rise is the middle probability of sea level estimates that range from zero to over 18 inches by 2050 (USEPA 1995). Actual measurements of sea level rise at the Presidio in San Francisco indicated an average annual rise of 0.05 inches over the past 100 years, with an average rise of 0.07 inches/year over the past 19 years. These rates of rise equate to 2 to 3 inches by 2025 and 4 to 5 inches by 2075 (ESA Associates, Inc. 1993). In addition, the San Francisco Bay Area is experiencing land sinking of about two inches per century due to tectonic factors. Local settlement of bay muds is also occurring and would exacerbate flood hazards to low-lying parts of the site and vicinity.

3.9.4 Ground Water

Depth to ground water underlying the low-lying parts of the Main Site range from near 0 to about eight feet below the ground surface (bgs). Ground water in these areas fluctuates with water levels in Pacheco Creek, tidal fluctuations, and seasonal precipitation. Ground water underlying the hilly portions of the site lies at greater depths. Ground water flows generally reflect surface topography. These flows are shown in Figure 3-14. Shallow ground water tends to be brackish and of low quality because of its proximity to San Pablo Bay. There are no potable uses of this ground water, and it is unlikely that percolated ground water from the site helps to recharge deeper, higher quality ground water aquifers (EIP Associates, Inc. 1993).

There is little information available on the occurrence or quality of ground water in the Rafael Village area. San Jose Creek is a perennial stream, and its base flow may represent outflow from the adjacent aquifers. If so, then ground water may be expected to occur about 10 to 15 feet below most of the area. Reported ground water seepage at the toes of the slopes north of Rafael Village also are indicative of shallow ground water tables. Ground water flows in Rafael Village generally are expected to be towards the incised stream channel. The water table may vary seasonally in response to recharge from rainfall and infiltration from San Jose Creek. Some deeper ground water may occur in fractures in the Franciscan bedrock underlying the area; however these flows are expected to be limited because the fractures would tend to become clogged by the clay minerals that weather from the Franciscan rocks.

3.9.5 Water Quality

Little data is available regarding water quality of surface water on the Main Site and Rafael Village areas. Section 3.13, Hazardous Materials and Waste, describes areas of the base that may have been subject to surface or ground water contamination from spills and/or dumping of hazardous materials. Runoff from most developed areas of the site is likely contaminated by urban pollutants commonly found in developed areas. This "nonpoint source" pollution contains dissolved or suspended residues of urban land uses, including silt, organic fertilizers and pesticides, heavy metals, oils and grease, tire fragments, decaying vegetation, and debris. These contaminants are commonly discharged into area surface waters via surface runoff, storm drains, and pump stations, and accumulate in Pacheco Pond and San Pablo Bay, where they contribute incrementally to a cumulative decline in water quality. Elevated levels of metals, including high lead levels and petroleum hydrocarbons, have been found in sediments of the upper intertidal zone of the salt marsh in the vicinity of the pump station outfall (US Army 1995). High turbidity in Pacheco Creek floodwaters provides evidence of ongoing erosion within the creek's upper watershed. These sediments degrade downstream water quality and affect water quality and flood storage capacity in Pacheco Pond (EIP Associates, Inc. 1993). There are no point-source discharges (e.g., industrial or sewage treatment plant outfalls) on the project site.

Shallow ground water quality in localized areas at the base has been affected by hazardous and toxic wastes. The primary contaminants of concern that have been found in ground water are petroleum hydrocarbons, such as gasoline and oils and solvents (US Army 1995). The specific areas of contamination and the regulatory processes to control and clean up ground water contamination at the base are described in Section 3.13 of this report.

3.10 TRAFFIC AND CIRCULATION

Traffic evaluation for this EIS provides an analysis of traffic conditions and the circulation system providing access to and within DODHF Novato. The ROI for this traffic analysis includes regional freeway (US 101 and State Route 37) and transit systems, because access to the project site is provided primarily by these traffic links. The ROI also includes local access routes, as well as the City of Novato's street system because of their potential to be impacted by the project. The ROI for traffic and circulation analysis is shown in Figure 3-16.

The circulation system in the DODHF Novato area includes freeways, streets, and intersections. Traffic operations for these facilities are described based on the difference between traffic volumes and available capacity. Typically, as traffic volumes increase, the amount of available capacity is reduced, and congestion occurs. As congestion increases, travel speeds decrease, resulting in longer travel times between trip origins and destinations.

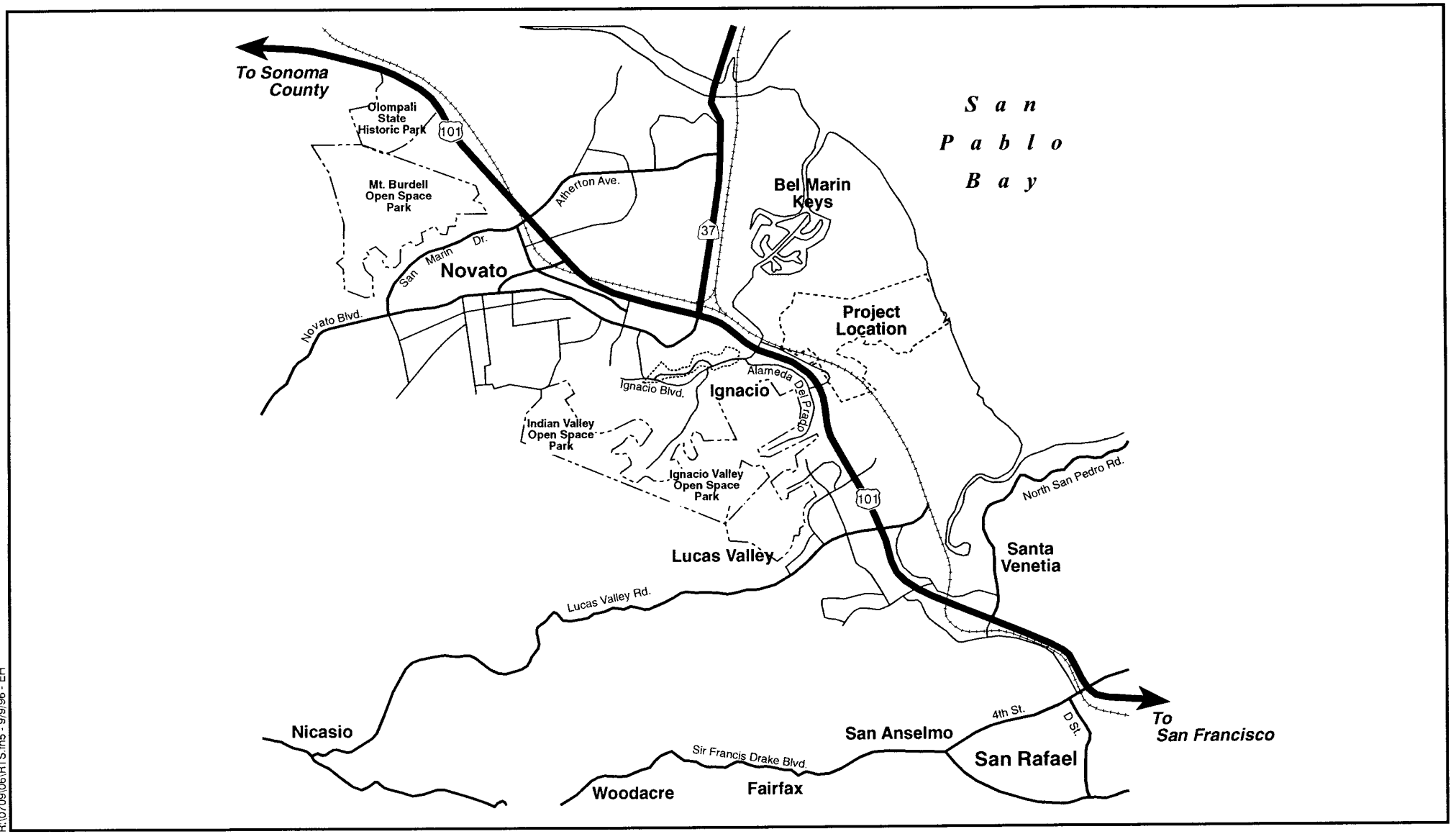
For both roadways and intersections, the Level of Service (LOS) scale is used to measure traffic operations. The LOS scale for freeways is based on the number of passenger cars per hour per lane. The LOS scale for intersections is based on average delay in seconds per vehicle at a particular intersection. Service levels vary from A, the best, to F, the worst. Currently, Novato and Caltrans use LOS D operation as the poorest acceptable level of service during peak traffic periods. For analysis purposes, Novato minimum standards have been assumed for evaluation of the DODHF Novato circulation system. Appendix Table G-1 describes the LOS scale for basic freeway segments and Table G-2 describes the LOS scale for intersections.

3.10.1 Regional Circulation

DODHF Novato is located in southern Novato just south of the junction of US 101 and State Route 37. The majority of DODHF Novato, the Main Site area, is located on the eastern side of US 101. Rafael Village is located on the west side of the freeway along Ignacio Boulevard. Figure 3-16 shows the locations of the regional freeways described below.

Regional Freeways and Freeway Operation

The primary regional access roadways are US 101 in the north-south direction and State Route 37 in the east-west direction.



The ROI for this EIS includes regional systems and the surrounding community street system.

Regional Transportation System

DOD Housing Faciity
Novato, California

N

Source: Fehr & Peers Associates, 1996

Figure 3-16

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US 101

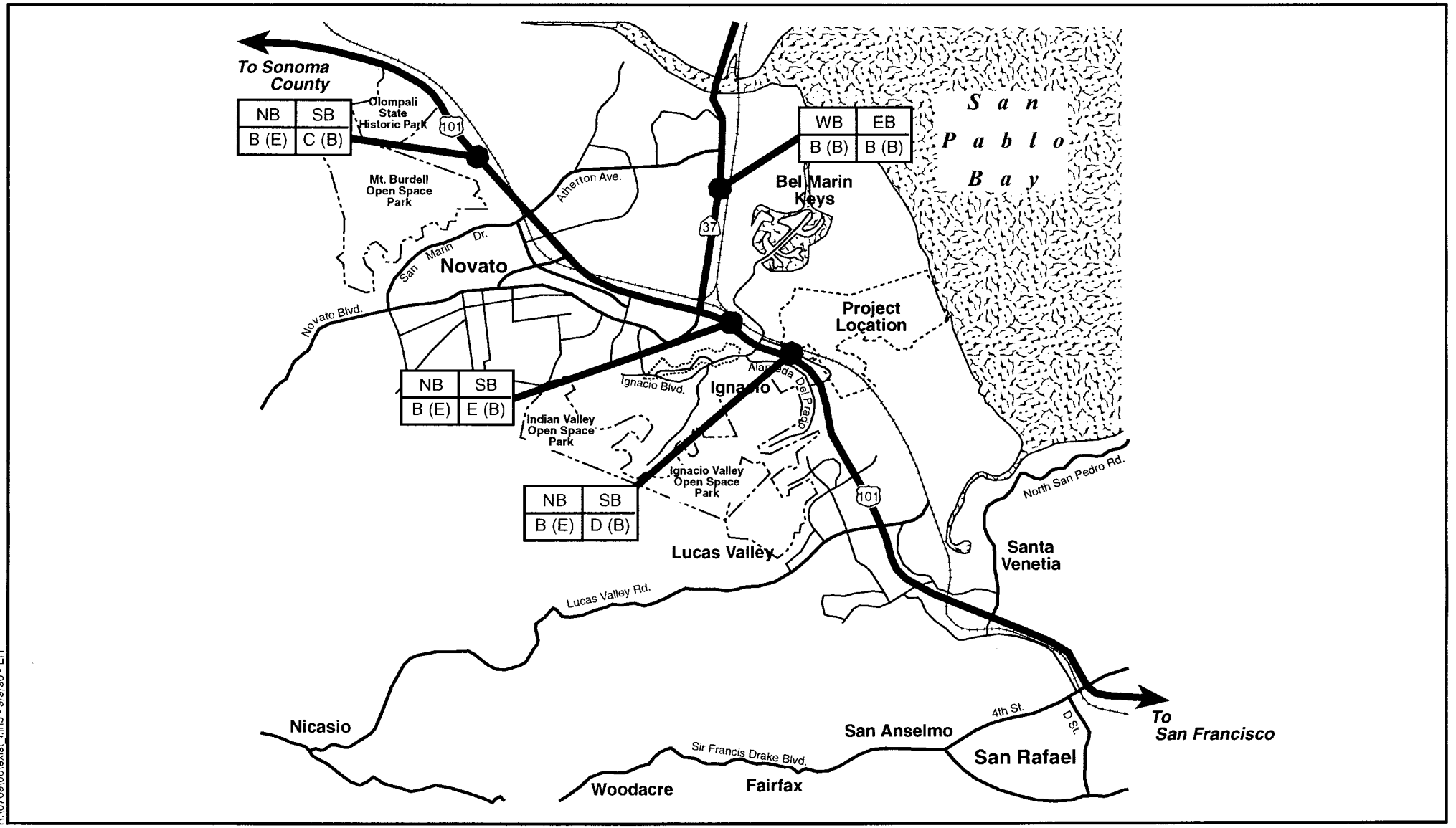
US 101 is the major regional connector serving Marin County. It bisects the county and in many locations there are no alternative travel routes between areas. It serves as a connector from Sonoma and parts of Napa to Marin and San Francisco counties. US 101 provides three travel lanes in each direction in the project area with additional auxiliary lanes provided between many interchanges. North of Atherton Avenue, near the Sonoma County line, US 101 narrows to two lanes in each direction and loses freeway status as at-grade intersections are permitted.

Several segments along US 101 currently experience considerable congestion (LOS D or worse) during the peak hours in the major travel directions (AM southbound and PM northbound). There is a high level of variation in the degree and hours in which people encounter heavy congestion on US 101 and in recent years peak period congestion has been spreading, meaning that the periods of congestion have been elongating as people change their traveling hours to avoid the typical peak periods (7 to 9 AM and 4 to 6 PM). Although congestion occurs along the entire length of US 101 in Marin County, certain segments consistently constrict traffic flow resulting in long lines of traffic throughout US 101. Figure 3-17 and Appendix Table G-3 summarizes the existing operational characteristics of US 101 and State Route 37 during peak hour periods.

AM Peak Hour Southbound. Currently, the AM peak hour bottleneck on US 101 that causes traffic backups into the project area is the approach to Puerto Suello Hill, near North San Pedro Road. Additionally, the segment of US 101 north of Atherton Avenue, where the freeway narrows to two lanes in each direction, meters traffic traveling into the project area from Sonoma County. In the southbound direction US 101 south of Ignacio Boulevard operates at LOS D during the AM peak hour. The southbound approach to US 101 between State Route 37 and Ignacio Boulevard operates at LOS E during the AM peak hour. See Figure 3-17.

PM Peak Hour Northbound. During the PM peak hour, the bottleneck on US 101 north of Atherton Avenue causes traffic to back up to project area. These are further exacerbated by through-traffic destined for Central Novato and the weaving area at the US 101/State Route 37 interchange. South of the project area, congestion in Central San Rafael results in delays for vehicles traveling into the Northgate area of San Rafael and Novato. In the northbound direction, US 101 between State Route 37 and Ignacio Boulevard operates at LOS E during the PM peak hour. The northbound approach on US 101, north of Atherton and south of Ignacio Boulevard, operates at LOS E during the PM peak hour. See Figure 3-17.

Other segments of US 101 operate at LOS B or better. See Figure 3-17.



The Level of Sevice (LOS) scale is used to measure traffic operations. LOS A is the best while LOS F is the worst.

Key to LOS Conditions
Existing Condition
A (B) = am (pm)

N

Source: Fehr & Peers Associates, 1996

Existing Freeway Level of Service

DOD Housing Faciity
Novato, California

Figure 3-17

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State Route 37

State Route 37 links Novato to the Napa and Sonoma Valleys. The highway provides four travel lanes in the project area. State Route 37 currently operates with little or no delay during all time periods. Appendix Table G-3 summarizes the existing operational characteristics of State Route 37 during peak hour periods.

3.10.2 Local Circulation

In this section, the operational characteristics of the local and DODHF Novato internal circulation systems are described. The streets within and serving DODHF Novato are classified as freeways, primary arterials, secondary arterials, primary collectors, or local streets. Functional classification of the streets within and serving DODHF Novato are shown on Figure 3-18. Table G-4 in Appendix G provides definitions for each of the functional classifications.

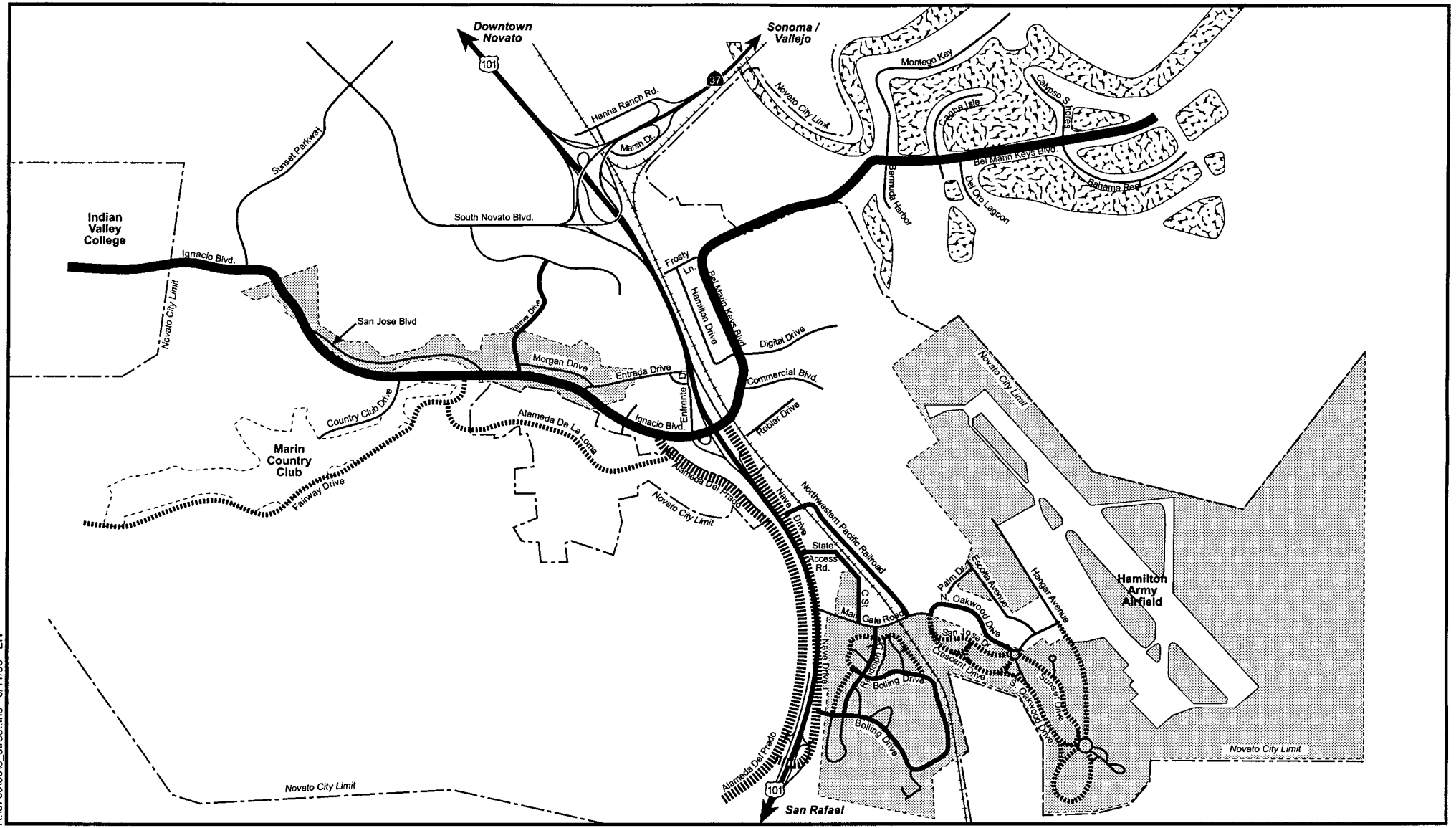
Local Roadways

The primary local roadways providing access to the Main Site and Rafael Village are Ignacio/Bel Marin Keys Boulevard, Nave Drive, Alameda del Prado, and Enfrente Boulevard. Each of these roadways is described below.

Ignacio/Bel Marin Keys Boulevard

Ignacio/Bel Marin Keys Boulevard is the most heavily used east-west arterial in the project area, providing the major connection to US 101. Figure 3-18 shows the alignment of the Ignacio/Bel Marin Keys Boulevard corridor within the project area. In addition, much of the traffic from Nave Drive and Alameda del Prado feed onto Ignacio Boulevard to reach US 101 or access other areas of southern Novato. To the west, Ignacio Boulevard provides access to Indian Valley College but also can be used as a connection to Central Novato via Sunset Parkway or Palmer Drive. Along its length, Ignacio Boulevard provides four travel lanes (two in each direction), left-turn lanes at most intersections, and a continuous bicycle lane and sidewalks. It has a posted speed of 45 miles per hour (MPH) near its interchange with US 101.

On the east side of US 101, Ignacio Boulevard becomes Bel Marin Keys Boulevard, which provides access to the Bel Marin Keys industrial area and the Bel Marin Keys residential area. Nearest to US 101, Bel Marin Keys Boulevard also provides four travel lanes (two in each direction), left-turn lanes at most intersections, and a continuous bicycle lane and sidewalks. It has a posted speed limit of 35 MPH along most of its length.



Roads are classified based on their function, access restrictions, speed limit, and parking restrictions.

Legend:
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Street

N

Source: Fehr & Peers Associates, 1996

Existing Street Classifications

DOD Housing Facility
Novato, California

Figure 3-18

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Nave Drive

Nave Drive is a frontage road on the east side of US 101 providing two lanes (one in each direction) along its length except near its intersection with Ignacio Boulevard, where it widens to four lanes. Figure 3-18 shows the alignment of Nave Drive within the project area. Nave Drive has a posted speed limit of 35 MPH except near the Ignacio interchange where the posted speed increases to 40 MPH. All vehicular traffic with origins or destinations at the Main Site currently use Nave Drive. Both commercial and residential uses are served by Nave Drive, and parking is prohibited.

Alameda del Prado

Alameda del Prado is a frontage road on the west side of US 101 providing two travel lanes. Figure 3-18 shows the alignment of this facility within the project area. The southern half of Alameda del Prado, near the US 101 southbound ramps, is a commercial area with no parking permitted and a posted speed limit of 45 MPH. The northern half of the road traverses a residential area where the posted speed limit is 25 MPH, parking is permitted on-street, and opposing travel lanes are separated by a raised landscaped median.

Enfrente Boulevard

Enfrente Boulevard is a very short segment of street providing a connection between the US 101 southbound off-ramp at Entrada/Enfrente to Ignacio Boulevard. Enfrente Boulevard provides two travel lanes with turn lanes and channelization provided to side streets and commercial uses along its length. It has a posted speed limit of 45 MPH.

State Access Road

State Access Road provides direct access to the Main Site. Although this facility is internal to the project, it operates under the ownership of the New Hamilton Partnership (NHP). State Access Road currently functions as a primary collector providing one through lane in each direction. No parking is provided. Under the NHP Master Plan, State Access Road will be terminated at the rail tracks. Current volumes on the road are estimated at about 2,350 vehicles per day.

Main Gate Road

Main Gate Road also provides direct access to the Main Site and operates under the jurisdiction of the New Hamilton Partnership. Main Gate Road functions as a primary collector providing one through lane in each direction, turn pockets at most intersections and significant channelization at its

intersection with Nave Drive. No parking is provided. Main Gate Road is currently under construction; hence, limited traffic is permitted to use this facility. However, under normal operating conditions, traffic volumes on the road are estimated at about 5,200 vehicles per day.

Internal Roadways - Main Site

The primary collectors providing access to the Main Site are Palm Drive, Randolph Drive, Bolling Drive, and Escolta Avenue. Each of these roads is described below.

Palm Drive

When Main Gate Road crosses the Northwest Pacific railroad (NWP) at its grade-separated overcrossing, it becomes Palm Drive. Currently Palm Drive provides two travel lanes (each is only 12 feet wide on the NWP bridge), no parking, and limited pedestrian and bicycle access across the NWP bridge (there is a wooden pedestrian bridge on the north side only). Its intersection with Escolta Avenue is very atypical and fully channelized with a series of merge areas but no turning conflicts. Functioning as a half traffic circle might, no operational problems were observed at this location. However, its intersection to Oakwood Avenue is a two-way stop with severe approach angles. In addition, there are sight and turning radii problems with this intersection.

Randolph Drive

Randolph Drive is a primary collector between Main Gate Road and Bolling Drive. It provides one travel lane in each direction, continuous sidewalks and striped pedestrian crossings at intersections.

Bolling Drive

Bolling Drive is another primary collector in the area. It is open during both peaks and provides two travel lanes, parking on both sides of the street, and sidewalks. Traffic volumes (1995 counts) on Bolling Drive are estimated at less than 3,000 daily vehicles. However, with the recent closure of Main Gate Road, Bolling Drive is fully functional throughout the day, with most of the Main Gate traffic shifting to Bolling Drive.

Escolta Avenue

Escolta Avenue functions as a primary collector providing one through lane in each direction and adequate width for parking on both sides.

Internal Roadways - Rafael Village

The major streets providing access to Rafael Village are Ignacio Boulevard, Entrada Drive, Palmer Drive, and San Jose Boulevard. Ignacio Boulevard is described in Section 3.10.2, Local Roadways (above), and the remainder of the streets are discussed below.

Entrada Drive

Entrada Drive serves as a primary collector connecting Enfrente Drive from the US 101 southbound off-ramp to Ignacio Boulevard. It provides one travel lane in each direction with parking permitted on both sides within the project area. Current daily traffic volume on Entrada Drive is about 1,700 vehicles.

Palmer Drive

Palmer Drive is a primary collector providing access from local streets to Ignacio Boulevard, but also carrying some through traffic from Redwood Boulevard. Current daily traffic volume on Palmer Drive is about 1,450 vehicles.

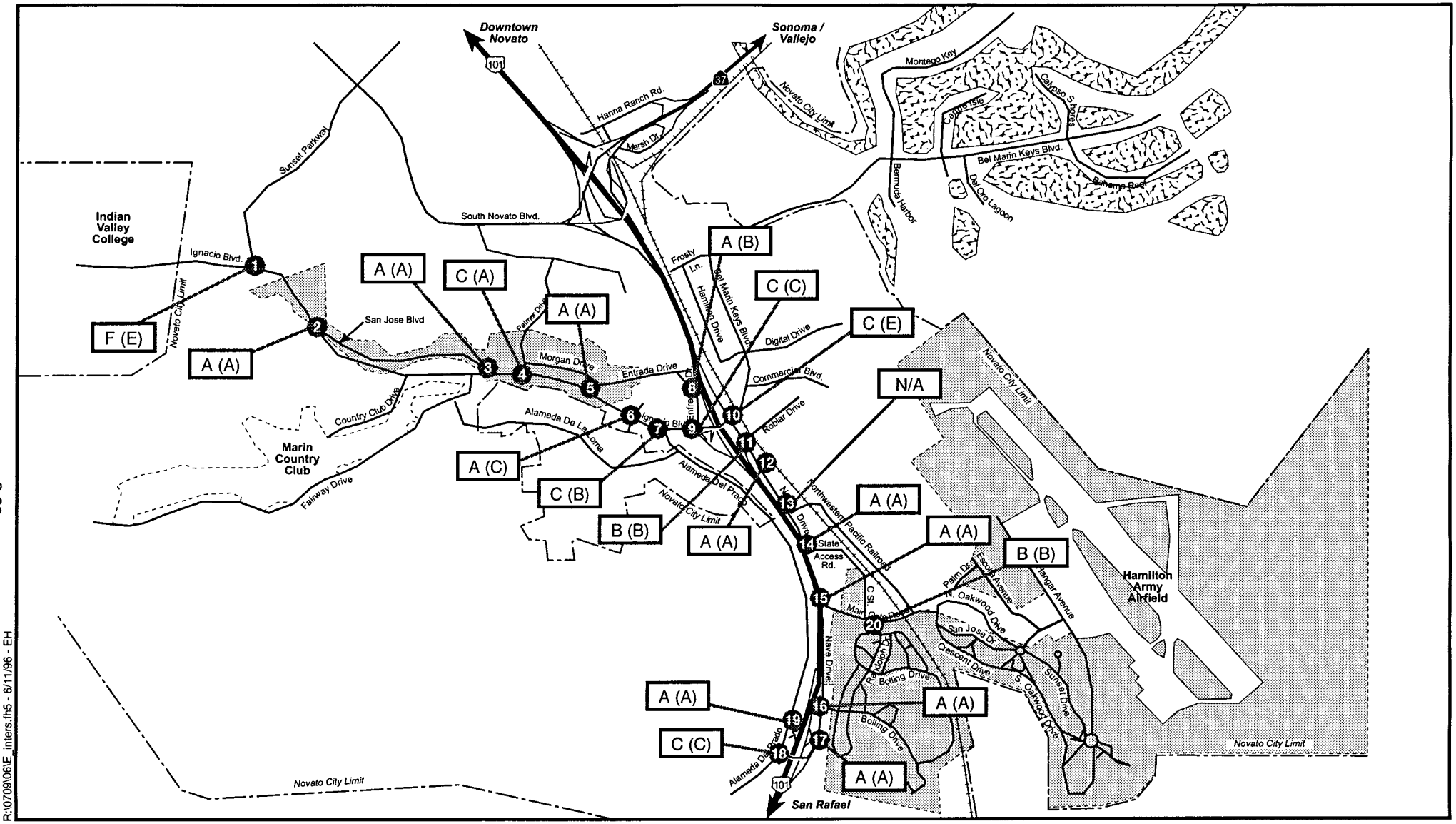
San Jose Boulevard

San Jose Boulevard is a secondary collector providing access to the houses along its frontage and to local streets. Current traffic loads are about 900 vehicles daily.

Local Roadway Intersection Operations

In assessing the local circulation system, new traffic volume data for 20 intersections within the DODHF Novato area (AM and PM peak period counts) were collected during March of 1995. These data, along with the geometric configurations of the intersections, were compared to previous data in the area and were used to assess each intersection's operations.

Intersection analysis was conducted using the 1994 Highway Capacity Manual (HCM) techniques (Transportation Research Board 1994). Appendix Table G-2 shows the level of service criteria for each technique used in this study and also provides definitions for measures of effectiveness. The City of Novato designates level of service D as the lowest acceptable level of service. Appendix Figure G-1 presents the intersection location, and Figures G-2 and G-3 present existing intersection turning movement volumes, geometries, and levels of service. Figure 3-19 shows the existing intersection operations for the study intersections. Most of the key intersections operate at acceptable levels of service, with the exception of the following three:



3-99

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Twenty intersections within the DODHF Novato area were examined in March, 1995. All but three of the intersections operated at acceptable levels of service.

Key to LOS Conditions

Existing Condition

A (B) = am (pm)

N

Source: Fehr & Peers Associates, 1996

Existing Intersections Operations

DOD Housing Facility
Novato, California

Figure 3-19

Ignacio Boulevard @ Sunset Parkway (Figure 3-19, Node 1)

This intersection is all-way stop controlled with multiple lanes on all approaches. Under current conditions, vehicles experience considerable delays during the peak hours, waiting nearly 90 seconds during the AM peak hour and 40 seconds during the PM peak hour, before being able to traverse the intersection. This level of delay constitutes LOS F and E conditions, respectively. However, no operational or safety issues were observed at this intersection, so the current impact to drivers at this intersection is limited to delay. In other words, although side street traffic experiences considerable delays, adequate gaps in traffic eventually allow side street traffic to enter Ignacio Boulevard safely.

Ignacio Boulevard @ Safeway Access (Figure 3-19, Node 6)

This is a four-legged two-way stop controlled intersection. The intersection operates at LOS A and C during the AM and PM peak hours, respectively. This reported LOS is based on a weighted average of delay at individual turning movements. The east-west traffic on Ignacio Boulevard experiences no delay (it is not controlled) and represents the bulk of the traffic at the intersection, hence a weighted average of delay yields LOS C conditions during the PM peak hour. However, on the southbound approach (the Safeway driveway) during the PM peak hour, vehicles wait an average of about one minute before getting out onto Ignacio Boulevard.

Signal warrants analysis conducted by the City of Novato at this intersection has shown that this intersection would warrant a traffic signal. However, meeting signal warrants is not in itself a justification for installing a signal. Signalization needs to be considered in the content of its impact on overall circulation and traffic safety in the area. The introduction of a signal at this location would generate greater delays and potentially higher incidence of accidents on Ignacio Boulevard. This potential needs to be evaluated against the possible time saved by traffic using side streets.

Ignacio Boulevard @ Nave Drive (Figure 3-19, Node 10)

This signalized intersection operates at LOS E during the PM peak hour. This condition results from the sheer volume of traffic on every approach to the intersection.

3.10.3 Transit Facilities and Service

Transit Service

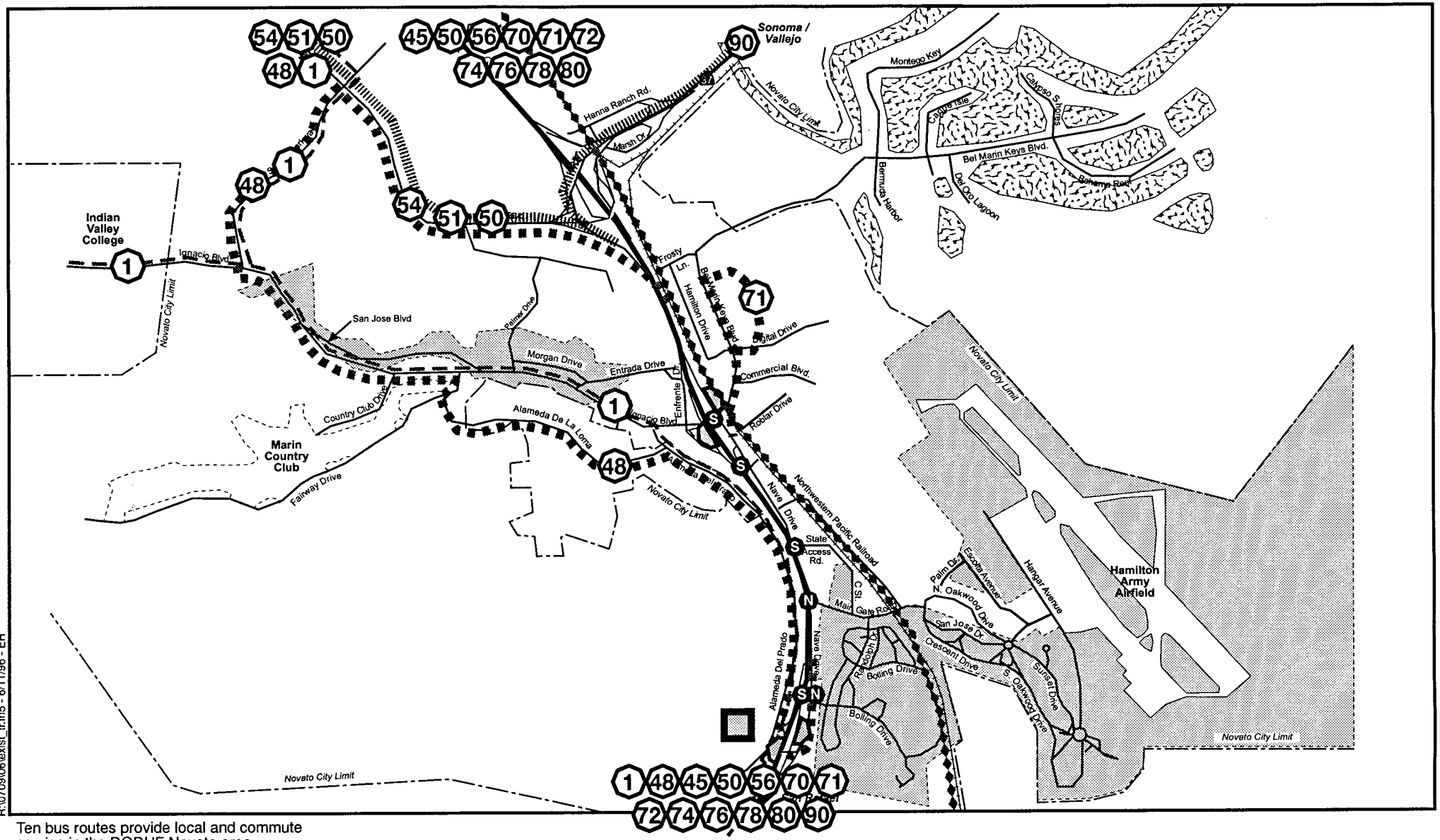
The GGBHTD, in cooperation with the Marin County Transit District (MCTD), is charged with providing transit service in Novato. Current transit facilities in the project area include bus stops on Nave Drive and Alameda del Prado, served by local and regional bus service, and a Caltrans park and ride lot on Alameda del Prado at the southbound US 101 ramps. The park and ride lot provides an estimated 110 parking spaces and has been observed to be 100 percent occupied by 7:00 AM. Figure 3-20 shows the location of the park and ride lot. This level of occupancy, as well as observed parking violations by drivers creating spaces, are indicative of demand for the parking lot exceeding the supply of parking spaces.

Bus routes in the area include Routes 1, 48, 50, 51, 52, 54, 70, 71, 80, and 90. Route 1, which stops along Alameda del Prado and Ignacio Boulevard, provides local bus service to central Novato, Indian Valley College, and key San Rafael destinations. Figure 3-20 shows the existing transit routes serving the project area. Route 1 has a number of stops and generally uses local streets resulting in long travel times, hence it is mainly used for local trips. Routes 48, 51, 52, 54, and 71 provide commute service from bus pads at the Ignacio Boulevard Interchange and travel into San Francisco or provide connections to ferries serving San Francisco. Route 48 also has stops along Ignacio Boulevard in Rafael Village. Routes 50, 70, 80, and 90 provide daily service to San Francisco with bus pads at the Ignacio and Alameda del Prado Interchanges. Route 50 also serves bus pads along Nave Drive adjacent to Main Gate.

The New Hamilton Partnership improvements include improving bus pads on Nave Drive and upgrading on-site roadways to accommodate future bus service.

Northwest Pacific (NWP) Right-of-Way

The NWP is an inactive railroad right-of-way through Hamilton Field. It is owned by the GGBHTD. The NWP provides a potential opportunity to the people of Marin and Sonoma Counties for use as a transitway. Figure 3-20 shows the alignment of this potential transitway. One of the major components of the Sonoma-Marin Transportation and Land Use Study is to look at the potential use of this corridor for commuter rail, and maybe even to improve its feasibility by adopting or encouraging land use patterns that would support its use as a transitway.



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Ten bus routes provide local and commute service in the DODHF Novato area.

Legend:

- Basic Bus Route
- Commute Bus Route
- Local Bus Route
- Potential Rail Transit
- Park & Ride Lot
- Existing Bus Pads
- Proposed Bus Pads along Nave Drive (N Northbound, S Southbound)

N

Source: Fehr & Peers Associates, 1996

Existing Transit Routes and Park and Ride Lots

DOD Housing Facility
Novato, California

Figure 3-20

In addition, Caltrans recently completed a feasibility study of the NWP corridor between Eureka and Corte Madera (Caltrans 1994). The Caltrans study did not specifically address the use of the corridor for commuter rail, but it did find that a very basic passenger rail service could be feasible in the area.

3.10.4 Pedestrian and Bicycle Circulation

The majority of streets in the project area provide four- to six-foot sidewalks and intersection crosswalks. Pedestrians in the project area are well served with these amenities, with the exception of the bridge crossing the NWP on Main Gate Road/Palm Drive. There is an old wooden pedestrian bridge on the north side but no pedestrian access on the south side of the bridge.

Pedestrian actuated signals are in place at the Ignacio and Bel Marin Keys intersections with US 101. Pedestrian activity was observed to be low during the AM and PM peak periods in the vicinity of the Ignacio Boulevard/US 101 intersection.

The project area is generally well served by Class II bikeways. A Class II bikeway provides a striped lane with a standard four-foot travel width, for one-way bike travel on a street or highway. Ignacio Boulevard, Alameda del Prado, and sections of Bel Marin Keys Boulevard provide Class II bikeways on both sides of the street. Both the Ignacio Boulevard overcrossing and the Bel Marin Keys overcrossing provide bike lanes in both directions. Nave Drive has bike lanes in both directions between Bolling Drive and State Access Road and from a point south of Roblar to Ignacio Boulevard.

3.10.5 Transportation Plans and Regulations

DODHF Novato is located within the City of Novato. As such, when the military releases control of the property, the city would take responsibility for the maintenance and operation of transportation facilities. In addition, reuse plans would be subject to the approval processes of the City of Novato. Improvements identified for cumulative conditions (Chapter 5) would require the approval of the city, and the implementation of these improvements would be the responsibility of the City of Novato.

The analysis approach and techniques employed for this transportation analysis are consistent with the requirements of the City of Novato. Significance criteria and LOS standards (LOS D) are consistent with previous work performed in the City of Novato for the Hamilton Field area. In addition, the city's recently adopted General Plan traffic forecasts (Preferred General Plan scenario) were used to represent future baseline conditions.

US 101 and SR 37 are owned and maintained by Caltrans, as are on- and off-ramps to these facilities and the park and ride lot on Alameda del Prado. Any mitigation identified for these facilities would require Caltrans' approval and would be the responsibility of Caltrans. It should also be noted that where on-ramp improvements have been required, Caltrans has also required that on-ramps be reconstructed to accommodate ramp metering.

3.11 AIR QUALITY

The ROI appropriate for air quality issues varies with the type of air pollution discussed. Primary pollutants, such as carbon monoxide and directly emitted particulate matter, have localized regions of influence generally restricted to the immediate vicinity of the emission source. Secondary pollutants, such as ozone and secondary particulate matter, have an ROI that includes the entire metropolitan San Francisco Bay Area.

3.11.1 Climate and Meteorology

Novato experiences a Mediterranean type climate characterized by mild temperature conditions. Daily temperature variations are typically 40 degrees Fahrenheit to 60 degrees Fahrenheit during the winter and 50 degrees Fahrenheit to 80 degrees Fahrenheit during the summer. Annual precipitation averages about 28 inches per year, with most precipitation occurring from October through April (Novato 1995d).

The prevailing wind direction in the Novato area is from the northwest. Mean wind speeds range from five to 10 mph, with calm winds occurring 31 percent of the time (California Air Resources Board 1984).

3.11.2 Ambient Air Quality Standards

Both the state of California and the federal government have established ambient air quality standards for several different pollutants (Table 3-20). Pollutants covered by federal or state ambient air quality standards often are referred to as criteria pollutants. As indicated in Table 3-20, ambient standards for some criteria pollutants have been set for both short and long periods. Most ambient air quality standards have been set to protect public health. State ambient air quality standards for some pollutants are based on other considerations (e.g., protection of crops, materials, or avoidance of nuisance conditions). Air quality standards for particulate matter are based on the inhalable component of suspended particulate matter.

3.11.3 Existing Air Quality Conditions

The California Air Resources Board (CARB) monitors air quality throughout California. There is one monitoring station to monitor gaseous and particulate matter in Marin County, located in San Rafael, approximately seven miles south of Rafael Village. The 1991, 1992, 1993, and 1994 monitoring results for pollutants of concern in the Bay Area, including ozone, carbon monoxide, and inhalable particulate matter, are shown in Table 3-21. The Bay Area has experienced exceedances of federal or state standards for these pollutants in the past.

Table 3-20
Ambient Air Quality Standards Applicable in California

Pollutant	Symbol	Averaging Time	Standard, as parts per million by volume		Standard, as micrograms per cubic meter		Violation Criteria	
			California	Federal	California	Federal	California	Federal
Ozone	O_3	1 Hour	0.09	0.12	180	235	If exceeded	If exceeded on more than 3 days in 3 years
Carbon Monoxide	CO	8 Hours	9.0	9	10,000	10,000	If exceeded	If exceeded more than 1 day per year
Inhalable Particulate Matter	PM_{10}	Annual Geometric Mean	—	—	30	—	If exceeded	
		Annual Arithmetic Mean	—	—	—	50		
		24 Hours	—	—	50	150	If exceeded	If exceeded more than 1 day per year
Nitrogen Dioxide	NO_2	Annual Average	—	0.053	—	100		If exceeded
		1 Hour	0.25	—	470	—	If exceeded	
Sulfur Dioxide	SO_2	Annual Average	—	0.03	—	80		
		24 Hours	0.04	0.14	105	365	If exceeded	If exceeded more than 1 day per year
		1 Hour	0.25	—	655	—	If exceeded	
Lead Particles	Pb	Calendar Quarter	—	—	—	1.5		If exceeded more than 1 day per year
		30 Days	—	—	1.5	—	If equaled or exceeded	
Sulfate Particles	SO_4	24 Hours	—	—	25	—	If equaled or exceeded	
Hydrogen Sulfide	H_2S	1 Hour	0.03	—	42	—	If equaled or exceeded	
Vinyl Chloride	C_2H_3Cl	24 Hours	0.010	—	26	—	If equaled or exceeded	

Notes: All standards are based on measurements at 25 degrees C and 1 atmosphere pressure.
Decimal places shown for standards reflect the rounding precision used for evaluating compliance.
National standards shown are the primary (health effects) standards.

Source: California Air Resources Board 1993a

Table 3-21
Summary of Recent Air Quality Monitoring Data for Marin County

Pollutant	Parameter	1991	1992	1993	1994
Ozone	Peak 1-hour value (ppm)	0.08	0.07	0.08	0.09
	Days above federal standard	0.0	0.0	0.0	0.0
	Days above state standard	0.0	0.0	0.0	0.0
Carbon Monoxide	Peak 1-hour value (ppm)	10.0	8.0	9.0	6.0
	Peak 8-hour value (ppm)	5.7	5.0	4.0	3.0
	Days above federal standard	0.0	0.0	0.0	0.0
	Days above state standard	0.0	0.0	0.0	0.0
Inhalable Particulate Matter (PM_{10})	Peak 24-hour value ($\mu g/m^3$)	115.0	63.0	69.0	72.0
	Annual geometric mean ($\mu g/m^3$)	26.4	22.0	21.3	21.6
	Annual arithmetic mean ($\mu g/m^3$)	30.4	24.5	23.3	24.1
	Number of 24-hour samples	60.0	61.0	61.0	61.0
	% of samples above federal standard	0.0%	0.0%	0.0%	0.0%
	% of samples above state standard	16.7%	8.2%	1.6%	6.5%

Notes: All data from the Marin County-San Rafael monitoring station.
ppm = parts per million by volume.
$\mu g/m^3$ = micrograms per cubic meter.
Federal 1-hour ozone standard is 0.12 ppm; state 1-hour ozone standard is 0.09 ppm.
Federal 1-hour carbon monoxide standard is 35 ppm; state 1-hour carbon monoxide standard is 20 ppm.
Federal 8-hour carbon monoxide standard is 9 ppm; state 8-hour carbon monoxide standard is 9.0 ppm.
Federal PM10 standards: 50 $\mu g/m^3$, annual arithmetic mean; 150 $\mu g/m^3$, 24-hour average.
State PM10 standards: 30 $\mu g/m^3$, annual geometric mean; 50 $\mu g/m^3$, 24-hour average.

Source: California Air Resources Board 1991a; California Air Resources Board 1992a; California Air Resources Board 1993a; California Air Resources Board 1994.

As Table 3-21 indicates, no exceedances of federal standards have occurred in the four most recent years of monitoring. The state PM_{10} standard has been exceeded a few times in each of the past four years.

3.11.4 Air Emission Sources at DODHF Novato

As a housing and community services facility, Novato has no major industrial emission sources. Primary sources of air pollution associated with residential use include space and water heaters, household paints and solvents, fireplaces and woodstoves, and lawn mowers and other equipment. Vehicle emissions constitute the largest source of air emissions at DODHF Novato.

3.11.5 Air Quality Planning

Federal Requirements

The federal Clean Air Act imposes deadlines for achieving the federal ambient air quality standards. These deadlines vary according to the severity of existing air quality problems. The San Francisco Bay Area was recently reclassified from a moderate nonattainment area to a maintenance area for the

federal ozone standard. The urbanized portions of the San Francisco Bay Area are presently categorized as moderate nonattainment areas for the federal carbon monoxide standards. The Bay Area currently is not classified for the federal inhalable particulate matter standard.

The Bay Area Air Quality Management District (BAAQMD), the agency responsible for achieving and maintaining the federal and state standards for the Bay Area, believes that the San Francisco Bay Area has also achieved the federal carbon monoxide and inhalable particulate matter standards, and the BAAQMD has requested redesignation to an attainment status for these pollutants. Final action on the carbon monoxide redesignation request is expected in 1996. A formal designation of the San Francisco Bay Area as being in attainment of the federal inhalable particulate matter standard also is expected to occur within the year.

State Requirements

The California Clean Air Act of 1988, as amended requires air pollution control districts and air quality management districts to develop air quality management plans for meeting state ambient air quality standards for ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2) and nitrogen dioxide (NO_2). CARB is responsible for developing a plan for meeting state PM_{10} standards.

The California Clean Air Act does not set specific deadlines for achieving state air quality standards. Instead, attainment is required "as expeditiously as practicable," with various mandated emission control program requirements based on the nonattainment classification for ozone and carbon monoxide.

3.11.6 Regulatory Considerations

Air pollution control programs were established in California prior to the enactment of federal requirements. Responsibility for air quality management programs in California is divided between CARB as the primary state air quality management agency and air pollution control districts as the primary local air quality management agencies. Federal Clean Air Act legislation in the 1970s resulted in a gradual merger of local and federal air quality programs, particularly industrial source air quality permit programs.

The roles and responsibilities of both CARB and local air pollution control districts have been expanded by the California Clean Air Act of 1988. Local air pollution control districts also have been given added responsibility and authority to adopt transportation control measure programs and emission reduction programs for indirect and areawide emission sources.

Air Quality Permits

Many types of industrial and commercial facilities require air quality permits for their equipment and operations. The BAAQMD has the primary air quality permit authority throughout the San Francisco Bay Area. Permit authority is derived from a combination of state and federal legislation and can be categorized into construction or installation authorizations for individual pieces of equipment and permits for continued operation of equipment and facilities.

In general, federally-required air quality permit programs have been integrated into the pre-existing state and local permit program. This results in a two-step permit process—an initial authority to construct permit and a subsequent permit to operate.

Clean Air Act Conformity Requirements

Section 176 of the Clean Air Act requires federal agencies to ensure that their actions are consistent with the Clean Air Act and with federally enforceable air quality management plans. EPA has promulgated separate rules that establish conformity analysis procedures for transportation-related actions and for other (general) federal agency actions.

A formal conformity determination is required for federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The federal nonattainment and maintenance pollutants subject to conformity analyses in the San Francisco Bay Area are ozone precursors (reactive organic compounds and nitrogen oxides) and carbon monoxide. Applicable threshold levels for federal actions in the San Francisco Bay Area are 100 tons per year of reactive organic compounds, 100 tons per year of nitrogen oxides, and 100 tons per year of carbon monoxide.

Certain federal actions, such as transfers of ownership, interests and titles in land, facilities, and real and personal properties are exempt from the General Conformity rule (40 CFR51.853[c]). Subsequent reuse by a federal agency to which the property, in this case a portion of DODHF Novato, is transferred, would require that agency to determine the applicability of the General Conformity Rule to its action.

Lease arrangements may also be subject to the requirements of the conformity rule (depending on the extent to which lease terms allow the Navy to control the activities of the lessee) and are subject to Navy evaluation of conformity as part of the separate NEPA analysis that would be done for potential interim leases.

3.12 NOISE

The decrease in noise levels with increasing distance from the noise source results in a fairly limited ROI for noise issues. For this EIS, the overall ROI is the City of Novato. A more localized ROI is appropriate for some discrete noise sources; such localized areas of influence are generally within one-half mile of the noise source.

3.12.1 Noise Terminology

Sound travels through the air as waves of minute air pressure fluctuations caused by some type of vibration. Sound level meters measure pressure fluctuations from sound waves, with separate measurements made for different sound frequency ranges. These measurements are reported in a logarithmic decibel (dB) scale. Because the human ear is not equally sensitive to all frequencies, the "A-weighted" decibel scale (dBA) is used to weight the meter's response to approximate that of the human ear.

Equivalent noise levels (Leq) are used to develop single-value descriptions of average noise exposure over various periods. Average noise exposure over a 24-hour period is often presented as a community noise equivalent level (CNEL) or as a day-night average noise level (Ldn). CNEL values are calculated from hourly Leq values, with the Leq values for the evening period (7 PM to 10 PM) increased by five dB and Leq values for the nighttime period (10 PM to 7 AM) increased by 10 dB. Ldn values are very similar to CNEL values but do not include any weighting factor for evening period noise levels. The weighting of evening and nighttime noise levels reflects the greater disturbance potential from nighttime noises.

3.12.2 Existing Noise Conditions

Sensitive Receptors

Sensitive receptors are land uses such as residences, schools, libraries, hospitals, and other similar uses that are considered to be sensitive to noise. Sensitive on-site noise receptors in the DODHF Novato area include the DODHF Novato housing sites (Rafael Village and Capehart Housing) and Hamilton Elementary School. Sensitive off-site noise receptors include USCG Spanish Housing, the childcare center in the Spanish Housing area, the Lanham Village residential development located adjacent to the DODHF Novato Main Site, and parks, residences, and San Jose Middle School located off Ignacio Boulevard. These sites are depicted on Figures 3-1 and 3-2 in Section 3.1, Land Use, in this EIS.

Noise Conditions

The primary source of noise at the Main Site and Rafael Village areas is vehicular traffic. Roadways in the DODHF Novato area include US 101, Ignacio Boulevard, Nave Drive, Main Gate Road, and State Access Road (see Figure 3-18). Occasional aircraft flight activity from the former Hamilton Army Airfield is not a significant contributor to noise levels in the area. The railroad right-of-way through the Main Site is also not a contributor to noise levels because it is not currently active.

The City of Novato General Plan reports noise levels of 65-70 Ldn along Nave Drive and Ignacio Boulevard (Novato 1995b). The US Army estimated existing noise levels of 53-67 Ldn at DODHF Novato residential areas, 56-68 Ldn at Lanham Village, 58-68 Ldn at Hamilton School, and 55-68 Ldn for residences west of US 101 (US Army 1996). The noise level in each area depends upon the proximity to US 101.

3.12.3 Noise Level Guidelines

Federal Agency Guidelines

The federal Noise Control Act of 1972 (Public Law 92-574) established a requirement that all federal agencies must comply with applicable federal, state, interstate, and local noise control regulations. Federal agencies also were directed to administer their programs in a manner that promotes an environment free from noise that jeopardizes public health or welfare.

The Department of Defense evaluates the acceptability of noise levels at military installations according to three noise level zones—CNEL levels below 65 dB (Zone 1), CNEL levels of 65-75 dB (Zone 2), and CNEL levels above 75 dB (Zone 3). All land uses are considered compatible with Zone 1 noise levels. Educational and residential land uses generally are not compatible with Zone 2 noise levels unless special acoustic treatments and designs are used to ensure acceptable interior noise levels. Residential and educational land uses are not compatible with Zone 3 noise levels. Industrial and manufacturing land uses may be acceptable in Zone 3 areas if special building designs and other measures are implemented.

State Agency Guidelines

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures. These standards require that hotels, motels, and multiple-unit dwellings be constructed so that outdoor noise sources will not cause interior noise levels to exceed an annual average CNEL value of 45 dB with the windows closed.

The California Department of Health Services (1987) has published guidelines for the noise element of local general plans. These guidelines include a noise level/land use compatibility chart that categorizes various outdoor CNEL ranges into as many as four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use.

The state noise element guidelines chart identifies normally acceptable noise levels for low-density residential uses as CNEL values below 60 dB. The normally acceptable range for high-density residential uses is identified as CNEL values below 65 dB. For educational and medical facilities, CNEL values of 60 to 70 dB are identified as conditionally acceptable. For office and commercial land uses, CNEL values of 67.5 to 77.5 are categorized as conditionally acceptable.

Novato General Plan

Novato has adopted noise standards that are at least as strict as the state standards in the Safety and Noise Element of the City of Novato General Plan (Table 3-22). The General Plan contains objectives, policies, and programs to reduce noise levels in the Novato area. The applicable objectives include the following:

Objective 11: Ensure compatibility of new development with existing and future noise levels.

Objective 12: Prevent land uses that increase the noise level above acceptable standards or require mitigation to reduce noise to acceptable standards.

Objective 13: Reduce noise to acceptable levels where it now exceeds those standards whenever possible.

In addition to these three objectives, the General Plan contains policies to maintain noise and land use compatibility standards and to mitigate noise impacts.

Table 3-22
Noise and Land Use Compatibility Standards

LAND USE CATEGORY	Sound Levels and Land Use Consequences (see explanation below) L_{dn} Value in Decibels 55 60 65 70 75 80
RESIDENCES, HOTELS, AND MOTELS	
OUTDOOR SPORTS AND RECREATION, NEIGHBORHOOD PARKS AND PLAYGROUNDS	
SCHOOLS, LIBRARIES, MUSEUMS, HOSPITALS, PERSONAL CARE, MEETING HALLS, CHURCHES	
OFFICE BUILDINGS, BUSINESS COMMERCIAL, AND PROFESSIONAL	
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS	
INDUSTRIAL, MANUFACTURING, UTILITIES, AND AGRICULTURE	

Source: City of Novato 1995b

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

3.13 HAZARDOUS MATERIALS AND WASTE

DODHF Novato has been operated as a military installation since the early 1930s. Its primary use has been for military personnel housing, with support and service areas for the housing and for other base activities. These activities have included vehicle and building maintenance and fueling and have involved the storage and use of hazardous materials. The age of most DODHF Novato buildings also presents the potential for the presence of lead-based paints and asbestos-containing materials (ACM).

DOD policy requires the preparation of an environmental baseline survey (EBS) prior to the sale, lease, or transfer of real property. The EBS is a preliminary evaluation and summary of all known and suspected areas where hazardous substances or petroleum products have been handled, stored, disposed of, or released within the boundaries of DODHF Novato and adjacent areas. The EBS for DODHF Novato (US Navy 1995a) documented the environmental conditions of real property at DODHF Novato and adjacent properties. It also documented storage tanks, asbestos, pesticides and herbicides, PCBs, radon, lead, storm water discharge, and air emissions. DODHF Novato parcels were given one of seven BRAC classifications based on storage, release, disposal, or migration of hazardous substances. The EBS also is used to meet the requirements of the Community Environmental Response Facilitation Act (CERFA). Uncontaminated parcels were also identified by this classification process (as Type 1, "CERFA-Clean").

CERFA requires a process and schedule for identification of uncontaminated sites. The final DODHF Novato basewide EBS, developed in cooperation with the regulatory community, identified 35 of 128 parcels as "CERFA-Clean." These 35 parcels have received formal written concurrence from regulatory agencies.

A phase 1 supplemental EBS is being developed to incorporate additional data and investigation results not incorporated in the Final Basewide EBS. This new information will result in reclassification of parcels that will be suitable for transfer.

The BRAC Cleanup Plan (BCP) for a closing base documents the status of environmental restoration and associated compliance programs. The BCP for DODHF Novato (US Navy 1995b) was completed in March 1995 and was updated in March 1996 (US Navy 1996a). The BCP provides an evaluation of the status of various cleanup programs and summarizes the items that require further evaluation and compliance. It provides a plan and schedule for remediation. The document is intended to be updated annually or as necessary, recording the changing conditions and level of completion of these restoration programs until restoration is complete.

The hazardous materials and waste information provided in this section reflects the most current data available for each area of concern. Information is based primarily on survey data from the EBS and BCP. Where applicable, the description of hazardous materials at DODHF Novato has been organized by reuse area, consistent with the Reuse Plan.

The region of influence relative to hazardous materials and waste is DODHF Novato and any surrounding areas that may have been affected by hazardous materials or hazardous wastes originating at DODHF Novato or from which hazardous materials or wastes could migrate onto the facility. The off-site Rafael Village housing area is included in the region of influence.

3.13.1 Hazardous Materials Regulations

The following is a brief discussion of the major federal laws and regulations that apply to hazardous materials and waste at DODHF Novato.

Resource Conservation and Recovery Act. In response to the need to more closely regulate the on-going handling, storage, transportation, and disposal of hazardous wastes, the US Congress passed the Resource Conservation and Recovery Act (RCRA) of 1976. RCRA presents the federal regulations for the operation of hazardous waste storage, treatment, and disposal sites. Prior to RCRA, the state of California had passed the Hazardous Waste Control Law (HWCL) in 1972. This law provides regulations that equal or exceed the federal standards set by RCRA for hazardous waste management. The state of California was given "interim authorization" to implement RCRA through enforcement of the HWCL. Final authorization for the state to implement RCRA was given in 1993. The responsible agency for enforcement of RCRA and HWCL is the California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control.

Comprehensive Environmental Response, Compensation, and Liability Act. Originally passed in 1980, CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. CERCLA formalized the process for identification of sites and the prioritization for the clean-up of sites through the National Contingency Plan. It contains criteria for the evaluation of sites that provide the basis for the preliminary assessment and site inspection. The evaluation results in a priority ranking of the site that determines whether it should be placed on the National Priorities List (NPL). Facilities placed on the NPL are commonly referred to as "Superfund" sites. CERCLA was amended and strengthened by the Superfund Amendments and Reauthorization Act of 1986 (SARA). SARA retained the structure and objectives of CERCLA requirements, expanded the scope of hazardous waste cleanup and the size of the Superfund, and imposed stricter and more specific cleanup requirements.

As noted previously, DODHF Novato is not on the NPL and the EPA has not recommended that the site be included on the NPL.

Community Environmental Response Facilitation Act. Congress amended CERCLA in 1992 through the passage of CERFA. The purpose of CERFA is to expedite the identification of uncontaminated real property within closing federal facilities that offer the greatest opportunity for reuse and redevelopment. Uncontaminated, or "CERFA-Clean," property is defined as any real property on which no hazardous substances and no petroleum products known to have been released, or were not disposed of. Federal property may be transferred if the property is suitable for the intended use, the intended use is consistent with the protection of health and the environment, adequate notice has been given, the transfer will not substantially delay necessary response action, and response action assurances are given.

Identification of uncontaminated properties at DODHF Novato is the responsibility of the Navy. EPA is the regulatory authority for enforcement of CERCLA, including the CERFA amendments. However, the EPA has joined with the California EPA (Cal EPA) in the implementation of CERFA for DOD facilities in California. Cal EPA serves as the lead agency for closures of military bases within California, including DODHF Novato, that are not listed on the NPL. Cal EPA generally follows EPA guidance for CERCLA sites.

The DOD, with regulatory participation, can develop a site-specific or supplemental environmental baseline survey, or in specific cases, use the basewide EBS and a Finding of Suitability to Lease (FOSL) or Finding of Suitability to Transfer (FOST) for properties that contain or potentially contain contamination. 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. A FOST may be issued for properties on which all remedial actions necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken (pursuant to CERCLA 120(h)(3)). CERCLA (42 USC 9620Z(h)(3) was amended in 1996 to provide that Federal property may also be transferred under the following conditions: the property is suitable for the intended use; intended use is consistent with protection of health and the environment; adequate notice has been given; the transfer will not substantially delay necessary response action; and, response action assurances are given by the new owner.

3.13.2 Hazardous Materials Management

Storage of hazardous materials and the generation, storage, and disposal of hazardous waste is regulated by federal, state, and local agencies. Storage of hazardous materials is primarily regulated by two state laws, the Waters Bill (AB 2185) and the La Follette Bill (AB 3777). These laws are administered by local agencies and are primarily intended to inform local emergency response teams of the presence, nature, and quantities of hazardous materials use and storage.

The land on which DODHF Novato is located was used for agricultural purposes prior to its development as a military residential facility. It had not been used for industrial purposes, and the use of hazardous materials and generation of hazardous waste was, therefore, limited. The EBS identifies 14 parcels where use or storage of hazardous materials may have occurred in the past. These are described more fully in Appendix H.

Small quantities of hazardous materials will continue to be used at DODHF Novato during any needed caretaker period prior to disposal. These materials will consist predominantly of lubricants, degreasers, cleaners, and pesticides used for general maintenance activities.

By the time of closure, hazardous materials that are not required for the environmental restoration process or caretaker maintenance activities will have been collected from all designated storage areas and transferred off-site. Because only small quantities of hazardous materials presently are used or stored at DODHF Novato, the amount of these materials to be collected at closure is expected to be minimal. Materials that are not redistributed or sold will be disposed of off-site in accordance with RCRA and state requirements.

3.13.3 Hazardous Waste Management

The generation, storage, and treatment of hazardous wastes is regulated by RCRA and the California Code of Regulations, Title 22. These laws regulate all aspect of hazardous waste and are intended to minimize the possibility of releases to the environment. They are identical in their intent and are only slightly different in their approach to hazardous waste management.

DODHF Novato is listed as a small-quantity generator of hazardous waste. It is not listed in the March 1992 RCRA (EPA) database as a large quantity hazardous waste generator nor as a treatment, storage, and disposal facility. Hazardous waste generated at DODHF Novato formerly was collected and stored at a hazardous waste storage facility in Building 957. According to the BCP, this waste consisted of waste oil from shop activities. It was periodically

removed for off-site disposal. Building 957 was located in the Exchange Triangle but has been demolished.

Following base closure, very limited quantities of hazardous wastes may be generated by maintenance operations. Such wastes would be handled and disposed of following current regulatory guidelines and industry standards.

3.13.4 Installation Restoration Program

In 1981, the Chief of Naval Operations (CNO) directed the Naval Energy and Environmental Support Activity (NEESA) and the Ordnance Environmental Support Office (OESO) to initiate a program to evaluate health and environmental hazards at those naval activities associated with past hazardous material operations and waste disposal activities. This direction resulted in the Installation Restoration Program as defined currently by the Navy/Marine Installation Restoration Manual. The purpose of the Installation Restoration Program is to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous material spills at Navy and Marine Corps activities.

No Installation Restoration Program sites were identified at DODHF Novato. Investigation and any required cleanup of DODHF Novato is being conducted in accordance with BRAC requirements. Because DODHF Novato is not included on the NPL, the state of California, through the Department of Toxic Substances Control, rather than the United States EPA, is overseeing the work.

3.13.5 Asbestos

Management and handling of asbestos-containing materials (ACM) are regulated by the EPA, the Occupational Safety and Health Administration (OSHA), and the state of California. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Asbestos Hazard Emergency Response Act (AHERA) provides the regulatory basis for handling ACM in school, public, and commercial buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACM.

Renovation or demolition of buildings with ACM has the potential to release asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage of various building materials, such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other materials used for soundproofing or insulation. Only friable (crumbly) ACM, such as

those listed above, is considered a health risk. Nonfriable ACM, such as transite piping, shingles, or floor tile, are not a health risk unless they are mechanically abraded in such a way as to produce dust.

Buildings in all areas of DODHF Novato have the potential to contain ACM because of their construction during a period when asbestos was commonly used in building materials. Previous abatement and control of asbestos has been conducted only during repairs or modifications. A survey of five PWCSFB buildings at DODHF Novato was conducted in 1990. The survey found friable ACM in four buildings, Buildings 965, 969, 972, and 1000; no friable asbestos was identified in Building 960. No other buildings at DODHF Novato were surveyed at that time. The Navy has reportedly conducted spot checks for ACM at Rafael Village, and asbestos has been detected in the floor tile in the units there.

A comprehensive survey of all industrial buildings to identify damaged friable asbestos was completed by PWCSFB in August 1995. Based on the findings of the survey, abatement of damaged friable ACM was completed by PWCSFB in July 1996.

An asbestos survey of the housing units was conducted by PWC Norfolk Virginia in August 1995. The friable ACM was identified in the garages of 47 units inspected in Spanish Housing. No abatement of ACM has been done in Spanish Housing. Spanish Housing will be transferred to the Coast Guard in "as is" condition since this is a transfer to another Federal Agency.

3.13.6 Polychlorinated Biphenyls (PCBs)

PCBs occur in trace amounts in chlorinated hydrocarbon fluids used in electrical equipment, primarily in transformers and capacitors, because they are electrically nonconductive and stable at high temperatures. PCBs also have been identified in light fixtures, ballasts, certain machine shop equipment, and some solid materials.

The disposal of these compounds is regulated under TSCA, which banned the manufacture and distribution of PCBs except for PCBs used in enclosed systems. By definition, PCB equipment contains PCB concentrations of 500 ppm or more, whereas PCB-contaminated equipment contains PCB concentrations of greater than 50 ppm but less than 500 ppm. The EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment. Primary federal regulations for controlling existing PCBs are found at 40 CFR Part 761. California regulations are more stringent than their federal equivalents and are

found at California Code of Regulations Title 22. Within California, a waste fluid containing 5 ppm PCBs or more is regulated as hazardous.

All Navy shore activities that generate, treat, store, or dispose of PCBs must inventory or validate all PCBs and PCB items annually in accordance with Navy procedures and applicable federal and state regulations. DTSC regulates PCBs as a non-RCRA hazardous waste. OPNAVINST 5090.1B specifies elimination by October 1998 of all transformers containing 500 ppm or more PCBs and elimination by October 2003 of all transformers containing 50 ppm or more PCBs. At the time of base closure, transformers known to have greater than 5 ppm of PCBs may still be present at DODHF Novato. The presence of PCB-contaminated transformers or other known electrical equipment will be disclosed in FOSLs/FOSTs prior to property lease or transfer, as appropriate.

Sampling of oil-containing electrical equipment for PCBs was performed at the DODHF Novato Main Site in 1993 and 1994. Three of 183 pieces of equipment were found to contain PCBs at concentrations greater than 50 ppm. Twenty-four of the 183 pieces of equipment sampled contained between five and 49 ppm. None of the equipment contained more than 500 ppm.

The Navy is carrying out a removal program for PCB-containing equipment at DODHF Novato. All PCB-containing equipment will be removed prior to lease or transfer.

Pole-mounted, oil-filled electrical transformers owned by PG&E are present throughout Rafael Village. PG&E has carried out a PCB removal program for all of its equipment over the last several years and now states that its equipment does not contain PCBs. No visual indications of impact from transformer fluid to the ground beneath the transformers were observed during the EBS.

3.13.7 Storage Tanks and Oil/Water Separators

Both underground storage tanks (UST) and aboveground storage tanks (AST) are used to store petroleum products at locations throughout DODHF Novato. Gasoline and other petroleum products are considered hazardous substances under California Law. Because oil/water separators (OWS) are often below ground and can create environmental issues similar to USTs, they are included in this discussion.

USTs are subject to federal regulations of RCRA (40 CFR 280), as mandated by the Hazardous and Solid Waste Amendments of 1984. California has adopted regulations under Title 23, Division 3, Chapter 16 of the CCR. These regulations are more stringent than the federal regulations and require

secondary containment on both the tanks and piping systems installed after January 1, 1984. The Marin County Office of Waste Management administers the state regulations for USTs at DODHF Novato. This agency administers tank permit, installation, testing, and removal requirements (US Navy 1995b). The county requires that each existing UST be tracked by using an approved monitoring plan as specified by the county. The California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, administers investigation, remediation, and closure of USTs.

The EBS and BCP identified at least 14 locations of existing, former, or suspected USTs at DODHF Novato (US Navy 1995a, 1995b). The UST locations, size, and other data are shown in Table 3-23 and Figure 3-21.

Soil or ground water contamination has been identified at several UST removal sites. These areas and the results of soil and ground water sampling are described in full in Appendix H. All of the identified contamination sites are undergoing or are scheduled to undergo further investigation, and several tanks are scheduled for removal in April 1996. Sites found to require cleanup must be remediated by the Navy prior to disposal.

Aboveground storage tanks are regulated under California Health and Safety Code, Division 20, Section 6.7, the Uniform Fire Code, and the National Fire Protection Association regulations. The mechanism used for cleanup and prevention of spills is Senate Bill (SB) 1050 of January 1990. Regulatory control of any contamination from ASTs is by the State Water Quality Control Board. Three ASTs, listed in Table 3-24 and shown on Figure 3-21, were identified at DODHF Novato by the EBS (US Navy 1995a) and the BCP (US Navy 1996a).

OWSs are designed to separate oil, fuel, and grease from water by gravity. However, other contaminants, such as solvents, which are potentially present in water discharged to an OWS, cannot be removed by the OWS process. Water from an OWS is typically discharged to an industrial or sanitary sewer for further treatment. One two-chamber OWS was identified at the service station in the Exchange Triangle area (Building 970) (US Navy 1995a). The pavement drains in the service station are connected to this OWS. Other OWSs may be identified during the course of base closure activities.

3.13.8 Pesticides

The registration and use of pesticides are regulated under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) of 1972, as amended (7 USC 136 et seq). Pesticide management activities are subject to federal

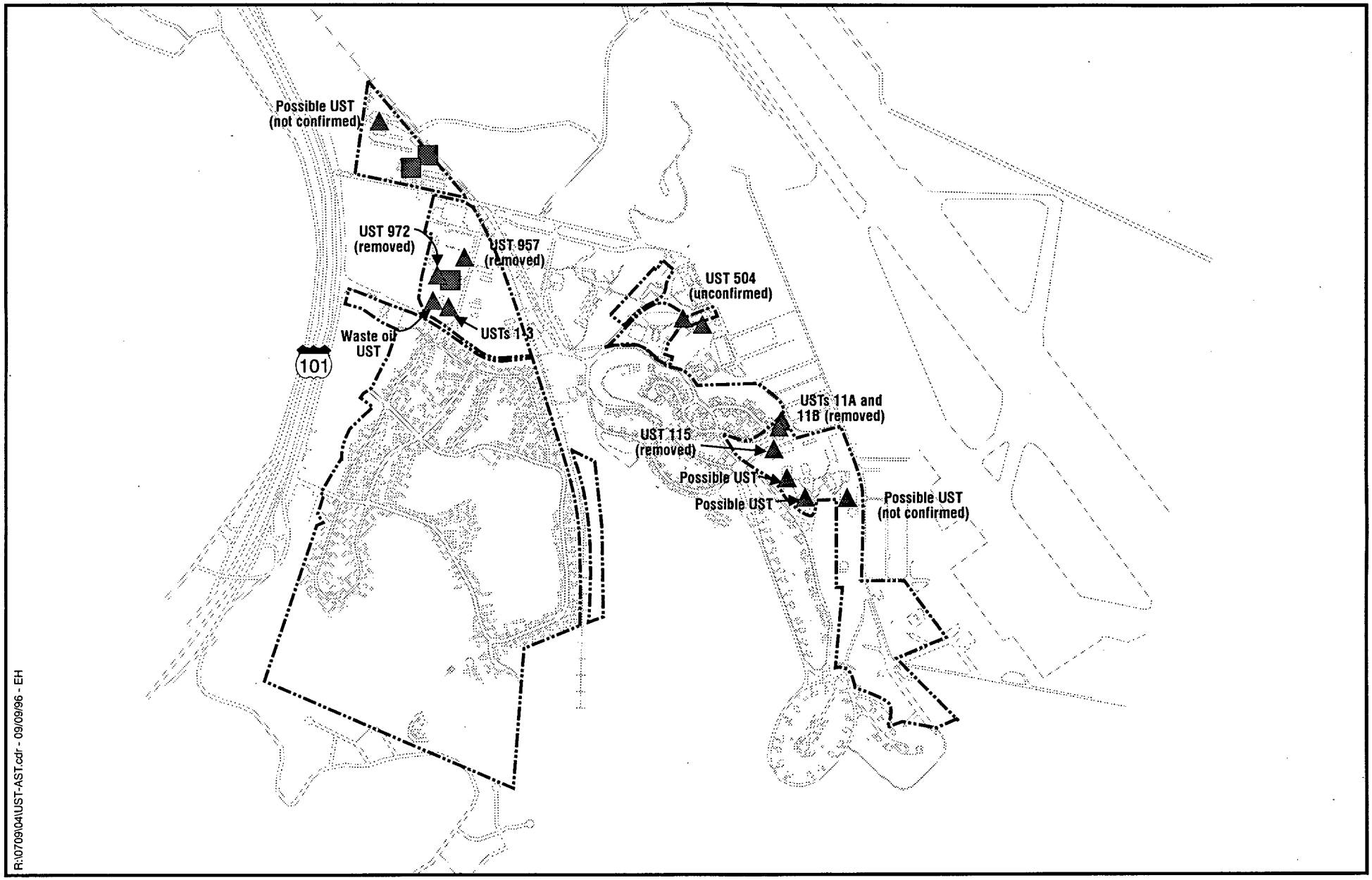
Table 3-23
Underground Storage Tanks

Planning Area	Tank ID Number	Adjacent Buildings	Tank Capacity (gallons)	Product Stored	Date Installed	Current Status	Comments	Future Actions Under BCP	EBS Page Number
Commissary Triangle	827-1	826/827	1,000	gasoline/ unknown	unknown	Removed, further investigation underway	Contamination found	Remedial investigation/ corrective measure study	4-21
	827-2		1,000			Removed, further investigation underway	Contamination found	Remedial investigation/ corrective measure study	
	827-3		1,000			Removed, further investigation underway	Contamination found	Remedial investigation/ corrective measure study	
	827-4		1,000			Removed, further investigation underway	Contamination found	Remedial investigation/ corrective measure study	
Exchange Triangle	1	970	10,000	gasoline	unknown	Removed 5/96	Passed 1990 tightness test	Investigation and corrective action	4-34
Exchange Triangle	2	970	10,000	gasoline	unknown	Removed 5/96	Passed 1990 tightness test	Investigation and corrective action	4-34
Exchange Triangle	3	970	10,000	gasoline	unknown	Removed; further investigation underway	Contamination found	Investigation and corrective action	4-34
Exchange Triangle	Waste Oil	970	1,000	waste oil	unknown	Removed; further investigation underway	Contamination found	Investigation and corrective action	4-34
Exchange Triangle	957	957	12,000	gasoline	unknown	Removed; further investigation found soil and ground water contamination	Residual contamination	Corrective action, if necessary	4-31 to 4-32

Table 3-23
Underground Storage Tanks *(continued)*

Planning Area	Tank ID Number	Adjacent Buildings	Tank Capacity (gallons)	Product Stored	Date Installed	Current Status	Comments	Future Actions Under BCP	EBS Page Number
Exchange Triangle	972	972	2,000	fuel oil	unknown	Wooden tank removed; further investigation found soil but not ground water contamination	Residual contamination; closure pending	No further action	4-33 to 4-34
Bowling Alley	11A	None	10,000	fuel oil	unknown	Removed; further investigation found ground water contamination	Residual contamination; groundwater monitoring	Corrective action, if necessary	4-53 to 4-55
Bowling Alley	11B	None	10,000	fuel oil	unknown	Removed; further investigation found ground water contamination	Residual contamination; groundwater monitoring	Corrective action, if necessary	4-53 to 4-55
Bowling Alley	115	115	250	fuel oil	unknown	Not found-presumed removed; no further action required by Marin County	Previous removal suspected; no records found	Coordinate closure with RWQCB	4-56
Officers' Club	None	201	unknown	fuel oil	unknown	No tank found	Number, size, and contents unknown	No further action	4-71
Officers' Club	None	203	unknown	fuel oil	unknown	Two tanks removed	No contamination found	Removed 5/96	4-71
Building 522	522	522	8,500	fuel oil	unknown	Removed	Removed during grading for housing construction	No further action	NA

Source: US Navy 1995a; US Navy 1995b; US Navy 1996a



There are several existing, former, or suspected UST and AST locations at DODHF Novato. No USTs or ASTs have been identified at Rafael Village.

N

0 1200

Approximate Scale in Feet

LEGEND:

- Underground Storage Tank
- Aboveground Storage Tank
- DODHF Boundary

Note: All locations approximate

Source: U.S. Navy 1995a

UST and AST Locations

DOD Housing Facility
Novato, California

Figure 3-21

R:\0709\04\UST-AST.cdr - 09/09/96 - EH

Table 3-24
Aboveground Storage Tanks

Planning Area Number	Adjacent Building	Tank Capacity (gallons)	Product Stored	Current Status	Comments	EBS Page Number
Commissary Triangle	816	500	waste oil	active	secondary containment	4-18 to 4-19
Commissary Triangle	804	1,000	fuel oil	active	secondary containment; emergency generator supply	4-9
Exchange Triangle	972	500	empty	inactive; former diesel storage	portable AST; referenced in BCP	not referenced

Source: US Navy 1995a; US Navy 1995b; US Navy 1996a

regulations contained in 40 CFR 162, 165, 166, 170, and 171, and California regulations contained in CCR Title 3, Chapter 4.

Pesticide records were examined at the DODHF Novato Environmental Department as part of the EBS. The housing and landscaped areas at DODHF Novato are likely to have received routine applications of pesticides, according to the EBS; however, the property was not used for commercial uses or for agricultural activities that would have required heavy pesticide use, such as orchards or row crops. Pesticide issues were not addressed by the BCP because no pesticide issues were identified by the EBS.

3.13.9 Lead

Lead-based paint (LBP) and lead in drinking water are considered health threats, particularly to children. Lead was a major ingredient in the house paint used throughout the country and at DODHF Novato for many years. In 1978, federal regulations mandated that the maximum lead content be reduced to 0.06% of newly applied dry film of paint. LBP use was discontinued under federal law in 1980.

DOD policy is to manage LBP in a manner protective of human health and the environment and to comply with all applicable laws and regulations. BRAC residential property transferred after January 1, 1995, must comply with the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Public Law 102-550) (US Navy 1995b). For residential dwellings constructed prior to 1960, the property must be inspected for LBP, and any LBP hazards must be abated if the property is to be transferred out of federal ownership. For residential housing constructed between 1960 and 1978, the property must be

inspected for LBP and the results of the inspection must be revealed to prospective purchasers or transferees, although abatement is not required.

Lead contamination from LBP and in the tap water is a potential concern at DODHF Novato. Rafael Village was constructed before 1960 when the use of lead in paints and in plumbing was common. Surveys and abatement for LBP would therefore be required for these housing areas if they are to be transferred out of federal ownership. Navy protocol also requires sampling for lead in dust and lead in soil. The Capehart Housing units were constructed from 1960 to 1963 and are therefore subject to the inspection and disclosure requirements for LBP, as well as sampling for lead in dust and lead in soil, but LBP abatement is not required. The Hillside Housing units were constructed after 1978 and are exempt from sampling and testing requirements for LBP, although they were subject to visual inspection and sampling for lead in dust and lead in soil.

Residential surveys for DODHF Novato housing were performed by the Navy in 1995. The surveys showed that LBP is present in the Rafael Village and Capehart Housing units. Rafael Village is planned to be demolished and LBP abatement will therefore not be performed. LBP abatement may be required in the Capehart Housing units if other renovation is performed. In accordance with recent DOD guidance, nonresidential structures will not be surveyed (US Navy 1995b).

No lead dust hazards were identified in the DODHF housing areas. Lead was detected in soil around the Capehart Housing units; lead concentrations in 4 of 110 soil samples taken in the Capehart Housing area were above the federal Department of Housing and Urban Development action level of 400 parts per million. Lead was detected in soil around all of the housing areas at concentrations below the action level. Further assessment of the Capehart Housing area is planned (Lind, personal communication). Further action by the Navy has not yet been determined. Response measures for lead hazards in soil will be determined based on an assessment of the potential risk to human health and the environment (Lind, personal communication).

According to the updated BCP, no survey for lead in drinking water has been conducted (US Navy 1996a). The Navy has reportedly conducted spot checks for lead solder in plumbing at Rafael Village, and lead has been detected.

3.13.10 Radiological

The EBS found no records of use of radioactive materials at DODHF Novato. The Naval Sea Systems Command Detachment, Radiological Affairs Support Office, stated in a letter to the Navy PWCSFB dated October 17, 1994, that no radioactive materials have been used at DODHF Novato (US Navy 1995b).

3.13.11 Medical And Biohazardous Waste

No medical or biohazardous waste is produced at DODHF Novato since the former Army-owned medical facility at Hospital Hill is no longer operational. Medical waste produced at the former medical facility in the past may have been disposed of at the former landfill located in the NHP Master Plan Area, outside the DODHF Novato area.

3.13.12 Ordnance

The EBS found that two areas, Buildings 191 and 193 in the Ballfields planning area, may have been used in the past for ordnance storage. Both buildings are described in the EBS as having been used formerly for storage of arms and ammunition. Neither building was found to contain arms or ammunition and no significant cracks or staining was observed during the walks (US Navy BCP, 1996). No other ordnance use or storage at DODHF Novato has been identified.

3.13.13 Radon

Radon is a naturally occurring gas that is produced by the natural radioactive decay of uranium to radium in soils. It is a colorless and odorless radioactive gas. Atmospheric radon is diluted to insignificant concentrations. Radon that is present in soil, however, can enter a building through small spaces and openings, accumulating in enclosed areas, such as basements. The cancer risk caused by exposure, through the inhalation of radon, is currently a topic of concern.

The amount of radon is measured in picocuries per liter of air (pCi/L). The average indoor level is estimated to be 1.3 pCi/l and about 0.4 pCi/L of radon is usually found in the outside air. There are no laws that require testing and remediation for radon, but the EPA has made recommendations for both residential housing and schools.

The Application of Radon Reduction Methods (EPA 1988) summarizes the EPA-recommended action level of 4 pCi/L and guidance for action by recommending that:

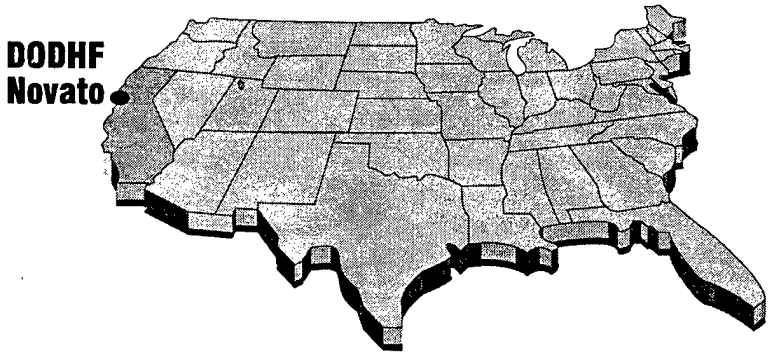
- For radon concentrations greater than 200 pCi/L, action be initiated within a few weeks;
- For radon concentrations in the range of 20 to 200 pCi/L, action be initiated within several months;

- For radon concentrations in the range of 4 to 20 pCi/L, action be initiated within a few years (the higher the radon level the more urgent the need for action); and

- For radon concentrations less than 4 pCi/L, no action is specifically recommended. However, many individuals may elect to further reduce radon concentrations in the range of 1 to 4 pCi/L.

A radon facility screening survey was conducted at DODHF Novato in 1990 under a Navy-wide program known as the Navy Radon Assessment and Mitigation Program. The program was based on guidelines from US EPA for radon measurements. The screening survey entailed placing sampling detectors in 86 housing units at DODHF Novato (including 15 at Rafael Village). The maximum radon concentration detected was 3.7 pCi/L in Rafael Village. The maximum radon concentration detected on the Main Site was 3.0 pCi/L in the Knolls housing subarea of the adjacent USCG Spanish Housing. None of the readings from these sample locations showed radon levels above the 4 pCi/L guideline.

DOD policy regarding radon on BRAC properties is to ensure that any available and relevant radon assessment data pertaining to the BRAC property will be included in property transfer documents (US Navy 1995a). No further radon assessments are planned.



4.0 ENVIRONMENTAL CONSEQUENCES

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4. ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental consequences associated with the disposal of surplus federal land and reuse of DODHF Novato. The disposal action would transfer the property out of Navy ownership. The reuse action would result in adaptive reuse of existing structures and facilities and potential new construction and would create public open space areas. The Reuse Plan identifies general categories and densities of land uses that would be allowed, but specific uses within each general category have not yet been determined. Impacts are therefore described at a relatively general level of detail, consistent with the level of detail in the Reuse Plan. Future specific projects and development proposals will be subject to the California Environmental Quality Act (CEQA) and environmental review requirements set forth by the City of Novato.

For each resource area evaluated in this EIS, impacts of disposal and of each alternative reuse action, including the No Action Alternative, are projected to 2010. (Due to the availability of regional projection data, traffic impacts are projected to 2015 and socioeconomic impacts are projected to 2020). Complete implementation of each reuse alternative is assumed in the determination of impacts. The Preferred Alternative is buildout of the revised Reuse Plan.

Consistent with the discussion of the affected environment, this chapter has been organized by resource to provide a comparative framework for evaluating the impacts of the reuse actions on the individual resources. The impacts discussion for each resource area includes an introduction indicating the criteria used to determine whether an impact would be significant, an impacts summary table, a description of planning issues associated with each resource area, and a description of the ROI applicable to the specific resource area. An ROI is a geographic area in which impacts for a particular resource likely would occur. The ROI for a resource having regional impacts would be different than the ROI for a resource with localized impacts. Where appropriate, analysis methodology and assumptions are described.

Each resource section identifies impacts of each of the reuse actions on the specific resources and also identifies whether the disposal action would result in impacts. For each impact a determination has been made whether it would constitute a significant or not significant impact. In addition, where beneficial impacts are identified, the nature of the beneficial impact is discussed in the text of the document. Impacts of the alternatives are evaluated for each of the eight Navy-owned planning areas at DODHF Novato, consistent with the reuse proposed for each area. The level of significance for each impact

resulting from Navy disposal and community reuse actions for each resource is summarized in a table at the beginning of each section.

Mitigation measures are identified for any impact determined to be significant. Significant impacts and mitigation measures are numbered, while not significant impacts (including beneficial) are listed separately from the significant impacts and are not numbered. Unavoidable significant environmental impacts (i.e., impacts that cannot be mitigated to a less than significant level) also are identified. Processes that would be implemented through the local and regional planning processes and/or through implementation of the Reuse Plan that would concern other resources and issues are described wherever applicable. The mitigation measures described in this section are those the Navy has identified as available to future owners of DODHF property to reduce environmental impacts. The Navy would not be responsible for implementing or funding any mitigation measures related to reuse unless specifically identified in this EIS and the Record of Decision.

4.1 LAND USE

The disposal action, the proposed reuse alternatives, and the No Action Alternative are evaluated for their potential to cause substantial land use impacts. Impacts to on-site and surrounding land uses are evaluated for each alternative and are compared to current conditions. Demolition and construction impacts also are considered when evaluating the potential land use impacts of each alternative. The Reuse Plan provides a general picture of future land use at DODHF Novato and outlines a project specific planning process that will occur as part of the Reuse Plan implementation.

Region of Influence

The ROI for the land use analysis includes DODHF Novato and surrounding lands.

Significance Criteria

Land use impacts would occur through changes to land uses, construction of new buildings and infrastructure, and demolition activities. Impacts would be significant if they would divide an established community or conflict with established uses. Table 4-1 summarizes the land use impacts of the Revised Reuse Plan Alternative and other alternatives.

Table 4-1
Summary of Land Use Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Demolition and Construction Impacts	○	○	◐	◐
Reuse of Capehart Housing	○	○	○	○
Change in Land Use in Commissary and Exchange Triangles	○	○	◐	◐
Change in Land Use in Town Center	○	○	○	○
Change in Land Use at Bowling Alley, Officers' Club and Ballfields	○	○	○	◐

LEGEND:

● = Significant impact
◑ = Significant and mitigable impact
◐ = Not significant impact
○ = No impact

Planning Issues

The process of implementing the Reuse Plan will occur under the jurisdiction of the City of Novato and, as required by CEQA, will include environmental review, public participation, and interagency coordination. The Reuse Plan discusses implementation and describes the City of Novato planning process. The implementation process would include designating DODHF Novato with the General Plan designation "Specific Plan." The purpose of this land use designation is to "permit flexibility in physical design and land use arrangements and encourage developments which are sensitive to, and respect, the unique character of the property in general accordance with the Reuse Plan policies" (Hamilton Reuse Planning Authority 1995b). DODHF Novato would be zoned Planned Community (P-C), a designation that requires preparation of a master plan. The master plan for DODHF Novato would include development regulations, land use designations, conditions of approval, public facilities, and physical features of the project area.

Final development of each planning area within the P-C district would require the completion of a precise development plan, which would provide criteria for all or a part of each of the planning areas within the approved master plan. Part of this process would be the preparation of subdivision maps to create individual lots. Details required in a precise development plan include grading, architecture, landscaping, primary and accessory structures, infrastructure plans, and soils information prior to action by Novato. Only upon approval of precise development plans could the project proceed to the building permit stage.

4.1.1 Disposal

Because disposal would not entail any changes to the physical environment (it is a transfer of title), the disposal action would not affect land use. Disposal would therefore have no environmental land use effects.

4.1.2 Revised Reuse Plan Alternative

Rafael Village

Not Significant Impacts

No impacts are expected from the proposed residential land use designation for this planning area. The site currently is used for residential uses and is compatible with the surrounding residential and open space uses.

Demolition activities related to the removal of the existing residences would result in minimal impacts due to temporary incompatibility with the established residential uses in the surrounding area. Demolition activities would include tearing down existing structures, sorting recyclable materials, removing demolished materials, breaking and removing concrete foundations, and cleaning up the site. Impacts of demolition activities are further described in the aesthetics and scenic resources, cultural resources, air quality, noise, and utilities sections. The land use impact of demolition activities is not significant due to the short duration of the activities.

Construction activities related to the building of new residences to replace the demolished residences also would result in short-term impacts to the surrounding residential area. Construction impacts would include generation of dust and noise and visual disruption during the construction period. This impact would not be significant because construction would be of a short duration.

Capehart Housing

No Impacts

Reuse of this planning area as a civilian residential neighborhood would be compatible with existing surrounding land uses including commercial land uses on Nave Drive, residential uses in Lanham Village, commercial and community uses in Exchange Triangle, and USCG use of Spanish Housing. It also is expected that there would be no conflict between residential uses and the adjacent agricultural operations in the non-Navy lands between Capehart Housing and Spanish Housing due to the lack of complaints under current

operations. There are no identified land use impacts that would occur under proposed reuse.

Commissary Triangle

Not Significant Impacts

Demolition of the existing structures would result in residents of Lanham Village being subjected to short-term demolition-related impacts. Demolition activities would include tearing down existing structures, sorting recyclable materials, removing demolished materials, breaking and removing concrete foundations, and cleaning up the site. Impacts of demolition activities are further described in the aesthetics and scenic resources, cultural resources, air quality, noise, and utilities sections.

Construction activities related to the building of structures also would result in short-term impacts to the surrounding residential uses at Lanham Village. This impact would not be considered significant due to the short-term nature of the disruption.

The land uses designated in the Reuse Plan would result in a change from the current commissary/warehouse use to an area designated for community facilities and civic uses including special uses such as an 80-bed emergency shelter housing facility. No significant land use impacts are expected because the permitted uses under this designation would be compatible with the surrounding residential, open space, and commercial uses. Policies 3.6.2.4.1 through 3.6.2.4.6 in the Reuse Plan indicate that special attention would be given to the new uses in this area in order to achieve land uses that are compatible with Lanham Village and other adjacent areas. The Reuse Plan also states that CFCU uses will be required to screen or buffer adequately uses that may impact adjacent uses.

Exchange Triangle

Not Significant Impacts

Land use impacts due to demolition of existing structures, construction of new structures, and a change in land use would be similar to the impacts described for Commissary Triangle except that this planning area also could include neighborhood-serving commercial development. This development would be located somewhere along the north side of the Main Gate Road and would not exceed two acres. The impacts resulting from the proposed uses in this planning area would not be significant because of the short duration of demolition and construction activities and the lack of conflict between the proposed new land uses and existing surrounding land uses. The Reuse Plan addresses land use in this planning area and specifies land use policies 3.6.2.5.1

through 3.6.2.5.7 as measures to achieve compatible land use with Lanham Village and other adjacent uses.

Town Center

No Impacts

Although land use would change through use of a portion of the existing civic area to be used for neighborhood commercial use, this use would be compatible with the other proposed uses and the existing uses. The proposed uses would not conflict with the surrounding uses. Use of the adjacent amphitheater site as a community facility also would be compatible with surrounding uses.

Bowling Alley

No Impacts

Reuse of the existing structures as recreational facilities and designating the area as parkland is similar to the existing land use and would be compatible with surrounding uses. Reuse would not result in land use impacts.

Officers' Club

No Impacts

Proposed reuse of the existing structures as visitor-serving commercial, community facilities, and civic uses would not result in land use impacts.

Ballfields

No Impacts

No land use impacts to this planning area are expected under the Revised Reuse Plan Alternative.

4.1.3 Open Space Alternative

Rafael Village

Not Significant Impacts

Under this alternative, the existing residences would be demolished and the area designated for open space and parkland uses. Land use impacts resulting from demolition of the existing residences would not be significant due to the

short-term duration of the activities. The change in land use from residential to open space would not be a significant impact because the open space area would be compatible with the surrounding land uses. Developments could include creek restoration, playing fields, jogging and bike paths, playgrounds, and sitting areas.

Capehart Housing

No Impacts

Reuse of this planning area as a civilian residential neighborhood would be the same as under the Revised Reuse Plan Alternative. There are no identified land use impacts that would occur under proposed reuse.

Commissary Triangle

Not Significant Impacts

The Open Space Alternative would include 13 acres for community facilities and civic uses similar to the Revised Reuse Plan Alternative, except the proposed homeless shelter would not be located in this planning area. Also unlike the Revised Reuse Plan Alternative, corporation yards would be permitted. Potential activities in the corporation yards include truck and bus storage, equipment cleaning and maintenance, storage of landscaping and construction materials, and equipment testing. The impact of the proposed land uses is not expected to be significant because these uses would be compatible with the surrounding land use.

Exchange Triangle

Not Significant Impacts

The Open Space Alternative would include community facility and civic uses and two acres of neighborhood commercial use as described under the Revised Reuse Plan Alternative. The proposed homeless shelter would be located in this planning area and would be subject to the same policies described in the Revised Reuse Plan Alternative. As described above for Commissary Triangle, corporation yards would be permitted. The impact of the proposed land uses is not expected to be significant because these uses would be compatible with the surrounding land use.

Town Center

No Impacts

The Open Space Alternative would use all nine acres of the site as community facilities and would not include commercial uses. No impacts are expected because the community facilities designation would be consistent with existing uses and compatible with the proposed surrounding land uses.

Ballfields

Not Significant Impacts

The Open Space Alternative would designate 24 acres as open space and seven acres as parkland. The land use designation would be compatible with the proposed surrounding uses. Four ballfields in current use would be converted to open space and would be unavailable under this alternative.

Impacts for the Capehart Housing, Bowling Alley, and Officers' Club planning areas would be the same as under the Revised Reuse Plan Alternative because the proposed uses are the same as the Revised Reuse Plan Alternative.

4.1.4 No Action Alternative

No Impacts

Under the No Action Alternative, the existing land uses at DODHF Novato would not change. No demolition or construction activities would take place and no land use impacts would occur. Separate NEPA documentation would be completed prior to potential Navy approval of any proposed interim leases.

4.2 AESTHETICS AND SCENIC RESOURCES

The following section describes impacts to aesthetic and scenic resources that could occur under the reuse actions. The disposal action is a transfer of title and would not entail any changes to the physical environment or affect visual resources. Therefore, this section focuses on reuse impacts, which are compared to existing visual resources.

Region of Influence

The ROI for visual resources is DODHF Novato and the surrounding viewshed within five miles. A distance of five miles was selected because visual resources at a distance greater than five miles become indistinguishable from the general background of a viewshed.

Significance Criteria

For this analysis, impacts to visual resources were qualitatively evaluated by assessing the degree of visual contrast that proposed modifications under each of the alternatives would create with the existing landscape character, as seen from viewpoints on and surrounding the property. An impact was considered significant if it substantially reduced the scenic quality of a planning area as seen from any viewpoint with a high level of sensitivity. Table 4-2 summarizes the visual resource impacts.

Table 4-2
Summary of Aesthetics and Scenic Resource Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Aesthetic Impacts of Demolition and Construction	○	○	◐	◐
Change in Visual Resources in the Rafael Village Planning Area	○	◐	○	○
Change in Visual Resources in the Main Site Planning Areas	○	◐	○	○

LEGEND:
● = Significant impact
◑ = Significant and mitigable impact
◐ = Not significant impact
○ = No impact

Planning Issues

The Novato City Council has authority over future development projects at DODHF Novato. During the approval process, the city council would act according to the goals and policies outlined in the General Plan and the Reuse

Plan. Projects also would undergo design review by the Novato Design Review Commission to consider the design attributes of specific projects. This multi-level community-based approval process would assure consistency between the visual characteristics of reuse projects and the Novato goals and policies found in the Reuse Plan and the General Plan.

The Reuse Plan addresses visual resource issues for all planning areas and has a specific chapter related to design guidelines for future development. These policies explain the planning process and call for a heightened awareness toward protecting visual resources during the implementation of the Reuse Plan. This approach would aid in reducing foreseeable visual resource impacts to a not significant level and eventually, through implementation of the Reuse Plan, would result in beneficial impacts for all of the planning areas.

4.2.1 Disposal

No impacts to visual resources would occur because disposal would not entail any changes to the physical environment (it is a transfer of title) and therefore, the disposal action would not affect visual resources.

4.2.2 Revised Reuse Plan Alternative

Rafael Village

Not Significant Impacts

Visual impacts associated with demolition and construction would be minimal and are not significant because they would be of a short duration. The eventual rebuilding of the Rafael Village planning area would result in beneficial impacts to visual resources because the new residential area would appear similar to the surrounding residential areas.

Main Site

Not Significant Impacts

No significant visual resource impacts would occur at the Main Site because the visual character of the site would not change substantially. Short-term impacts to visual resources during demolition and construction are possible. The Main Site housing would be reused, and any new construction would be consistent with local specific plans and design reviews. Long-term changes to the visual character of the nonhousing planning areas would be beneficial due to the increased emphasis on urban design guidelines found in the Reuse Plan.

4.2.3 Open Space Alternative

Rafael Village

Not Significant Impacts

Under this alternative, minimal impacts due to demolition activities would be similar to the Revised Reuse Plan Alternative. Few construction impacts would occur because the construction of new residential units would not take place. The eventual construction of an open space area would result in beneficial impacts to the visual resources in this planning area.

Main Site

Not Significant Impacts

Under this alternative, corporation yards would be permitted in the Commissary Triangle and Exchange Triangle planning areas. Impacts to visual resources resulting from these uses would not be significant because the Reuse Plan specifies increased attention to buffering of uses and landscaping between adjacent uses in these planning areas.

4.2.4 No Action Alternative

Rafael Village

Not Significant Impacts

Under the No Action Alternative, structures in Rafael Village would continue to be maintained minimally. Although some deterioration of buildings would occur under this alternative, changes to the existing facilities and landscape would be minimal. Therefore this would not be a significant impact.

Main Site

Not Significant Impacts

Under the No Action Alternative, structures in the Main Site planning areas would continue to be maintained minimally. Although some deterioration of buildings would occur under this alternative, changes to the existing facilities and landscape would be minimal. Therefore this would not be a significant impact.

4.3 SOCIOECONOMICS

This socioeconomic analysis addresses the impacts on jobs, income, population, housing, schools, recreation, and environmental justice from the disposal and reuse of the DODHF Novato property.

Reuse of the DODHF Novato property under the community reuse alternatives would generate jobs and income and would lead to increases in recreational opportunities. Reuse also would lead to increases in affordable housing. As summarized in Table 4-3, no significant impacts on population, housing, and schools issues are anticipated under these alternatives.

Region of Influence

The ROI for socioeconomic impacts varies depending on the type of impact being analyzed. For employment, impacts on the larger ROI (Marin County) as well as Novato are analyzed. For population, only the larger Marin County has been established as the relevant basis for analysis because most of the people employed at the DODHF Novato site likely would live beyond Novato and perhaps beyond Marin County. Choosing an ROI beyond Marin County, however, would not provide any pertinent insights since the impacts would be so small as to be irrelevant. For schools, the regional analysis focuses on the Novato Unified School District since the housing units proposed on the DODHF Novato site and other new housing construction that could result from the reuse of the DODHF Novato property would affect the local school district.

Significance Criteria

The significance of socioeconomic impacts is related to the social and economic characteristics of the region and the time period being evaluated. All of the alternatives result in beneficial employment impacts to the City of Novato and Marin County. The more jobs generated, the more beneficial are the economic impacts. Population and housing growth is the natural consequence of the employment level in the region and therefore is considered neither a beneficial nor an adverse impact of the disposal and reuse actions. Population and housing growth is considered in this way because growth can be perceived either positively or negatively, depending upon the point of view of the people being considered. For example, additional housing may be deemed positive by the children of long-time residents who would like to stay in the area but be seen as negative by landlords who would like to maximize rental prices. Population and housing increases can result in secondary effects such as traffic and the infrastructure cost improvements that growth may induce. Secondary impacts are discussed in the appropriate sections of Chapter 4 and Section 5.2, Growth-inducing Impacts.

With respect to recreation and schools, impacts that lead to physical changes, such as additional recreational or school facilities, are considered beneficial. However, changes such as additional enrollments resulting in school overcrowding are considered adverse. Changes in annual operating budgets and cash flows (fiscal impacts) are not considered to be environmental impacts and are therefore not discussed in this section.

No significant adverse social or economic impacts have been identified for any of the analyzed alternatives. Table 4-3 summarizes socioeconomic impacts and their significance.

Table 4-3
Summary of Socioeconomic Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Employment and Income	○	○	○	○
Population and Housing	○	○	◐	◐
Schools (K-12)	○	○	◐	◐
Recreation	○	○	○	○
Environmental Justice	○	○	○	○

LEGEND:
- ● - Significant impact
- ◑ - Significant and mitigable impact
- ◐ - Not significant impact
- ○ - No impact

Methodology

To determine the impact of disposal and reuse on the regional economy, the increase in economic activity that could occur under each reuse alternative between 1995 and 2020 is evaluated. Year 2020 projections of future jobs, income, population, and households have been developed using the ABAG "Projections '94."

The effects of each alternative are evaluated first by the number of jobs generated, since the numbers and types of jobs generated strongly affect other socioeconomic conditions. Jobs create income for spending; spending supports local businesses, creates additional jobs, and generates more income. Jobs and income sustain families and households. When job opportunities exist, new residents move in, adding to the regional population. New households mean additional demand for housing construction and additional revenues and demand for local government services. The impact analysis quantifies those

long-term jobs that would be directly generated by the reuse alternatives on site.

4.3.1 Disposal

No socioeconomic impacts would result from Navy disposal of DODHF Novato properties since no major construction or reuse of DODHF Novato facilities would occur and no population would be added as a result of the transfer of property title.

Regional Economy—Employment and Income

Federal disposal would create minimal additional employment in Marin County and therefore would have no effect on jobs and regional income levels.

Population and Housing

As disposal would not involve construction and/or reuse of housing, it would have no effect on housing demand or population levels.

Schools (K-12)

Federal disposal would have no impact on student enrollments since it would not involve construction and or reuse of housing that would increase student enrollments.

Recreation

Federal disposal would result in no change to existing recreational opportunities.

Environmental Justice

Federal disposal would have no impacts on disadvantaged or minority communities. Consistent with the SECNAV Notice 5090.6 of July 26, 1994, and Executive Order 12898 of February 11, 1994, it is the Navy's policy to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. Possible impacts to minority and low-income populations are expected to be the same under all alternatives, and are therefore addressed in the following paragraphs. Table 4-4 outlines elements of the Navy policy and the actions taken to address these elements.

Table 4-4
Environmental Justice

OPNAVINST 5090.1B	Navy Disposal Action
Analyze the human health, economic, and social effects of Department of the Navy actions, including effects on minority communities and low-income communities.	Potential social and economic impacts have been assessed and determined not to disproportionately affect minority or low-income populations.
Ensure that whenever feasible, mitigation measures outlined or analyzed in the environmental impact statement, or record of decision, address significant and adverse environmental effects of proposed federal actions on minority communities and low-income communities.	It was determined that any beneficial or adverse impacts would affect all parts of the population equally.
Ensure that opportunities for community input in the National Environmental Policy Act process are provided, including identifying potential effects and mitigation measures in consultation with affected communities and improve the accessibility of meetings, crucial documents, and notices.	Scoping activities included publishing notices in local newspapers, meeting with government agencies, and holding public meetings. These activities are detailed in Appendix B of this document.
Ensure that the public, including minority communities and low-income communities, has adequate access to public information relating to human health or environmental planning, regulation, and enforcement.	The Draft and Final EIS will be made available to the public at all affected community public libraries. A copy also may be obtained from the Navy upon request. The Navy point-of-contact is listed on the cover sheet at the beginning of this document.

Source: Developed by Tetra Tech 1995.

Pursuant to the Executive Order and DOD strategy, the following activities have been carried out in the process of EIS preparation:

- U.S. census demographic information (1990) has been reviewed to identify economic and racial groups in the area that might be adversely affected;

- Identified low-income and minority groups have been notified about the public meetings and document review process described in Chapter 1 of this document; and

- The Hamilton Homes Task Force (public agencies that represent the needs of homeless residents), the Hamilton Reuse Planning Authority, the New Hamilton Partnership (developer of the portion of Hamilton adjacent to the Reuse Planning Area), and the Housing Council (affordable housing developers and advocates) developed an "Agreement to Principles for a Planning Agreement for Affordable Housing and Homeless Support Facilities" at Hamilton Army Air Field. This agreement calls for a total of 718 affordable units, with 324 ownership units and 393 rental units (Hamilton Reuse Planning Authority 1995a).

The Navy disposal and community reuse of the property is expected to result in mainly beneficial effects to the people and the communities in Novato and

Marin County. Other than increasing the availability of affordable housing units, which would benefit low-income people, impacts resulting from federal disposal of the DODHF Novato property would affect all segments of the population in and around the site equally. No one group would be disproportionately impacted, and no mitigations are required.

4.3.2 Revised Reuse Plan Alternative

Regional Economy - Employment and Income

Beneficial Impacts

Under the Revised Reuse Plan Alternative, employment-generating land reuses at DODHF Novato property would include community facilities, civic uses, and neighborhood-serving commercial uses. Based upon employment estimates generated by applying standard factors to nonresidential and employment-generating land uses, the Revised Reuse Plan Alternative would generate a total of 938 net new jobs as shown in Tables 4-5 and 4-6.

Table 4-5
Direct Job Generation

Employment-generating Land Uses	Alternatives								
	Revised Reuse Plan Alternative			Open Space Alternative			No Action Alternative		
	Acres	Built Area[1]	Employ-ment[2]	Acres	Built Area	Employ-ment	Acres	Built Area	Employ-ment
Community Facilities[3]	44	383,000	767	50	436,000	871	-	-	-
Neighborhood Commercial	6	65,000	145	4	44,000	97	-	-	-
Visitor Serving Commercial	2	26,000	31	2	26,000	31	-	-	-
Caretaker (Employees)[4]									5
Direct Employment			943			999			5

[1] Total built area is determined by dividing the total area by the Floor Area Ratio (FAR). FAR is based on assumptions that reflect industry standards for the amount of a property that will be "built" under various land uses. FAR assumptions for nonresidential land uses are:

Nonresidential Uses	FAR
Community Facilities	0.20
Neighborhood Commercial	0.25
Visitor Serving Facilities	0.30

Estimates are from the Association of Bay Area Government, 1991 as provided by Keyser Marston.

[2] Employment estimates are based on the following assumptions for each employment-generating land use:

Nonresidential Uses	Sq.Ft./Employee
Community Facilities	500
Neighborhood Commercial	450
Visitor Serving Facilities	840

Estimates are from the Association of Bay Area Government, 1991 as provided by Keyser Marston.

[3] Acreage for community facilities has been reduced by 10 acres to account for development of senior housing in the Exchange Triangle planning area (per Keyser Marston).

[4] Under the No Action Alternative, total employment includes five jobs estimated to be required to maintain Navy property.

Source: Hamilton Reuse Planning Authority 1995b; Keyser Marston; Economics Research Associates

Table 4-6
Analysis of Job Impacts in Novato and Marin County

Job Impact	Alternatives		
	Revised Reuse Plan Alternative	Open Space Alternative[3]	No Action Alternative
New Jobs Generated by Reuse	943	999	0
Net New Jobs Generated by Reuse/Alt.[1]	938	994	5
<u>Job Impact in Novato</u>			
Projected Job Growth in Novato between 1995 & 2020[2]	9,264	9,264	9,264
Percentage Change in Jobs Due to Reuse As Percent of Job Growth in Novato	10.1%	10.7%	0.1%
<u>Job Impact in Marin County</u>			
Projected Job Growth in Marin County between 1995 & 2020[2]	50,187	50,187	50,187
Percentage Change in Jobs Due to Reuse As Percent of Job Growth in Marin County	1.9%	2.0%	0.0%

[1] Five jobs associated with caretaker status under the No Action Alternative have been excluded in the net new jobs estimate for the reuse alternatives.
[2] Based on ABAG Projections '94.
[3] The Open Space Alternative would have slightly more jobs than the Revised Reuse Plan Alternative because it includes more acreage for community facilities land uses.
Source: Association of Bay Area Governments, 1993; Economics Research Associates

The change in jobs under the Revised Reuse Plan Alternative would represent 1.9 percent of the projected job growth between 1995 and 2020 in Marin County and 10.1 percent in Novato. Regional personal income, which refers to the sum of all wages, salaries, and proprietors' income in the region, would be expected to increase proportionally with this regional employment increase.

Population and Housing

Not Significant Impacts

The Revised Reuse Plan Alternative would add to the population of Novato and Marin County due to increases in housing and employment. The Revised Reuse Plan Alternative would provide for reuse of 708 housing units and replacement of 503 deteriorated Rafael Village units with 500 new units, for a total of 1,208 housing units. Assuming an average household size of 2.38 persons these housing units would accommodate 2,875 residents. The addition of 938 new jobs due to reuse would add another 557 residents (see Table 4-7). Reuse of DODHF Novato would contribute to the total projected population growth anticipated in Novato and Marin County between 1995 and 2020 (Table 4-7); however, most of this growth would occur as a result of the reuse

of existing housing units on the Main Site and replacement of Rafael Village housing units.

Table 4-7
Analysis of Population Impacts in Novato and the ROI Resulting From Reuse Alternatives

Population Impact	Alternatives		
	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative
Net New Jobs in the ROI due to Reuse	938	994	5
Reuse employees who may be new ROI residents [1]	234	248	1
Total Gain in Population due to jobs (includes dependents)[2]	557	590	2
Percent change due to jobs	16.2%	26.0%	100.0%
Number of housing units	1,208	708	0
Gain in Population due to housing reuse/replacement[2]	2,875	1,685	0
Percent change due to housing reuse/replacement	83.8%	74.0%	0.0%
Total Change in ROI Population due to Reuse	**3,432**	**2,275**	**2**
Population Impact in Novato			
Projected Population Growth in Novato between 1995 & 2020[4]	8,006	8,006	8,006
Percentage Change in Population Due to Reuse as % of Population Growth in Novato			
Percent of change due to jobs	7.0%	7.4%	0.0%
Percent of change due to housing reuse/replacement	35.9%	21.0%	0.0%
Total percent change	42.9%	28.4%	0%
Population Impact in Marin County			
Projected Population Growth in Marin County between 1995 & 2020[4]	25,700	25,700	25,700
Percentage Change in Population Due to Reuse As % of Population Growth in Marin County			
Percent of change due to jobs	2.1%	2.3%	0.0%
Percent of change due to housing reuse/replacement	11.2%	6.6%	0.0%
Total percent change	13.3%	8.9%	0.0%

[1] Approximately a quarter of the jobs generated at DODHF Novato are assumed to attract new residents to Marin County. This estimate would be less if new residents reside in DODHF Novato housing.
[2] Average household size for the ROI in 1995 was 2.38 persons per household.
[3] Excludes senior assisted housing and emergency shelter since these units are expected to service existing residents in the area.
[4] Based on ABAG Projections '94.
Source: Association of Bay Area Governments, 1993; Economics Research Associates

Population and housing growth is not considered a significant impact because growth is neither beneficial nor adverse in and of itself. For example, prospective home buyers and renters would benefit from additional housing units in the market while home owners and landlords might consider the additional housing detrimental to their property values.

However, population and housing growth could lead to secondary impacts that may be adverse, such as the potential traffic and the infrastructure cost improvements that growth may induce. These secondary impacts are discussed in the appropriate sections of Chapter 4 and Section 5.2, Growth-inducing Impacts.

The reuse plan calls for development of senior assisted-living housing units and an 80-bed emergency homeless shelter; these are considered to be community facilities that would serve the existing population of Marin County. Therefore, these units are not considered to increase the population within Marin County.

In estimating the growth attributable to job creation at the site, the analysis assumes that 25 percent of all future employees on the DODHF Novato property would move to Marin County, adding 557 new residents. The remaining jobs likely would be filled with people residing outside Marin County. (As the availability of housing in Novato and Marin County is limited, estimating that 25 percent of future employees at the former DODHF Novato site would move to Marin County to live is probably an overestimate, but is used for purposes of this analysis so that impacts will not be underestimated.)

Schools (K-12)

Not Significant Impacts

The Revised Reuse Plan Alternative would result in up to 201 additional students attending NUSD schools each year over the 25-year period. This increase would represent 2.9 percent of the total 1995 NUSD enrollment. Since most schools in the NUSD are below enrollment capacity, the Revised Reuse Plan Alternative would not result in an exceedance of capacity (see Table 4-8).

Under this alternative, the majority of the 201 additional students most likely would attend the three schools that serve the area: Hamilton Elementary School, San Jose Middle School, and Novato High School. Assuming that all of these students attended the areas schools, the increase would represent 9.5 percent of the total 1995 enrollments in the area schools and would not be a significant impact since these schools are 19.1 percent below enrollment capacity (see Table 4-8).

Table 4-8
Impact on School District Enrollments

	Alternatives		
	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative
Impacts on Novato Unified School District			
Total Increase in Student Enrollment due to Reuse[1]	201	132	0
Students due to Reuse As % of Total 1995 NUSD Enrollment	2.9%	1.9%	0%
Total 1995 NUSD Enrollment	7,022	7,022	7,022
1995 NUSD Enrollment & Students due to Reuse	7,223	7,154	7,022
Total NUSD Enrollment Capacity	7,821	7,821	7,821
% Below Enrollment Capacity	7.7%	8.5%	10.2%
Impacts on Area Schools[2]			
Total 1995 Area School Enrollment	2,115	2,115	2,115
Students due to Reuse As % of Total 1995 Area School Enrollment	9.5%	6.2%	0%
1995 Area School Enrollment & Increase due to Reuse	2,316	2,247	2,115
Area School Enrollment Capacity	2,613	2,613	2,613
% Below Enrollment Capacity	11.4%	14.0%	19.0%

[1] Estimates based on 0.139 students per household, based on a composite of grade range values as shown in Table 3-15. Excludes emergency shelter since these units are expected to service existing residents in the area.
[2] Students from the reuse planning area most likely would attend Hamilton Elementary, San Jose Middle School, and Novato High School, i.e., "the area schools."
Source: City of Novato 1995d; Economics Research Associates

Recreation

Beneficial Impacts

Implementation of the Revised Reuse Plan Alternative would add approximately 52 acres of neighborhood park facilities (Table 4-9) and 114 acres of open space. While some of the parks would be operated and maintained by the Novato Parks and Recreation Department, most of them would likely be maintained through non-city based financing. Since all neighborhoods within Novato are considered to be underprovided with parks, this expansion of recreational facilities would be a beneficial impact.

Table 4-9
Recreation Facilities Proposed for Reuse Planning Areas

Planning Area	Facility Type	Revised Reuse Plan Alternative (acres)	Open Space Alternative (acres)
Rafael Village	Neighborhood Park	7	7
Capehart Housing	Neighborhood Park	9	9
Commissary Triangle	None	-	-
Exchange Triangle	None	-	-
Town Center	Plaza/Passive Park	2	-
Bowling Alley	Neighborhood Park	3	3
Officers' Club	None	-	-
Ballfields	Neighborhood Park	31	7
Total (acres)		**52**	**26**

Source: Hamilton Reuse Planning Authority 1995b

Environmental Justice

Beneficial Impacts

The increase in affordable housing in the city and county and the provision of emergency shelter housing and transitional housing would benefit the homeless and low-income residents in the area.

4.3.3 Open Space Alternative

Regional Economy - Employment and Income

Beneficial Impacts

The Open Space Alternative would generate approximately the same number of net new jobs (994 jobs) in the community as the Revised Reuse Plan Alternative (938 jobs). It would have slightly more jobs because it includes more acreage for community facilities land uses than the Revised Reuse Plan Alternative. Community facilities are one of the land use types that are expected to generate jobs. The Open Space Alternative therefore would have approximately the same beneficial impacts with regard to employment as the Revised Reuse Plan Alternative.

Population and Housing

Not Significant Impacts

The Open Space Alternative would add to the population of Novato and Marin County due to the addition of housing and employment. The Open Space Alternative would provide for reuse of 708 housing units. The 503 Rafael Village units would not be replaced. These housing units would accommodate 1,685 residents. In addition, new employment due to reuse would add another 590 residents. Reuse of DODHF Novato would contribute to the total projected population growth anticipated in Novato and Marin County between 1995 and 2020 (Table 4-7); however, most of this growth would occur as a result of the reuse of existing housing units on the Main Site.

Population and housing growth is not considered a significant impact because growth is neither beneficial nor adverse in and of itself. For example, prospective home buyers and renters would benefit from additional housing units in the market while home owners and landlords might consider the additional housing detrimental to their property values.

However, population and housing growth could lead to secondary impacts that may be adverse, such as the potential traffic and the infrastructure cost improvements that growth may induce. These secondary impacts are discussed in the appropriate sections of Chapter 4 and Section 5.2, Growth-inducing Impacts.

The Reuse Plan calls for up to 210 senior assisted-living housing units and an 80-bed emergency homeless shelter; these are considered to be community facilities that would serve the existing population of Marin County. Therefore, these units are not considered to increase the population within Marin County.

In estimating the population growth attributable to job creation, the analysis assumes that 25 percent of all future employees on the DODHF Novato property would move to Marin County, adding 590 new residents. The remaining jobs likely would be filled with people residing outside Marin County. (As the availability of housing in Novato and Marin County is limited, estimating that 25 percent of future employees at the former DODHF Novato site would move to Marin County to live is probably an overestimate, but is used for purposes of this analysis so that impacts will not be underestimated.)

Schools (K-12)

Not Significant Impacts

The Open Space Alternative would result in a total of up to 132 additional students attending NUSD schools each year over the 25-year period. This increase would represent 1.9 percent of the total 1995 NUSD enrollment. Since most schools in the NUSD are below enrollment capacity, the Open Space Alternative would not result in overcrowding (see Table 4-8).

Under this alternative, the majority of the 132 additional students most likely would attend the three schools that serve the area: Hamilton Elementary School, San Jose Middle School, and Novato High School. Assuming that all of these students attended the areas schools, the increase would represent 6.2 percent of the total 1995 enrollments in the area schools and would not be a significant impact since these new students would not cause any of the schools to exceed capacity (see Table 4-8).

Recreation

Beneficial Impacts

Implementation of the Open Space Alternative would add 26 acres of neighborhood parks and 224 acres of open space. Like the Revised Reuse Plan Alternative, this would be a beneficial impact.

Environmental Justice

Beneficial Impacts

Under the Open Space Alternative, the addition of affordable housing in the city and county and the provision of emergency shelter housing and transitional housing would have the same beneficial impact as the Revised Reuse Plan Alternative.

4.3.4 No Action Alternative

Regional Economy—Employment and Income

The No Action Alternative would require only five caretaker employees and would therefore significantly not add to the job base in the Novato and Marin County area.

Population and Housing

No Impacts

Employment of five persons under the No Action Alternative would not add to the population or housing demand of Novato and Marin County (see Table 4-7).

Schools (K-12)

No Impacts

The No Action Alternative would not affect NUSD enrollment.

Recreation

Beneficial Impacts

Because the property would be in caretaker status, recreational opportunities would not increase or decrease.

Environmental Justice

No Impacts

The No Action Alternative would not have disproportionately high or adverse human health or environmental effects on minority and/or low-income populations.

4.4 PUBLIC SERVICES

This section presents the analysis of potential impacts to public services that could result from the disposal and reuse of DODHF Novato. Impacts occurring under the No Action Alternative also have been evaluated. The impact analysis evaluated future conditions against current conditions. Disposal-related impacts are differentiated from those resulting from reuse, as appropriate. Disposal impacts would be the same for all reuse alternatives. No disposal impacts would occur under the No Action Alternative. Public services include police, fire, and emergency medical services.

Region of Influence

The ROI for this section is the City of Novato including DODHF Novato. This ROI was selected because the city likely will assume jurisdiction over the property following disposal by the Navy.

Significance Criteria

A project may have a significant impact if it would result in a substantial increase in the level of police, fire, or emergency medical services required. Table 4-10 summarizes impacts to public services.

Table 4-10
Summary of Public Service Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Fire Protection and Emergency Medical Services	○	○	◫	◫
Police Protection	○	○	◫	◫

LEGEND:
- ● = Significant impact
- ◑ = Significant and mitigable impact
- ◫ = Not significant impact
- ○ = No impact

Planning Issues

The Reuse Plan calls for the construction of a fire station as part of the NHP Master Plan. An agreement between the NHP and the Novato Fire Protection District (NFPD) dedicates a parcel of land within the development to a future fire station (Rentz, personal communication). Construction of the new fire station will begin when the volume of emergency calls requires

expanded service. This would decrease the NFPD response time to emergency incidents at DODHF Novato.

4.4.1 Disposal

No Impacts

There would be no impacts to public services under the disposal action. All Navy agreements and contracts with the city and the private security firm would be discontinued. City agencies would be solely responsible for providing security and preventing trespassing and vandalism of the property. Novato could meet these increased responsibilities by contracting with the security firm to continue its services or by more frequent patrols of the area by Novato police officers. The NFPD would continue to be responsible for fire suppression and the provision of emergency medical care.

4.4.2 Revised Reuse Plan Alternative

Fire Protection and Emergency Medical Services

Not Significant Impacts

The Revised Reuse Plan Alternative would not result in significant impacts to fire protection and emergency medical services. As the population of DODHF Novato increases, the number of service calls received also can be expected to increase. As the volume of calls increases, the existing system will reach a point at which it will not be sufficient and a new fire station would be required. The Marin Countywide Plan recommends construction of a new station and the New Hamilton Partnership has dedicated a piece of property to the construction of a future station. The station would be constructed if and when the demand for fire protection and emergency medical service exceeds the capacity of the existing stations. Twelve additional fire fighters would be required for a single engine company at the new station. The NFPD also expressed the following concerns regarding DODHF Novato: bringing the Main Site water supply infrastructure up to district standards; upgrading residential structures to comply with the district's sprinkler ordinance; and possible damage or collapse of the Ignacio Boulevard overpass during an earthquake, which would isolate the Main Site from emergency service providers. The Ignacio Boulevard concern would be resolved by the construction of the new fire station. Needed improvements, additional fire personnel, and construction of the new fire station would be funded through taxes generated by the new development. The increase in demand for services would occur gradually during buildout and, therefore, is not identified as a significant impact. The infrastructure problem is in the process of being corrected through system replacement (Rentz, personal communication).

Police Protection

Not Significant Impacts

The Revised Reuse Plan Alternative would not result in significant impacts to police protection. Providing police service to DODHF Novato in the future would require additional personnel to deal with routine patrols, traffic control, and criminal investigations. Under the Revised Reuse Plan Alternative, the number of people living at DODHF Novato is expected to increase to approximately 3,432, requiring an additional five police officers, one vehicle, and two support staff members. The additional personnel and equipment could be paid for by taxes generated from the new development. The increase in demand for services would occur gradually during buildout and, therefore, is not identified as a significant impact.

4.4.3 Open Space Alternative

Not Significant Impacts

Impacts are similar to those under the Revised Reuse Plan Alternative, with the exception that Rafael Village would require a lower level of public services than it currently demands. Under this alternative, the population of DODHF Novato would be approximately 2,275 persons and would require three additional police officers and one support staff member. If the new fire station is built, 12 additional fire fighters as well as an additional engine would be required.

4.4.4 No Action Alternative

No Impacts

Under the No Action Alternative, there would be no impacts to public services. The Navy would continue to be responsible for the provision of police, fire, and emergency medical services to all areas. The current staffing levels at the NFPD would be adequate, while the Novato Police Department would require an additional police officer and one support staff member.

4.5 UTILITIES

This section analyzes the effects of the EIS alternatives on the existing utilities, including the water distribution, sanitary sewer, storm drainage, electrical, natural gas, telephone, cable television, and solid waste management systems. Impacts are analyzed against existing conditions.

Region of Influence

The ROI for utility service is the service areas of the individual service providers, because analysis for each utility will be based on potential effects within the service area of each service provider.

Significance Criteria

An alternative may have significant effects on a public utility if it would increase demand in excess of utility system capacity to the point that substantial expansion would be necessary. Significant environmental impacts also could result from system deterioration due to improper maintenance or extension of service beyond its useful life. Effects would be identified as significant if federal, state, or local standards or requirements regulating a public utility system would be violated, such as a failure to monitor and sample stormwater discharges as may be required under a NPDES permit, resulting in fines or permit revocation. Table 4-11 summarizes impacts to utilities.

Table 4-11
Summary of Utilities Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Electric, Natural Gas, and Telephone Systems Capacity	○	○	◐	○
Stormwater Drainage System Capacity	○	○	◐	◐
Water Supply and Sanitary Sewer System Capacity	○	○	◐	○
Solid Waste Management (Demolition)	○	○	◑	◑

LEGEND:

● - Significant impact
◑ - Significant and mitigable impact
◐ - Not significant impact
○ - No impact

4.5.1 Disposal

No utilities impacts would be expected from Navy disposal of the DODHF Novato property.

4.5.2 Revised Reuse Plan Alternative

Electrical, Natural Gas, and Telephone Systems

Not Significant Impacts

The proposed upgrading of electrical, natural gas, and telephone systems to meet current PG&E and Pacific Bell standards would have no significant environmental impacts. Each of these distribution companies has indicated that it has adequate capacity to serve potential future site users under this alternative.

Storm Drainage System

Not Significant Impacts

The proposed upgrading of the storm drainage system to meet current City of Novato criteria would have no significant environmental impacts. Construction of improvements to eliminate localized flooding areas and protect portions of the Ballfields from bay water inundation would have no significant environmental impacts. Future exact or specific quality of storm drainage runoff would depend on the type of future site users and the nature of the potential contaminants related to these operations. Although the proposed development does not include industrial type uses, the construction of detention facilities, grease traps, or other facilities as required by current NPDES regulations would improve water quality prior to discharge into receiving waters.

Water Supply

Not Significant Impacts

The proposed upgrading of the distribution systems to meet current North Marin Water District and Marin Municipal Water District standards would have no significant environmental impacts. The Revised Reuse Plan Alternative would result in levels of residential and commercial development nominally equivalent to existing conditions, so that a significant increase in water consumption would not be anticipated.

Sanitary Sewer System

Not Significant Impacts

The proposed upgrading of the sanitary sewer collection system to meet current Novato Sanitary District standards would have no significant environmental impacts. The Revised Reuse Plan Alternative results in levels of residential and commercial development nominally equivalent to existing conditions, so that a significant increase in wastewater generation would not be anticipated.

Solid Waste Management

Significant Impacts

Impact 1. If Marin County is unable to meet the Cal EPA solid waste reduction standards of 50 percent by 2000, the law provides for penalties of $10,000 a day. Currently, Marin County is exceeding its diversion goal of 25 percent. Though the demolition of structures at Rafael Village would not affect landfill life, as described below under Not Significant Impacts, the addition of this waste to the countywide waste stream would contribute to the nonattainment of solid waste reduction goals. This would result in a significant and mitigable impact. Marin County may be able to obtain a waiver from the state to avoid paying the penalties; however, additional waste may result in higher landfill costs.

Mitigation 1. The California Integrated Waste Management Board (CIWMB) has been exploring ways to assist localities to divert construction and demolition debris from landfills through reuse, recycling, and other strategies. An informal base closure team has been organized with CIWMB staff and others to examine the issues and identify projects that could assist counties involved in base closures.

CIWMB has asked the Trade and Commerce Agency for funds to do several projects. The following are those proposed activities applicable to the demolition issue:

- Researching and producing guidebooks on suggested demolition practices to be used to minimize contamination and to maximize reuse;
- Developing a local materials exchange program adapted to base closures;
- Identifying reuse opportunities, processors, and markets for recovered materials;

- Developing local ordinances that require construction and demolition efforts to follow recovery and recycling guidelines; and

- Developing guidelines for handling potentially hazardous materials included in construction and demolition debris.

Taking the lead in addressing recycling associated with military base closures, the Secondary Materials and Technology Branch has been conferring with the Trade and Commerce Agency about the need for funding to support the CIWMB's base closure program. The CIWMB has requested funds from Trade and Commerce to implement technical assistance activities directed toward communities impacted by base closure. The CIWMB has no direct funding for diversion efforts by affected jurisdictions.

The California Pollution Control Financing Agency does not provide direct funding to the public sector but to private sector operators and developers of waste management infrastructure. Waste disposal and resource recovery businesses would be eligible to apply for this financing, which is backed by tax-exempt bonds issued by the state.

Implementation of the above policies would reduce this impact to a not significant level.

Not Significant Impacts

For normal continuation of solid waste disposal at the DODHF Novato property, it is anticipated that disposal would be handled by the City of Novato through a private contractor. Once fully redeveloped, the facilities at the DODHF site can be expected to generate an amount of waste in proportion to other residential areas of the City of Novato. The Novato Sanitary District estimates that families occupying DODHF housing upon reuse will generate less waste destined for landfills than military families presently on-site, resulting in no significant impact (Hamilton Reuse Planning Authority 1995a).

The demolition of existing unwanted buildings and pavement at Rafael Village would create large quantities of construction and demolition debris. A local demolition contractor estimates that each structure might be expected to generate 13 to 14 tons of construction waste (Caldwell, personal communication). This would result in approximately 6,500 to 7,000 tons of construction and demolition debris from all of the structures, or 0.06 percent of the available capacity (10.9 million tons) in the Redwood Landfill (Frost, personal communication). Therefore, the addition of this amount of material would not measurably shorten the expected life of the Redwood Landfill, resulting in no significant impact. As Redwood Landfill is permitted for the

disposal of asbestos, buildings with asbestos-containing materials do not pose any impacts to the landfill.

4.5.3 Open Space Alternative

Significant Impacts

Solid waste management impacts would be the same as under the Revised Reuse Plan Alternative.

Not Significant Impacts

Impacts to the stormwater drainage system would be less under this alternative than under the Revised Reuse Plan Alternative due to less impervious cover with increased open space acreage. Impacts would be considered not significant.

No Impacts

Compared to the Revised Reuse Plan Alternative, overall consumption of utilities would be reduced approximately 30 percent in the planned residential areas due to the elimination of the 503 Rafael Village units under this alternative. Such a reduction would have no impact on the local water supply and wastewater treatment facilities, nor on electricity, natural gas, and telephone service.

4.5.4 No Action Alternative

No utilities impacts would be expected under the No Action Alternative, especially with regard to solid waste since Rafael Village units would not be demolished. This alternative would place the DODHF Novato property in federal caretaker status. Overall utility consumption would be reduced significantly, resulting in beneficial effects to local water supply and energy sources.

4.6 CULTURAL RESOURCES

The Navy disposal and proposed community reuse of DODHF Novato may result in direct and indirect impacts to cultural resources. Direct impacts include actions associated with the disposal of physical property, demolition or alteration of structures, and earthmoving activities that could occur through site vacating, transfer, or reuse. These actions could adversely impact properties determined eligible for inclusion in the National Register of Historic Places (NRHP), as well as potentially occurring subsurface archeological properties that might qualify for listing in the NRHP. Direct impacts may occur to NRHP-eligible buildings, structures, or sites within DODHF Novato, depending on specific reuse plans. Indirect impacts are those that may occur at a later date and can be reasonably predicted at this time.

Region of Influence

The ROI for cultural resources is the area defined by the boundaries of DODHF Novato.

Adverse Effect Criteria

The disposal and reuse of DODHF Novato may have an adverse effect on some of the contributing buildings and structures within the NRHP-eligible Hamilton Army Airfield Historic District. The regulations implementing Section 106 of the NHPA (36 CFR Sections 800.9 [a] and [b]) state that an undertaking has an effect on a historic property when that undertaking may alter those characteristics of the property that qualify it for inclusion in the NRHP. An undertaking is considered to have an adverse effect on a historic property when it may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include but are not limited to the following:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property or alteration of the character of the property setting when that character contributes to the property's qualifications for the NRHP;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and
- Transfer, lease, or sale of a property, without adequate provisions to protect the property's historic integrity.

In the case of the Hamilton Army Airfield Historic District, the COE, SHPO, ACHP, and City of Novato agreed to accept the loss of the historic district and to mitigate the effect of the GSA/COE sale and proposed development of the property (see Section 3.6 for a discussion of mitigation measures implemented by the COE to lessen impacts to the NRHP-eligible historic district). Consultation between the Navy, SHPO, ACHP, and City of Novato, in compliance with the regulations implementing Section 106 of the NRHP, is expected to be initiated in the near future to determine what additional actions may be appropriate to further mitigate the loss of the historic district.

Eligible Historic Properties

All of the DODHF Novato planning areas except Rafael Village and Capehart Housing are included within the NRHP-eligible Hamilton Army Airfield Historic District. For this reason, this analysis addresses impacts to cultural resources in Rafael Village, Capehart Housing, and the rest of the Main Site separately. The Navy owns 24 buildings that are contributors to the historic district, as well as five contributing structures (see Table 4-12). Landscaping features (rock walls) and street furniture (lamp posts, signage) also are included in the district and contribute to the historic setting. The district and its contributing elements were determined eligible for inclusion in the NRHP by the COE in consultation with the SHPO.

Table 4-12
Summary of Eligible Properties by Area

Planning Area	Buildings	Structures
1. Rafael Village	0	0
2. Capehart Housing	0	0
4. Commissary Triangle	7	0
5. Exchange Triangle	11	0
6. Town Center	3	2
8. Bowling Alley	2	0
9. Officers' Club	1	1
10. Ballfields	0	2
TOTAL	24	5

In addition, three archeological sites have been previously recorded within DODHF Novato. Based on recent subsurface investigations at DODHF Novato (Busby et al 1995), the Navy has determined that the prehistoric archeological deposits would not qualify for inclusion in the NRHP and the disposal and reuse of DODHF Novato is not likely to affect significant prehistoric archeological resources. As a part of the Section 106 review process, the Navy will consult

with the SHPO in its determination that none of the three sites qualify for the NRHP. Nevertheless, there remains a possibility that subsurface archeological resources may be encountered during subsequent reuse and development of DODHF Novato property. If such resources are found as part of disposal or reuse actions, these resources should be assessed to determine their significance and appropriate treatment should be afforded at that time.

Because the Navy has no role in the development of the local reuse plan, only the federal action to dispose of DODHF Novato property is being subjected to review under federal historic preservation law and regulations. The implementation of the proposed reuse plan for the site is subject to state laws. Therefore, this analysis will differentiate between Navy disposal and community reuse. Transferring ownership from one federal agency to another, in this case from the Navy to the USCG, is not considered an undertaking subject to Section 106 review because both agencies have the same responsibilities under Section 106. Table 4-13 summarizes the potential impacts to cultural resources and their significance.

Table 4-13
Summary of Cultural Resources Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
1. Rafael Village	◍	○	◍	◍
2. Capehart Housing	◍	○	◍	◍
4. Commissary Triangle	◑	◍	◑	◑
5. Exchange Triangle	◑	◍	◑	◑
6. Town Center	◑	◍	◑	◑
8. Bowling Alley	◑	◍	◑	◑
9. Officers' Club	◑	◍	◑	◑
10. Ballfields	◑	◍	◑	◑

LEGEND:

● = Significant impact
◑ = Significant and mitigable impact
◍ = Not significant impact
○ = No impact

4.6.1 Disposal

Significant Impacts

Impact 1. Navy disposal of DODHF Novato to a nonfederal entity without restrictions on future use restrictions could result in an adverse effect to NRHP-

eligible resources. Under 36 CFR 800.9(b), the transfer, lease, or sale of a property from federal ownership without adequate restrictions or deed covenants to ensure preservation is an adverse effect and for purposes of NEPA would be a significant and mitigable impact. This impact would apply to those DODHF Novato contributing buildings and structures within the Hamilton Army Airfield Historic District that would be transferred out of federal ownership.

Mitigation 1. As mitigation for the disposal of historic properties, the COE has recorded the Hamilton Army Airfield Historic District in accordance with Historic American Buildings Survey standards. Further consultation with the SHPO, ACHP, and the City of Novato pursuant to Section 106 of the NHPA may result in additional mitigation being undertaken by the Navy. Mitigation could range from preservation to salvage of architectural elements prior to abandonment, substantial alteration, or demolition. For NEPA purposes, these measures would reduce impacts to the historic district and contributing elements to not significant levels.

Not Significant Impacts

Disposal of property would not have a significant impact on known prehistoric archeological resources or sensitive areas within Rafael Village or Capehart Housing as the previously identified prehistoric sites either appear ineligible for inclusion in the NRHP or they no longer exist. The architectural resources within Rafael Village and Capehart Housing, as well as noncontributing buildings within the remainder of the Main Site, have been determined not eligible for inclusion in the NRHP in consultation with SHPO. These buildings were constructed within the last 50 years and are not exceptionally significant, or are so altered that they no longer retain their historic integrity and, therefore, do not qualify for inclusion in the NRHP.

Although slight, there is a potential that unidentified subsurface archeological deposits are present in the Rafael Village, Capehart Housing, and Officers' Club planning areas. Federal ownership ensures protection for such subsurface resources discovered during ground disturbing activities. This protection would end with federal disposal. Future nonfederal actions on transferred land must comply with Section 7050.5 of the California Health and Safety Code, in the event human remains are discovered during excavation, work must stop immediately and the county coroner must be contacted. Section 5097.94 and 5097.98 of the Public Resources Code require consultation with the Native American Heritage Commission, protection of Native American remains, and notification of most likely descendants. SB 447 (Chapter 404, Statutes of 1987) also protects Native American remains or associated grave goods.

4.6.2 Revised Reuse Plan Alternative

Rafael Village

Not Significant Impacts

Two archeological sites have been recorded within Rafael Village. While these sites do not appear to have sufficient integrity to qualify for the NRHP, it is possible that intact subsurface prehistoric and historic archeological material may be present within Rafael Village. Ground disturbing activities in the known archeologically sensitive areas therefore should be monitored by a professional archeologist. If subsurface archeological resources are discovered during future construction, all work in the immediate vicinity should be suspended. Altering the materials and their context should be avoided pending site investigation by qualified professional archeologists. A qualified archeologist should be consulted to assess the materials and determine their significance. If the qualified professional archeologist determines that the site is significant, the SHPO should be consulted in determining appropriate treatment.

The architectural resources within Rafael Village do not meet the minimal qualifications for inclusion in the NRHP because they were built in the last 50 years and are not of exceptional significance. Therefore, demolition of Rafael Village structures would not result in a significant impact.

Capehart Housing

Not Significant Impacts

Two surface scatters of shells within Capehart Housing were subjected to archeological test excavations and were determined to be naturally-occurring deposits (Busby et al 1995). Reuse of property within Capehart Housing would not have an adverse effect on known significant archeological resources or sensitive areas as the previously identified prehistoric sites either appear ineligible for inclusion in the NRHP. However, it is possible that undiscovered subsurface prehistoric archeological sites may be present within Capehart Housing. In the event that subsurface archeological resources are discovered during future construction, all work in the immediate vicinity should be suspended. Altering the materials and their context should be avoided pending site investigation by qualified professional archeologists. A qualified archeologist should be consulted to assess the materials and determine their significance. If the qualified professional archeologist determines that the site is significant, the SHPO should be consulted in determining appropriate treatment.

The architectural resources within Capehart Housing do not meet the minimal qualifications for inclusion in the NRHP because of their recent construction

and lack of exceptional significance. Therefore, reuse of Capehart Housing would not result in significant impacts.

Other Main Site Planning Areas

Significant Impacts

Impact 1. Implementation of the Revised Reuse Plan Alternative would result in the adaptive reuse, alteration, or demolition of some existing buildings and structures within the Commissary Triangle, Exchange Triangle, Town Center, Bowling Alley, Officers' Club, and Ballfields planning areas that are contributing elements of the Hamilton Army Airfield Historic District. New buildings and structures could be constructed in these areas as well, changing the existing character of the district. Such activities could cause significant and mitigable impacts to the historic district at DODHF Novato.

Mitigation 1. Specific mitigation measures will be determined prior to transfer through the review process required by Section 106 of NHPA and could range from preservation to acceptance of the adverse effect.

Not Significant Impacts

There are no archeologically sensitive areas within the Main Site area included in the Reuse Plan and therefore impacts to subsurface archeological sites through transfer of ownership to nonfederal jurisdiction are not likely.

4.6.3 Open Space Alternative

Under the Open Space Alternative the Rafael Village housing units would be demolished and the land would be reused for open space and parkland instead of residential uses. Reuse of Capehart Housing and other Main Site planning areas would be similar to reuse activities under the Revised Reuse Plan Alternative.

Significant Impacts

Impact 1. As described under the Revised Reuse Plan Alternative, reuse could result in the adaptive reuse, alteration, or demolition of some existing buildings or structures in the Commissary Triangle, Exchange Triangle, Town Center, Bowling Alley, Officers' Club, and Ballfields planning areas that have been deemed contributing elements of the historic district. New buildings or structures also could be constructed to provide community facilities, changing the existing character of the district. Such activities could cause significant and mitigable impacts to the NRHP resources at DODHF Novato.

Mitigation 1. Same as Mitigation 1 under the Revised Reuse Plan Alternative.

Not Significant Impacts

Although there would be no new construction under the Open Space Alternative, demolition and minor regrading at Rafael Village to develop the proposed open space would have approximately the same potential for ground disturbance as the Revised Reuse Plan Alternative. Not significant impacts to subsurface resources therefore would be the same as under the Revised Reuse Plan Alternative. Impacts to subsurface resources at Capehart Housing also would be the same as under the Revised Reuse Plan Alternative.

Not significant impacts to Rafael Village and Capehart Housing architectural resources and subsurface resources would be the same for the Open Space Alternative as described for the Revised Reuse Plan Alternative.

4.6.4 No Action Alternative

This alternative would place the facility in caretaker, or inactive, status under continued federal ownership. On-site activities at buildings in caretaker status would be limited to security, minimal maintenance, and those actions associated with caretaker status of surplus properties. All buildings and housing units would be closed and secured, but grounds would be maintained.

Not Significant Impacts

The minimal maintenance performed under caretaker conditions could lead to the deterioration of existing historic properties. As the Navy would provide maintenance to the level needed to prevent significant deterioration of NRHP-eligible resources until Section 106 review is completed, this would not result in a significant impact.

4.7 BIOLOGICAL RESOURCES

This section addresses potential impacts to biological resources that could result from the disposal and proposed reuse of DODHF Novato. Biological resources addressed in this analysis include nonsensitive vegetation and wildlife, sensitive species, and sensitive habitats on DODHF Novato and in surrounding areas.

The determination of significant impacts to biological resources includes direct and indirect impacts. Direct impacts are those in which activities reduce or remove a biological resource, such as the results of construction or grading. Indirect impacts could occur when the activity causes other actions that affect biological resources such as impacts from the introduction of runoff materials into sensitive habitats.

This section provides a description of the region of influence used for biological resources and the criteria for determining whether an action would significantly impact biological resources, followed by a summary of sensitive species and habitats specific to DODHF Novato. Under each alternative, impacts to nonsensitive species and habitats are described first, followed by a discussion of impacts to sensitive species and sensitive habitats.

Region of Influence

The ROI for biological resources includes DODHF Novato and surrounding areas within one-half mile to provide an area large enough to include any species that may use habitats on DODHF Novato but small enough to not include species that regularly use habitats not found within DODHF Novato.

Significance Criteria

Impacts to biological resources would be considered significant if they result in harassment or removal of any endangered or threatened species (including proposed species), their habitat, migration corridors, or breeding areas. Impacts to other sensitive species considered Species of Concern by USFWS, California species of special concern, or California Native Plant Society (CNPS) listed species would be considered significant if a substantial number of individuals or large areas of habitat could be affected. The loss of a substantial number of individuals of any native plant or animal species that could affect abundance or diversity of that species beyond normal variability also is considered significant. Any impacts to sensitive habitats may be considered significant. Table 4-14 summarizes impacts to biological resources from disposal and reuse alternatives.

Table 4-14
Summary of Biological Resource Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Nonsensitive Species/Habitats	○	○	◐	◐
Sensitive Species	○	○	◑	◑
Sensitive Habitats	○	○	◑	◑

LEGEND:
● = Significant impact
◑ = Significant and mitigable impact
◐ = Not significant impact
○ = No impact

Sensitive Species/Sensitive Habitats

The sensitive species and sensitive habitats environmental consequences are combined because most the sensitive species indicated on Table 4-14 that may be affected by disposal or any of the alternatives inhabit riparian (streamside) and other sensitive habitats at DODHF Novato.

Sensitive species for which habitat is available at DODHF Novato and that inhabit the ROI are listed in Table 4-15 (as discussed in Section 3.7, Biological Resources). The tidewater goby, chinook salmon, longfin smelt, foothill yellow-legged frog, and Cooper's hawk could be supported by the creeks and riparian corridors within the ROI. The dwarf downingia, fragrant fritillary, Baker's navarettia, Mount Tamalpais jewelflower, burrowing owl, California horned lark, and loggerhead shrike could inhabit the grasslands and oak woodlands at DODHF Novato. The three sensitive bat species in the region, the pallid bat, Townsend's western big-eared bat, and California mastiff bat, could inhabit the vacant buildings within DODHF Novato.

Sensitive habitats at and adjacent to DODHF Novato include those protected by CDFG—riparian habitats, valley oak woodlands, freshwater marsh, and California bay forest. Riparian habitats and freshwater marsh are wetlands that could be under the jurisdiction of the US Army Corps of Engineers (COE) as discussed in Section 3.7. Of the sensitive habitats within the ROI, only riparian (streamside) habitats, other wetlands (drainage ditches), and valley oak woodlands exist on DODHF Novato while freshwater marsh and California bay woodlands exist in adjacent areas. Riparian habitats, other wetlands (drainage ditches), and valley oak woodlands also exist in adjacent areas.

Table 4-15
Sensitive Species that May Exist Within the ROI

Common Name	Scientific Name	Federal/State/ CNPS Status
Endangered and Threatened Species		
tidewater goby	*Eucyclogobius newberryi*	E/CSC/none
winter-run chinook salmon	*Oncorhynchus tshawytscha*	E/E/none
California red-legged frog	*Rana aurora draytonii*	T/CSC/none
Other Sensitive Species		
dwarf downingia	*Downingia pusilla*	C3c/none/2
fragrant fritillary	*Fritillaria liliacea*	SC/none/1B
Baker's navarretia	*Navarretia leucocephala* ssp. *bakeri*	none/none/1B
Mount Tamalpais jewelflower	*Streptanthus glandulosus* var. *pulchellus*	C3c/none/1B
longfin smelt	*Spirinchus thaleicthys*	SC/CSC/none
foothill yellow-legged frog	*Rana boylii*	SC/CSC/none
Cooper's hawk	*Accipiter cooperi*	none/CSC/none
burrowing owl	*Athene cunicularia*	none/CSC/none
California horned lark	*Eremophila alpestris*	SC/CSC/none
loggerhead shrike	*Lanius ludovicianus*	SC/CSC/none
pallid bat	*Antrozous pallidus*	SC/CSC/none
Townsend's western big-eared bat	*Plecotus townsendii townsendii*	SC/CSC/none
California mastiff bat	*Eumops perotis californicus*	SC/CSC/none

Source: CDFG 1994, 1995, 1996a, 1996b, 1996c; US Fish and Wildlife Service 1994a, 1994b, 1995a, 1995b, 1995c, 1996

E = Endangered
T = Threatened
SC = Species of Concern
C3c = Removed from the list
CSC = California Species of Special Concern
1B = Plants rare and endangered in California and elsewhere
2 = Plants rare and endangered in California but more common elsewhere
CNPS = California Native Plant Society

Areas of No Impact

Rafael Village, Capehart Housing, and adjacent areas are the only portions of DODHF Novato that contain native habitats. Commissary Triangle, Exchange Triangle, Town Center, Bowling Alley, Officers' Club, and the Ballfields contain only developed, paved, regularly mowed, or landscaped areas that sustain almost no native vegetation or wildlife and would not experience adverse effects from disposal or any of the alternatives.

4.7.1 Disposal

Nonsensitive Species/Nonsensitive Habitats

No Impacts

Federal property disposal would transfer DODHF Novato from federal ownership but would not result in significant impacts to nonsensitive species and habitats. The new property owner would be subject to federal, state, and local environmental regulations regarding these resources as discussed in Section 3.7.

Sensitive Species/Sensitive Habitats

No Impacts

The action of transferring DODHF Novato out of federal ownership would have no effect on the protection of the California red-legged frog, a threatened species that may be present in the ROI. This species was not observed at DODHF Novato during spring and summer surveys (US Navy 1996b).

4.7.2 Revised Reuse Plan Alternative

Nonsensitive Species/Nonsensitive Habitats

Not Significant Impacts

No significant impacts are expected to nonsensitive species or habitats from the Revised Reuse Plan Alternative. Any construction or demolition activities would occur in previously developed or landscaped areas and would not result in the substantial reduction of any nonsensitive species or habitats.

Sensitive Species/Sensitive Habitats

Significant Impacts

Impact 1. Demolition and construction activities at DODHF Novato, particularly at Rafael Village, would increase the potential for erosion at the site. Increased erosion could result in a significant and mitigable indirect impact to sensitive wetland and riparian habitats in San Jose Creek adjacent to the southern boundary of Rafael Village and other wetlands habitats. Sensitive species that may inhabit these areas include the tidewater goby, chinook salmon, longfin smelt, foothill yellow-legged frog, and Cooper's hawk. No buffer area exists between Rafael Village and Capehart Housing and adjacent riparian habitats except a chainlink fence. Erosion could increase sedimentation in creeks and degrade the quality of riparian habitat. If this habitat is degraded, indirect impacts to sensitive species that could inhabit the

creek and riparian habitat may occur. For example, the foothill yellow-legged frog requires slow-moving water with aquatic vegetation in which to lay egg masses. Increased sedimentation could affect the amount of aquatic vegetation in the creek and reduce the number of possible breeding locations for sensitive species.

Mitigation 1. Implementation of standard erosion control measures to minimize sedimentation into creeks and other wetlands during new construction as described in Section 4.9.2, Water Resources, would prevent significant impacts to sensitive species and habitats.

Not Significant Impacts

No adverse impacts would be expected in the upland sensitive habitats (valley oak woodland and California bay forest) in and near DODHF Novato. Reuse activities would not occur within these areas and the existing uses of these areas would not change. Additionally, the number of people living near or using these habitats within the ROI is not expected to increase substantially.

4.7.3 Open Space Alternative

Nonsensitive Species/Nonsensitive Habitats

No Impacts

As discussed under the Revised Reuse Plan Alternative, no significant impacts are expected to nonsensitive species or habitats from the Open Space Alternative. Beneficial impacts to nonsensitive species could occur from the addition of open space in the Rafael Village and Ballfields areas.

Sensitive Species/Sensitive Habitats

Significant Impacts

Impact 1. Riparian habitats, other wetlands, and sensitive species that depend on these habitats could be affected by increased sedimentation as discussed under the Revised Reuse Plan Alternative.

Mitigation 1. Implement erosion control procedures as discussed under the Revised Reuse Plan Alternative.

Not Significant Impacts

No adverse impacts would be expected in the upland sensitive habitats in and near DODHF Novato as discussed under the Revised Reuse Plan Alternative. Beneficial impacts to sensitive species as well as nonsensitive native species

could occur if active revegetation of native plant species in new open space areas provided more native habitat acreage within the ROI.

4.7.4 No Action Alternative

No impacts would be expected to occur to nonsensitive species, sensitive species, or sensitive habitats under the No Action Alternative, with DODHF Novato in federal caretaker status.

4.8 GEOLOGY AND SOILS

The principal geologic concerns at the site are potential failure of some hillslopes on the northern boundary of Rafael Village, seismic hazards associated with ground shaking and lateral spreading, and potential erosion during construction.

Region of Influence

Potential geological effects from the proposed action would be localized; therefore the ROI for the geological impacts of the proposed action includes the land within the boundaries of DODHF Novato and immediately adjacent lands.

Significance Criteria

A project may result in a significant geologic impact if it exposes people or structures to major geologic hazards (such as slope failure, liquefaction, and ground shaking), limits the recovery of mineral resources, results in a loss of prime agricultural land, causes substantial soil erosion, or adversely affects unique geologic or topographic features. Table 4-16 summarizes the geology and soils impacts resulting from the Revised Reuse Plan Alternative and other alternatives.

Table 4-16
Summary of Geologic and Soils Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Slope stability hazards	○	○	◑	◌
Soil erosion	○	○	◌	◌
Seismic hazards	○	○	◑	◑

LEGEND:

● - Significant impact
◑ - Significant and mitigable impact
◌ - Not significant impact
○ - No impact

4.8.1 Disposal

Disposal would involve the transfer of DODHF Novato out of Navy jurisdiction. In this analysis, geologic impacts would depend only on physical conditions, not on jurisdiction or legal context. Therefore, disposal of DODHF Novato would not result in any geologic impacts.

4.8.2 Revised Reuse Plan Alternative

Slope Stability Hazards

Significant Impacts

Impact 1. A potentially significant and mitigable impact could occur if new construction in Rafael Village undermines or weakens unstable slopes. Slope stability has not been identified as a concern in existing developed areas at the Main Site, although steep, potentially unstable slopes exist within Capehart Housing.

Mitigation 1. Prior to approval of detailed construction plans, site-specific geotechnical investigations would be conducted to identify potential geologic hazards that may affect new building sites. Geotechnical investigations are currently required in compliance with the City of Novato General Plan (Health and Safety Policy 16, HS-8) in areas showing landslide potential. Two such areas have been identified adjacent to Rafael Village. This policy should be extended to other areas at DODHF Novato covering or creating slopes in excess of 15 percent. A geotechnical engineer should review design plans and details and other improvement plans to determine whether they are compatible with the geotechnical conditions of the site. A geotechnical engineer and engineering geologist would inspect the site grading and document placement of engineered fills, stability of cut and fill slopes, and placement of subdrains. Application of site-specific recommendations of a geotechnical engineer and engineering geologist would reduce this potentially significant impact to a not significant level.

Seismic Hazards

Impact 2. Existing and proposed improvements in certain Main Site areas, particularly those on reclaimed land underlain by imported fill and bay mud, but also in areas underlain by alluvium, may be exposed to potentially damaging levels of ground shaking during a large earthquake centered on one of the three nearest active faults. Portions of some of the planning areas east of US 101, within the historical margin of San Francisco Bay, may be subject to lateral spreading in response to seismic shaking during a strong earthquake. In addition, areas underlain by sandy soils, where a shallow water table is

present, or during periods of ground saturation due to rainfall or poor drainage, may undergo liquefaction during a strong earthquake. These represent significant and mitigable impacts. Areas of greatest concern include Town Center and the Bowling Alley, because they are underlain by imported fill and because they contain a number of existing or planned large public occupancy buildings.

Mitigation 2. An evaluation of the ability of existing structures to withstand site-specific seismic forces should be performed to identify structures that should be upgraded to reduce the potential for injury, loss of life, or economic damage. The evaluation should target all buildings intended for public occupancy, as well as other structures representative of the range of building types. The cost of upgrading the structures to meet existing building codes should be compared with the cost of replacement, and upgrade or replacement should be made a prerequisite of occupancy. Likewise, roads and utilities should be evaluated to determine if upgrades are needed to reduce safety hazards and to maintain emergency services after a strong earthquake. At a minimum, all new construction would be designed to meet applicable building codes. A geotechnical engineer would review design plans and details and other improvement plans to determine whether they are compatible with the geotechnical conditions of the site. Zoning to limit construction in areas subject to strong ground motion should be considered by the City of Novato. Implementation of the recommendations of site-specific evaluations and applicable building codes would reduce this potential impact to a not significant level.

Soil Erosion

Not Significant Impacts

Under the Revised Reuse Plan Alternative there would be potential for soil erosion in the Rafael Village area during demolition, building removal, and the construction period. During this period land would be exposed to the erosional forces of wind and surface water runoff. Though not significant, this could be reduced by implementing standard erosion control measures during demolition and construction, conducting demolition and construction activities during the dry portion of the year, and reestablishing vegetation as quickly as possible following construction.

4.8.3 Open Space Alternative

This alternative proposes to convert Rafael Village to open space and parkland. This would eliminate the geologic impacts associated with structures that were identified for the Revised Reuse Plan Alternative. Converting the area to open space would require removal of structures and

most paved areas. On the Main Site, uses proposed for the Exchanged Triangle and Commissary triangle area would be rearranged.

Significant Impacts

Impact 1. Seismic hazards are expected to be generally the same for the Main Site under the Open Space Alternative as described for the Revised Reuse Plan Alternative.

Mitigation 1. The mitigation measures would be the same as under the Revised Reuse Plan Alternative.

Not Significant Impacts

The potential for soil erosion would be greater than under the Revised Reuse Plan Alternative in the Rafael Village area under this alternative, particularly during demolition and building removal. During this period more land would be exposed to the erosional forces of wind and surface water runoff. Though not significant, this could be reduced by contouring the ground surface to reduce flow velocities and to promote percolation. After vegetation becomes established there would be less impervious cover, which would allow greater infiltration of surface water runoff.

Rafael Village slope stability and seismic hazard issues would not be significant impacts under the Open Space Alternative.

4.8.4 No Action Alternative

No Impacts

Under the No Action Alternative seismic impacts to structures or infrastructure at DODHF Novato from earthquakes could still occur. However, the potential for injuries or loss of life would be minimal because only a small caretaker population would be present at DODHF Novato at any given time.

Since no construction activity would occur under the No Action Alternative, slope stability would not be a concern.

4.9 WATER RESOURCES

This section presents an analysis of the impacts of the Revised Reuse Plan Alternative and of the other alternatives on water resources. Issues examined include stormwater runoff, surface water quality, and flooding potential. All impacts are analyzed against conditions existing at DODHF Novato in 1995.

Region of Influence

The ROI is limited to the immediate DODHF Novato environs and surrounding water bodies (Novato Creek, western San Pablo Bay, and adjacent wetlands areas).

Significance Criteria

A project may have a significant impact on water resources if it causes substantial flooding or erosion, if it adversely affects drainage patterns or any water body such as a stream, lake, or bay, if it exposes people to reasonably foreseeable hydrologic hazards such as flooding or tsunamis, or if it adversely affects surface or ground water quality or quantity. The 100-year recurrence interval for flood plains, tsunami runup, and tidal flood hazards is used as the significance criteria for those aspects of this study. Table 4-17 summarizes potential impacts to water resources and their significance.

Table 4-17
Summary of Water Resources Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Ground Water Quality	○	○	◐	◐
Surface Water Quality	○	○	◑	◑
Effects to Drainage or Water Bodies	○	○	◐	◐
100-year Flood Hazards	○	○	◑	○
Street Flood Hazards	○	◐	◑	◐

LEGEND:

● = Significant impact
◑ = Significant and mitigable impact
◐ = Not significant impact
○ = No impact

Planning Issues

Any new development resulting from reuse in the planning areas would be required to comply with the city's development requirements. As described in Section 4.5, deficient storm drainage systems would need to be upgraded to accommodate runoff from a storm with a 25-year recurrence interval as assumed in the Reuse Plan. Except where new construction is proposed, the project would not undertake this upgrade. Storm drainage upgrade issues are addressed in Section 4.5. In conformance with city policy, off-site flow characteristics would not be adversely altered as a result of project improvements. The project, with mitigation recommended in this section, would not adversely affect existing stream, wetland, or riparian areas, or water quality and would, therefore, comply with Novato General Plan policies promoting the protection of these areas and preserving water quality. The project would not exacerbate any existing on- or off-site flood hazards; however it would not limit existing flooding of project areas not subject to redevelopment. Therefore, it would only partially comply with the city policy of controlling flood hazards.

Development in mapped flood areas in the Commissary Triangle and Exchange Triangle would need to be raised or otherwise protected from flood hazards in order to comply with city and county policies and standards. The city would review the site for flood zone applicability after acquisition of the site from the Navy.

The Revised Reuse Plan Alternative and other alternatives would comply with all applicable state and federal policies identified in Section 3.9, Water Resources, assuming all required permits were obtained.

4.9.1 Disposal

Rafael Village

Navy disposal of Rafael Village would not affect hydrologic or water quality conditions on the site. As noted above, under Planning Issues and Processes, the site would fall under the jurisdiction of the City of Novato and the Marin County Flood Control and Water Conservation District (MCFCWCD). Conformance with those local agencies' policies is described above.

Main Site

Navy disposal of the Main Site would not affect hydrologic or water quality conditions on the site. As noted above, under Planning Issues and Processes, the site would fall under the jurisdiction of the City of Novato and

MCFCWCD. Conformance with those local agencies' policies is described in that section above.

4.9.2 Revised Reuse Plan Alternative

Implementation of the Revised Reuse Plan Alternative would not result in substantial flooding, would not adversely affect any water body, nor would substantially affect ground water quality. Existing development on lower elevation areas of the Main Site would be subject to significant tidal flood hazards, which could become more severe with projected rise in sea level. This is mitigable through dikes, pumps, and other measures recommended in this section. Creekside and storm drain overtopping also could affect buildings and streets. These existing problems are assessed in Section 4.5, Utilities. Grading, demolition, and development could potentially increase erosion at those sites and are mitigable through erosion control measures.

Rafael Village

Significant Impacts

Impact 1. Grading, demolition, and construction of new houses could result in soil disturbance and increased erosion/sedimentation into San Jose Creek, affecting surface water quality. These impacts would be mitigable below the level of significance by careful compliance with the National Pollutant Discharge Elimination System (NPDES) stormwater permit for the base, which includes requirements for a Storm Water Pollution Prevention Plan (SWPPP) that, in turn, is required to include erosion control plans.

Mitigation 1. Develop erosion control plans consistent with the SWPPP prior to any site clearing or grading. Where necessary, erosion control structures (e.g., silt fences and hay bales) should be in place prior to the start of the rainy season (October 15) and should remain in place through the end of that season (April 15). The SWPPP should include a Best Management Practices (BMP) program for stormwater collection as part of the reuse project. The BMP program should focus on the following:

- Containing and controlling land use activities to prevent the generation of pollutants that might affect water quality;
- Preventing and controlling stormwater runoff; and
- Retaining and treating runoff on-site before it infiltrates the ground water or is released into the bay.

Where appropriate, nonstructural BMPs should be given preference over structural BMPs. The BMP program should use management measures and practices identified by the EPA in the Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters and the California Storm Water Best Management Practice Handbook. The BMP program should be consistent with the requirements of the State Water Resources Control Board and the RWQCB.

Impact 2. Mapped 100-year floods from San Jose Creek would affect some Rafael Village yard areas but do not appear to affect any existing structures. However, upon redevelopment of this area, there is the potential that houses could be developed in the flood plain of that creek. Such construction would subject those houses to potential flood hazards and would be considered a significant and mitigable impact.

Mitigation 2. Limit development of new houses to outside the mapped 100-year flood plain of San Jose Creek.

Impact 3. The existing storm drain system was designed to handle a 10-year recurrence interval rainfall, which is inconsistent with the City of Novato's 25-year recurrence interval standard. Localized street flooding would represent a significant and mitigable impact if the storm drain system were not upgraded to city standards.

Mitigation 3. Upon redevelopment of Rafael Village, the city should require upgrading of all project area storm drains to meet current city standards.

Not Significant Impacts

Implementation of the Revised Reuse Plan Alternative for Rafael Village would not substantially alter ground water quantity underlying the site. The Revised Reuse Plan Alternative would not increase the use of local ground water on the site. Infiltration of precipitation into the upper ground water layer would not be substantially affected by implementation of the Revised Reuse Plan Alternative. It also would not affect ground water flows underlying the site.

The Revised Reuse Plan Alternative would involve reuse of the existing developed area and would not increase impervious surfaces or surface runoff quantities at Rafael Village.

Construction equipment and operations may result in spills and other accidental emissions of pollutants that could enter and contaminate San Jose Creek and downstream receiving waters. This impact is considered not significant, as a spill control and countermeasure plan is required to be included in the SWPPP.

Main Site

Significant Impacts

Impact 4. Grading, demolition, and construction of new buildings in any of the Main Site planning areas could result in soil disturbance and increased erosion/sedimentation into Pacheco Creek and downstream in Ignacio Reservoir, Novato Creek, and San Pablo Bay, which would be significant impacts. These impacts would be mitigable below the level of significance by careful compliance with the NPDES stormwater permit for the base, which includes requirements for a SWPPP that, in turn, is required to include erosion control plans.

Mitigation 4. Develop erosion control plans consistent with the SWPPP prior to any site clearing or grading. Where necessary, erosion control structures (e.g., silt fences and hay bales) should be in place prior to the start of the rainy season (October 15) and should remain in place through the end of that season (April 15). The SWPPP should include a BMP program for stormwater collection as part of the reuse project. The BMP program should focus on the following:

- Containing and controlling land use activities to prevent the generation of pollutants that might affect water quality;
- Preventing and controlling stormwater runoff; and
- Retaining and treating runoff on-site before it infiltrates the ground water or is released into the bay.

Where appropriate, nonstructural BMPs should be given preference over structural BMPs. The BMP program should use management measures and practices identified by the EPA in the Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters and the California Storm Water Best Management Practice Handbook. The BMP program should be consistent with the requirements of the State Water Resources Control Board and the RWQCB.

Impact 5. Development and reuse of Commissary Triangle and the Exchange Triangle could subject residents, workers, and other occupants of those areas to flood hazards in the event of a 100-year flood on Pacheco Creek. Development and reuse of portions of the Town Center, Bowling Alley, Officers' Club, and Ballfields areas could subject residents, workers, and other occupants of those areas to flood hazards in the event of pump failure coincident with the 100-year flood, 100-year high tide, or the combination of these events with storm surges. In addition, a sea level rise of approximately three inches is projected for the San Francisco Bay area by the year 2025 (based

on historical trends) (ESA Associates, Inc. 1993). This rise in sea level could marginally increase the frequency of tidal and nontidal flooding on the site. This potentially significant impact is mitigable by implementation of the measures identified below.

Mitigation 5a. Reuse of planning areas subject to 100-year flood hazards shall not occur until after completion of the planned new levees west of the airfield. Development should be set back from those levees a sufficient distance, as determined by the City of Novato, to allow for levee maintenance and raising as required to account for projected rise in sea level and settlement of underlying muds.

Mitigation 5b. As an alternative to levee protection, any new development at sites below 10 feet (msl) should be protected from flooding by raising the base level of developed areas of the site to a minimum of 10 feet (msl). This elevation may be revised as appropriate, based on the refinements of estimates of the effects of sea level rise in combination with storm surges. In addition, any new development should comply fully with the city's Flood Damage Protection Ordinance. All 100-year floodplains on the site should be incorporated into the city's flood hazard zoning maps.

Mitigation 5c. As identified in the NHP project EIR, the levees shall be fitted with redundant pumping systems and an emergency power supply to assure that adjacent low-lying areas are not flooded in the 100-year storm in the event of a power interruption or pump failure. The Ballfields area is part of the emergency retention area for backed up storm water in the event of a pump failure. This area should remain in open space or undeveloped recreational use to assure adequate emergency flood storage area.

Impact 6. Constrictions in the drainage facilities downstream of Main Gate Road would result in significant and mitigable flood hazards in the Exchange Triangle area and adjacent lands along Pacheco Creek immediately upstream of that area during 100-year storm events.

Mitigation 6. The deficient drainage facilities downstream from the Exchange Triangle and Main Gate Road should be replaced and expanded as necessary to convey 100-year flood flows concurrent with the redevelopment of the Exchange Triangle area. Specific required drainage improvements should be determined by the city Public Works Department.

Not Significant Impacts

Implementation of the Revised Reuse Plan Alternative for the Main Site would not substantially alter ground water quantity underlying the site. The Revised Reuse Plan Alternative would not affect the use of local ground water on the site. Infiltration of precipitation into the ground water would not be

affected substantially by implementation of the Revised Reuse Plan Alternative. It also would not affect ground water flows underlying the site.

The Revised Reuse Plan Alternative would involve reuse of existing developed areas on the base and would not increase impervious surfaces, surface runoff, or flooding in any of the planning areas. It should be noted that the existing storm drain system is inadequate to handle existing runoff from the base in storm events exceeding the 10-year storm. The storm drain system is discussed in detail in Section 3.5 of this document. Downstream drainage and flooding would not be adversely affected by the project. Downstream areas would be protected by levees, pumps, and expanded drainage systems approved and under construction as part of the NHP and Hamilton Army Airfield reuse projects.

Construction equipment and operations may result in spills and other accidental emissions of pollutants that could enter and contaminate the surrounding water bodies. This impact is considered less than significant, as a spill control and countermeasure plan is required to be included in the SWPPP.

The Revised Reuse Plan Alternative would not require culverting or clearing of streams, wetlands, or riparian areas or otherwise adversely affect any wetland or riparian areas.

4.9.3 Open Space Alternative

Rafael Village

Significant Impacts

Impact 1. Significant and mitigable surface water quality impacts from erosion could occur during the demolition of existing houses.

Mitigation 1. Same as identified for the Revised Reuse Plan Alternative, plus implementation of a revegetation/restoration program for the entire area reverting from residences to open space.

Not Significant Impacts

All of the impacts described as not significant under the Revised Reuse Plan Alternative also would be not significant under this alternative. In addition, the Open Space Alternative would involve demolition of the existing structures and conversion of the 107-acre residential area to open space. This reduction in impervious surfaces and resulting reduction in runoff would be a significant beneficial impact with respect to flooding on San Jose Creek and

downstream, including helping to reduce flooding along San Jose Creek near Ignacio Pond. There would be no flood hazards to houses at Rafael Village under this alternative. The existing storm drain system at Rafael Village would not need to be upgraded.

Main Site

Reuses identified for the Main Site under the Open Space Alternative are generally similar to the Revised Reuse Plan Alternative. The primary differences in the land uses between this alternative and the Revised Reuse Plan Alternative are different permitted uses at the Commissary Triangle and Exchange Triangle areas, and the loss of two acres of parkland at the Town Center. None of these changes would materially affect hydrologic or water quality impacts. For this reason, all of the impacts and mitigations identified for the Main Site under the Revised Reuse Plan Alternative also would be applicable to the Open Space Alternative, as summarized below.

Significant Impacts

All of the significant and mitigable hydrologic, water quality, and storm drainage impacts described for the Main Site under the Revised Reuse Plan Alternative also would occur under this alternative. Mitigation measures for this alternative would be identical to those identified above for the Rafael Village portion of the Revised Reuse Plan Alternative.

Not Significant Impacts

All of the impacts described for the Main Site as not significant under the Revised Reuse Plan Alternative also would be not significant under this alternative.

4.9.4 No Action Alternative

Rafael Village

This alternative would not result in any significant impacts to hydrology or water quality on the Rafael Village site.

Not Significant Impacts

The existing storm drain system was designed to handle a 10-year recurrence interval rainfall, which is inconsistent with the City of Novato's 25-year recurrence interval standard. Localized street flooding would result if the storm drain system were not upgraded to city standards. This impact would be not significant because Rafael Village would remain vacant.

Main Site

This alternative would not result in any significant impacts to hydrology or water quality on the Main Site.

Not Significant Impacts

The No Action Alternative would not affect hydrology or water quality at the Main Site. Intermittent flooding would continue to affect structures on low-lying areas of the site. These areas include portions of the Capehart Housing, Exchange Triangle, and Commissary Triangle planning areas, which would remain in federal caretaker status. Therefore, this would not be a significant impact. Periodic Ballfield flooding would continue but is not considered a significant impact. Removal of most vehicular traffic from the site under caretaker status would slightly decrease oil and grease in runoff from roads on the site and could result in slightly improved water quality.

4.10 TRAFFIC AND CIRCULATION

This section presents an analysis of the impacts of the Revised Reuse Plan Alternative and the other alternatives on local and regional traffic and circulation. The alternatives were analyzed in conjunction with assumed development in the City of Novato and the DODHF Novato planning areas through 2015. Impacts are evaluated based on effects to the Level of Service (LOS) on regional freeway segments and local intersections.

Consistent with the significance criteria, impacts have been identified whenever project traffic results in deterioration of LOS below acceptable levels or results in exacerbation of an existing unacceptable condition. In many cases, the traffic impacts are less significant under the Revised Reuse Plan Alternative and other alternatives than they would be for cumulative conditions under the presumed buildout of DODHF Novato under the city's Preferred General Plan. This is because the Revised Reuse Plan Alternative and other alternatives would generate fewer vehicle trips than projected vehicle trips for DODHF Novato under the Preferred General Plan.

Several areas of regional and local traffic currently are operating below acceptable levels or are projected to do so based on regional growth not associated with implementation of any of the alternatives. Section 5.1, Cumulative Impacts, presents an analysis of cumulative conditions and also describes improvements that would be required within the area in order to improve intersections to acceptable levels (LOS D or better). Because it would be speculative to assume that these improvements will be made, this analysis assumes that they will not be made and therefore identifies intersections operating below acceptable levels. If the improvements described in Section 5.1 were implemented, intersection service levels would be improved to acceptable levels under cumulative conditions (Preferred General Plan). Intersections also would operate at acceptable service LOS for the Revised Reuse Plan Alternative and other alternatives.

Previous traffic analyses performed in this area have shown that local traffic conditions generally can be mitigated through sometimes expensive, but still feasible, improvements, but regional impacts have been shown to be unmitigable. The primary reason for this finding has been that political and financial constraints make improving regional traffic facilities difficult.

Region of Influence

The ROI for this traffic analysis includes regional freeway (US 101 and State Route 37) and transit systems because regional access to the project site is provided primarily by these traffic links. The ROI also includes local access routes, as well as the City of Novato's street system, because of their potential

to be impacted by the project. The ROI for traffic and circulation analysis is shown in Figure 3-16.

Significance Criteria

Traffic Impacts - The City of Novato has established LOS D as the standard for the lowest (worst) acceptable service level. A significant impact would result if an LOS deteriorates below LOS D or if the Volume to Capacity (VC) ratio on a link or intersection currently experiencing LOS E or F conditions deteriorates as a result of the Revised Reuse Plan Alternative or other alternatives.

Transit Impacts - Transit impacts are identified if access to transit is not provided to all areas of the site. For the purposes of assessing accessibility, one-quarter of a mile is used as the distance that transit users will walk to a transit station/stop.

Pedestrian and Bicycle Impacts - These impacts are identified if safe, continuous, and connective nonmotorized facilities are not provided.

Table 4-18 summarizes the traffic impacts and their level of significance per implementation of each of the alternatives.

Table 4-18
Summary of Traffic and Circulation Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Local Intersection Impacts	○	○	⦶	⦶
Regional Freeway Impacts	○	○	⦶	⦶
Transit Impacts	○	○	◑	◑
Pedestrian & Bicycle Impacts	○	○	○	○

LEGEND:
● - Significant impact
◑ - Significant and mitigable impact
⦶ - Not significant impact
○ - No impact

Assumptions and Methodology

In order to assess the impacts of the Revised Reuse Plan Alternative and other alternatives on local and regional traffic conditions, it was necessary to make some assumptions about expected cumulative development within the City of Novato and the project vicinity in 2015. The City of Novato recently

completed a General Plan update, and the assumptions used in this analysis are consistent with the Preferred General Plan scenario in the updated General Plan. Future background traffic volume assumptions from the Novato General Plan Revision Transportation Background Report #3 (W-Trans, Inc. 1995) were used.

Future Transportation Network

For the purpose of this analysis, future background traffic conditions have been projected assuming implementation of local intersection and roadway improvements as identified in the NHP Master Plan. These improvements include the following:

- Adding a new loop on-ramp to intersect with Nave Drive at the existing US 101 northbound off-ramp just south of Ignacio Boulevard;
- Reconfiguring the intersection of Ignacio Boulevard at Nave Drive/US 101 on-ramp to eliminate the eastbound left turn and to add an exclusive eastbound right-turn lane to tie the intersection with the new loop on-ramp;
- Increasing the sight distance at the southbound off-ramp on Enfrente Boulevard;
- Extending the auxiliary lane on US 101 from the Enfrente Boulevard southbound off-ramp to the US 101 loop off-ramp to Ignacio Boulevard;
- Performing significant improvements to Nave Drive, including providing additional turns lanes at intersections, and providing continuous channelization, bicycle lanes, and bus turnout areas; and
- Signalizing the intersections of Nave Drive at New Loop Road, Nave Drive at State Access Road, Nave Drive at Main Gate Road, Nave Drive at Bolling Drive, and Alameda del Prado at Clay Court.

In addition to the above improvement assumptions, transportation improvements also have been identified in the Preferred General Plan scenario of the city's Updated General Plan. These improvements include widening US 101 north of Atherton Avenue (into Sonoma County) to six lanes providing and further improvements to the intersection of Ignacio Boulevard at Nave Drive/US 101 on-ramp (restripe one eastbound through-lane to a shared right/through-lane).

A traffic model of the DODHF Novato Main Site and the Ignacio Areas (Rafael Village) was constructed in 1995 to accurately assess future traffic conditions based on assumptions made in the Preferred General Plan scenario,

the New Hamilton Partnership Master Plan, USCG use of the Spanish Housing area, and the alternatives identified in the Reuse Plan. The model includes regional connections (US 101 and State Route 37) to DODHF Novato and contains about 50 traffic analysis zones (TAZs). Roughly half of the TAZs are used to subtract traffic generation associated with military uses from the traffic network, and the other half are used to introduce the new traffic generated by each of the alternatives to the network.

Trip Generation

DODHF Novato historically generates approximately 1,024 vehicle trips during the AM peak hour and 1,727 trips during the PM peak hour. These estimates were derived based on trip generation surveys taken at existing land uses and on standard industry trip rates for various uses. Adjustment factors were applied to standard trip rates for nonresidential land uses to reflect the fact that military nonresidential uses do not generate as many vehicle trips as civilian comparables. For example, the commissary, which is a grocery store for military personnel, generates about half the number of trips that a civilian grocery store of the same size would generate. AM and PM peak hour trip rates, sources, and reduction factors for both current military land uses and proposed uses under the Revised Reuse Plan Alternative are shown in Table G-5 in Appendix G. Trip generations associated with the Revised Reuse Plan Alternative and each of the other alternatives are summarized in Table 4-19 and discussed later in this section.

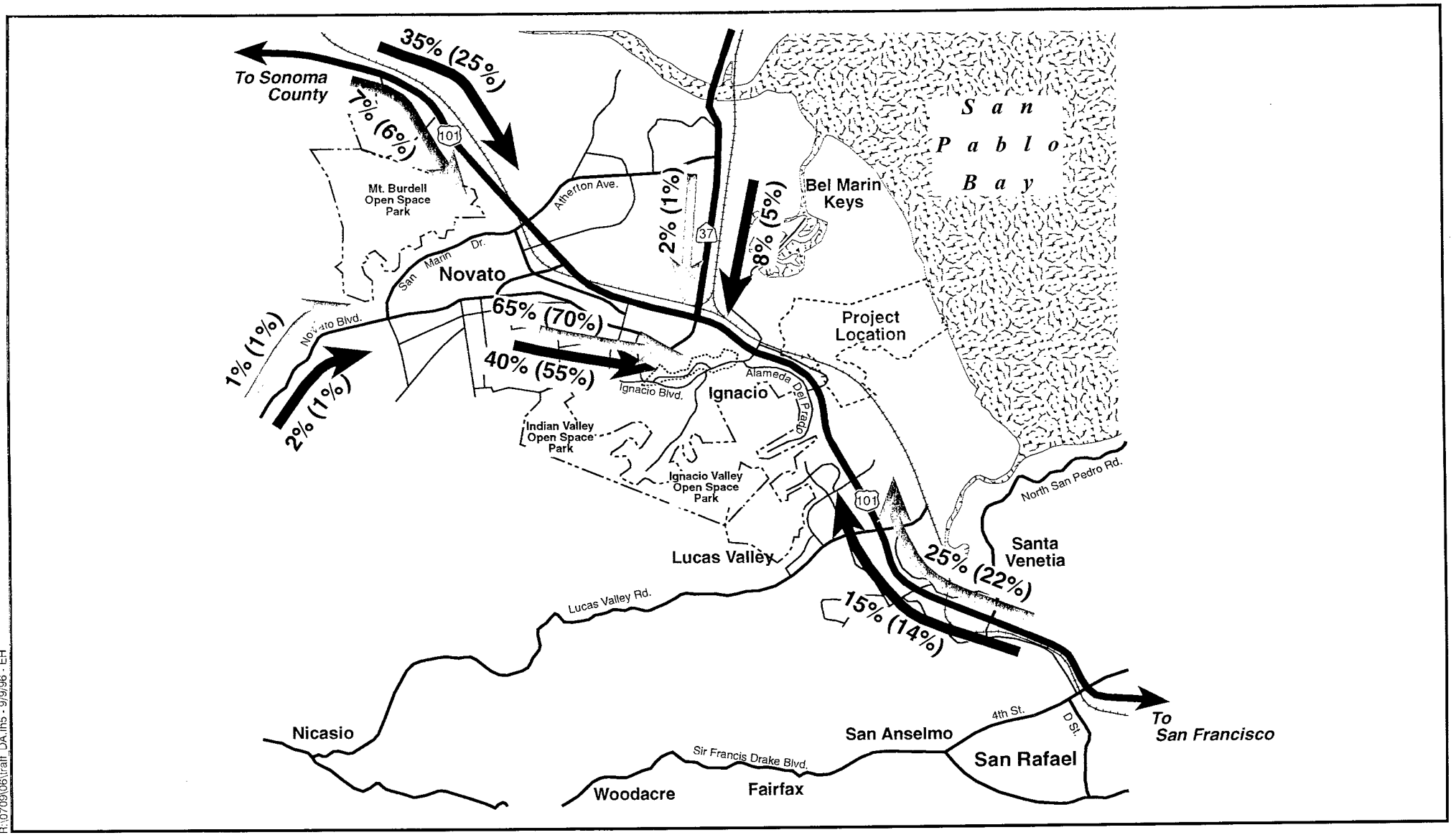
Table 4-19
Net New Trip Generation Summary for All Alternatives[1]

Alternative	Net New Trip Generation	
	AM Peak Hour	PM Peak Hour
Revised Reuse Plan Alternative	144	(84)
Open Space Alternative	(55)	(269)
No Action Alternative	(805)	(1,448)

[1]Note: (xxx) - represents trips lost as a result of base conversion. Negative generations indicate that the previous military uses generated more vehicle trips than the proposed uses.

Trip Distribution

Assignment of trip distribution within the ROI is based on the same assumptions used by the Marin County Congestion Management Agency (CMA) Model for residential and nonresidential uses. This is consistent with the trip distribution assumptions used by the City of Novato in preparing its traffic analysis of the Preferred General Plan scenario. Trip distribution assumptions are shown in Figure 4-1 and Table G-6.



Trip distribution assumptions are based on assumptions used by the Marin County Congestion Management Agency Model for residential and nonresidential uses.

Legend:
- Residential Distribution
- Non-Residential Distribution

3% (7%) = am (pm)

Traffic Distribution Assumption

DOD Housing Faciity
Novato, California

Figure 4-1

Source: Fehr & Peers Associates, 1996

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Traffic Assignment

Traffic assignment assumptions were derived based on the shortest path analysis. The inherent assumption in this type of assignment is that drivers will travel by the route that is the shortest distance from their origin to destination. In some cases, congestion on routes may play a role in the driver's travel route decision, and adjustments to traffic assignments were made to account for this where applicable. However, travel route options in the DODHF Novato area are limited, so most assignment assumptions are based strictly on shortest path.

Future Traffic Volumes

An estimate of future background traffic volumes in the ROI is important in determining which traffic impacts are attributable to the project. Estimated future background traffic volumes were obtained from the Preferred General Plan scenario (1995) of the updated General Plan for 20 key intersections in the ROI. These estimates of future background traffic are based on several assumptions. Within the ROI, but excluding DODHF Novato, growth assumptions include buildout of the remaining residential areas of Ignacio Boulevard, the New Hamilton Partnership Master Plan, as adopted, use of the Spanish Housing area for USCG housing, and other new commercial development.

For DODHF Novato, the Preferred General Plan scenario assumes that the level of traffic generated from DODHF Novato will be equivalent to the level of traffic from military uses prior to the disposal (1995) and reuse of DODHF Novato. It also assumes an additional increment of development beyond existing military uses consisting of 103 dwelling units and about 726,000 square feet of commercial space.

Level of Service Summary

LOS analysis is used to determine the impact of the Revised Reuse Plan Alternative and other alternatives on the local circulation system. LOS analyses were performed at 20 key intersections in the ROI and for four (bi-directional) freeway segments along US 101 and State Route 37 during the AM and PM peak hours. The analysis techniques are consistent with the 1994 Highway Capacity Manual (HCM) analysis techniques used to establish existing conditions, as described in Section 3.10, Traffic and Circulation. Appendix G, Tables G-7 and G-8 summarize the peak hour intersection operations for the AM and PM peak hours, respectively. Tables G-9 and G-10 summarize peak hour freeway operations for the AM and PM peak hours, respectively.

4.10.1 Disposal

Federal disposal of DODHF Novato would not represent a development alternative in the sense that is does not stipulate a use for the land. As such, disposal would not affect traffic or circulation in the ROI and would therefore have no impacts.

4.10.2 Revised Reuse Plan Alternative

Under the Revised Reuse Plan Alternative, each of the DODHF Novato planning areas would be developed with the land uses designated in the revised Reuse Plan.

Trip Generation

The Revised Reuse Plan Alternative would generate approximately 144 net new vehicle trips during the AM peak hour and a reduction of 84 trips during the PM peak hour. Table G-11 in Appendix G shows the trip generation characteristics (by planning area) for the various land uses that would be developed under the Revised Reuse Plan Alternative.

Intersection Operations

Not Significant Impacts

Under the Revised Reuse Plan Alternative, future intersection traffic volumes would increase slightly from the future Preferred General Plan scenario in the AM peak traffic hour and decrease in the PM peak traffic hour (see Figure 4-2). Seventeen of the 20 key intersections would operate at or above the city's acceptable criteria of average delay of under 30 seconds per vehicle for unsignalized intersections and under 40 seconds for signalized intersections (LOS D) during AM and PM peak traffic hour. Three intersections would operate below the city's acceptable criteria during the PM peak traffic hour. However, this is not considered a significant impact since the Revised Reuse Plan Alternative would result in better levels of service than under the city's approved Preferred General Plan.

Freeway Operations

Not Significant Impacts

Traffic volumes on US 101 and State Route 37 would decrease under the Revised Reuse Plan Alternative when compared to cumulative traffic volumes under the city's Preferred General Plan scenario, but would not decrease

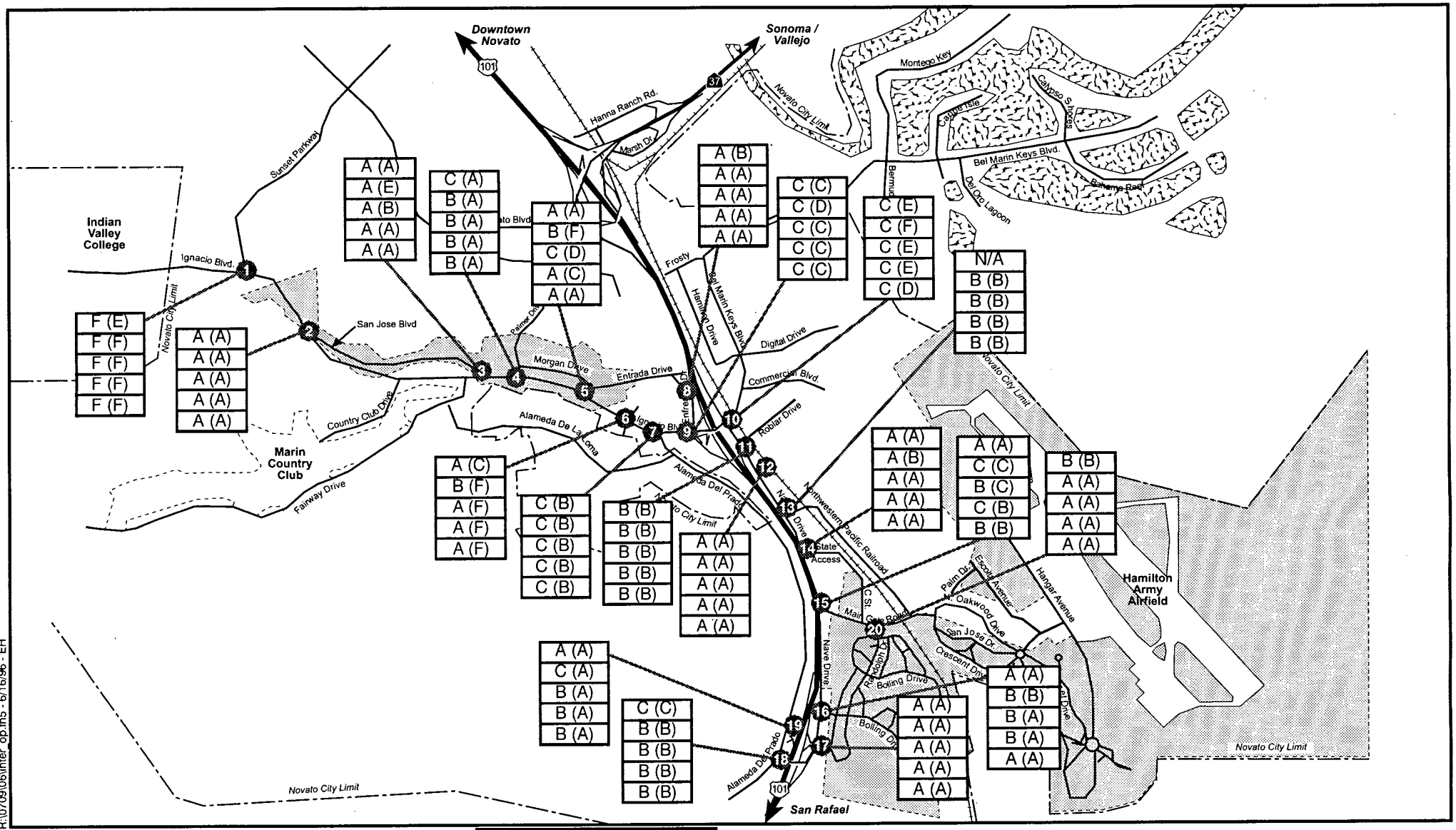


Figure 4-2 allows for a comparison of intersection operations under existing conditions, the City of Novato's general Plan scenario, and the alternatives evaluated in this EIS.

Key to LOS Conditions
Existing Condition
Preferred General Plan
Revised Reuse Plan
Open Space
No Action

A (B) = AM (PM)

N

Source: Fehr & Peers Associates, 1996

Intersection Operations

DOD Housing Facility
Novato, California

Figure 4-2

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enough to eliminate the existing freeway congestion on these freeways. Three of four key freeway segments analyzed would exceed the freeway level of service criteria of no more than 1,824 passenger cars per hour per lane (LOS D) during peak periods. Figure 4-3 presents a summary of the freeway levels of service for the Revised Reuse Plan Alternative and other alternatives.

US 101 southbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the AM peak hour and would have between 1,824 and 2,300 cars per hour per lane (LOS E) during the PM peak hour. US 101 northbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the PM peak period. These are not considered significant impacts because implementation of the Revised Reuse Plan Alternative would result in better levels of service than provided under the city's Preferred General Plan.

US 101 southbound south of Ignacio Boulevard would have between 1,824 and 2,300 cars per hour per lane (LOS E) during the AM peak hour. US 101 northbound south of Ignacio Boulevard would exceed 2,300 cars per hour per lane (LOS F) during the PM peak hour. These are not considered significant impacts because implementation of the Revised Reuse Plan Alternative would result in better levels of service than provided under the city's Preferred General Plan.

State Route 37 eastbound between US 101 and Atherton Avenue would have between 1,824 and 2,300 cars per hour per lane (LOS E) in the PM peak hour. This is not considered a significant impact because implementation of the Revised Reuse Plan Alternative would result in better levels of service than provided under the city's Preferred General Plan.

Transit Service

The New Hamilton Partnership project includes substantial improvements to transit infrastructure, including the provision of turnouts on Nave Drive, construction of internal roadways to ultimately accommodate buses, and the identification of a transit station along the GGBHTD right-of-way. A shuttle also will be provided as part of that project, shuttling people from within the site to the bus stops on Nave Drive. For the purpose of assessing transit impacts under the Revised Reuse Plan Alternative, all improvements identified in the New Hamilton Partnership project are assumed to be in place under cumulative conditions.

A recently passed State Senate Bill, SB 437, overturns any mandatory employer-based trip reduction ordinances. Although this is not certain at this time, SB 437 also may have the authority to overturn any Transportation Demand Management (TDM) policies included as Conditions of Approval for

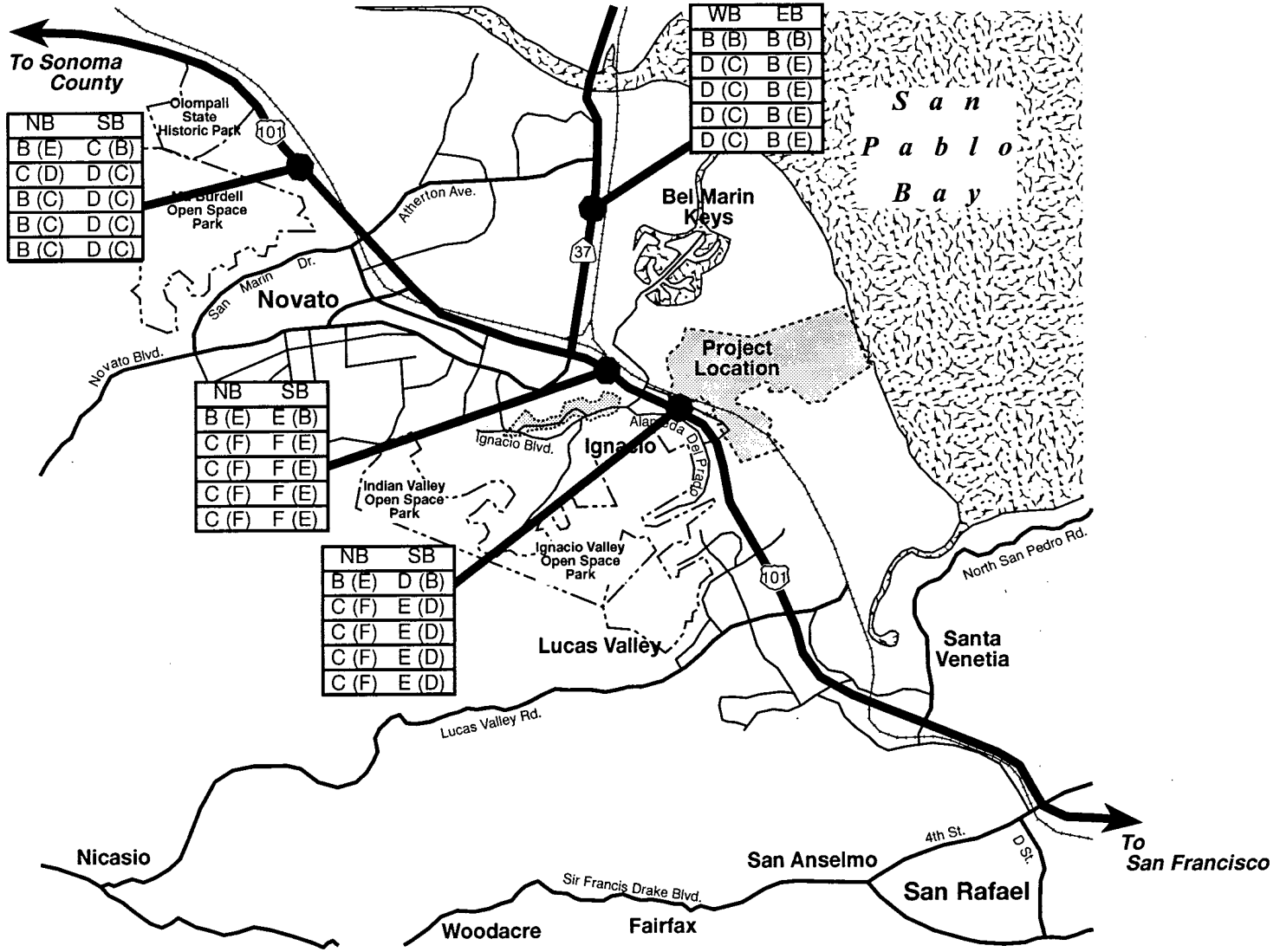


Figure 4-3 provides a comparison of freeway levels of service between existing conditions, the City of Novato's General Plan Scenario, and the alternatives evaluated in the EIS.

Key to LOS Conditions
Existing Condition
Preferred General Plan
Revised Reuse Plan
Open Space
No Action

A (B) = AM (PM)

Source: Fehr & Peers Associates, 1996

Freeway Level of Service

DOD Housing Faciity
Novato, California

Figure 4-3

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new developments. Should the latter be true, TDM programs, including the NHP shuttle, required under the Conditions of Approvals for the New Hamilton Partnership project may be suspended.

Significant Impacts

Impact 1. Some increase in demand for transit services would result from reuse of DODHF Novato under the Revised Reuse Plan Alternative. The increase in demand would require convenient access for transit to all areas of the Main Site. GGBHTD has indicated that it will not add or expand its routes along Nave Drive into the Main Site area unless the costs of the additional service are provided through the Marin County Transit District (MCTD). MCTD, due to its own funding constraints, is not able to provide additional funds. This would be a significant and mitigable impact.

Mitigation 1. Internal collector roadways (Randolph Drive, Bolling Drive, and Escolta Avenue) at the Main Site could be constructed or improved to accommodate transit vehicles. In addition, a service could be provided to shuttle people from on-site locations to bus stops on Nave Drive. The most cost-effective means of providing this shuttle is likely to be an expansion of the NHP shuttle service.

Pedestrian and Bicycle Impacts

Beneficial Impacts

The Revised Reuse Plan Alternative calls for construction of continuous, connective, and safe pedestrian and bicycle facilities throughout the project area. If implemented, these facilities would represent a net beneficial impact to pedestrian and/or bicycle systems in the project area.

4.10.3 Open Space Alternative

Under the Open Space Alternative, the existing residential units at Rafael Village would be demolished. The site would be revegetated and would remain as undeveloped open space. Land uses at each of the Main Site planning areas would be the same as under the Revised Reuse Plan Alternative except for less neighborhood commercial use in Town Center and more open space and less parkland in the Ballfields area.

Trip Generation

The Open Space Alternative would result in a decrease of approximately 55 net vehicle trips during the AM peak hour and a decrease of 269 trips during the PM peak hour. Table G-13 in Appendix G shows the trip generation

characteristics (by planning area) for the various land uses that would be developed under the Open Space Alternative.

Intersection Operations

Not Significant Impacts

Under the Open Space Alternative, future intersection traffic volumes would increase slightly from the future Preferred General Plan scenario in the AM peak traffic hour and decrease in the PM peak traffic hour (see Figure 4-2). Seventeen of the 20 key intersections would operate at or above the city's acceptable criteria of average delay of under 30 seconds per vehicle for unsignalized intersections and under 40 seconds for signalized intersections (LOS D) during AM and PM peak traffic hour. Three intersections would operate below the city's acceptable criteria during the PM peak traffic hour. However, this is not considered a significant impact since the Open Space Alternative would result in better levels of service than under the city's approved Preferred General Plan.

Freeway Operations

Not Significant Impacts

Traffic volumes on US 101 and State Route 37 would decrease under the Open Space Alternative when compared to cumulative traffic volumes under the city's Preferred General Plan scenario, but would not decrease enough to eliminate the existing freeway congestion on these freeways. Three of four key freeway segments analyzed would exceed the freeway level of service criteria of no more than 1,824 passenger cars per hour per lane (LOS D) during peak periods. Figure 4-3 presents a summary of the freeway levels of service for the Open Space Alternative and other alternatives.

US 101 southbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the AM peak hour and have between 1,824 and 2,300 cars per hour per lane (LOS E) during the PM peak hour. US 101 northbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the PM peak period. These are not considered significant impacts because implementation of the Open Space Alternative would result in better levels of service than provided under the city's Preferred General Plan.

US 101 southbound south of Ignacio Boulevard would have between 1,824 and 2,300 cars per hour per lane (LOS E) during the AM peak hour. US 101 northbound south of Ignacio Boulevard would exceed 2,300 cars per hour per lane (LOS F) during the PM peak hour. These are not considered significant impacts because implementation of the Open Space Alternative would result

in better levels of service than provided under the city's Preferred General Plan.

State Route 37 eastbound between US 101 and Atherton Avenue would have between 1,824 and 2,300 cars per hour per lane (LOS E) in the PM peak hour. This is not considered a significant impact because implementation of the Open Space Alternative would result in better levels of service than provided under the city's Preferred General Plan.

Transit Service

Impacts would be the same as those described under the Revised Reuse Plan Alternative.

Pedestrian and Bicycle Impacts

Impacts would be the same as those described under the Revised Reuse Plan Alternative.

4.10.4 No Action Alternative

Under the No Action Alternative, DODHF Novato would remain under federal ownership in a caretaker, or inactive, status, with on-site activities limited to maintenance and remediation activities.

Trip Generation

The No Action Alternative would result in a decrease of approximately 835 net vehicle trips during the AM peak hour and a decrease of 1,505 vehicle trips during the PM peak hour. Table G-13 in Appendix G shows the trip generation characteristics by planning area for the various land uses that would be developed under the No Action Alternative.

Intersection Operations

No Impacts

Under the No Action Alternative, future intersection traffic volumes would increase slightly from the future Preferred General Plan scenario in the AM peak traffic hour and decrease in the PM peak traffic hour (see Figure 4-2). Eighteen of the 20 key intersections would operate at or above the city's acceptable criteria of average delay of under 30 seconds per vehicle for unsignalized intersections and under 40 seconds for signalized intersections (LOS D) during AM and PM peak traffic hour. Under the No Action Alternative the intersection of Ignacio Boulevard @ Nave Drive would

improve compared to the other alternatives (from LOS E under the other alternatives to LOS D). Two intersections would continue to operate below the city's acceptable criteria during the PM peak traffic hour. However, this is not considered a significant impact related to the alternative since the No Action Alternative would result in better levels of service than under the city's approved Preferred General Plan.

Freeway Operations

No Impacts

Traffic volumes on US 101 and State Route 37 would decrease under the Open Space Alternative when compared to cumulative traffic volumes under the city's Preferred General Plan scenario, but would not decrease enough to eliminate the existing freeway congestion on these freeways. Three of four key freeway segments analyzed would exceed the freeway level of service criteria of no more than 1,824 passenger cars per hour per lane (LOS D) during peak periods. Figure 4-3 presents a summary of the freeway levels of service for the No Action Alternative and other alternatives.

US 101 southbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the AM peak hour and have between 1,824 and 2,300 cars per hour per lane (LOS E) during the PM peak hour. US 101 northbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the PM peak period. These are not considered significant impacts because implementation of the No Action Alternative would result in better levels of service than provided under the city's Preferred General Plan.

US 101 southbound south of Ignacio Boulevard would have between 1,824 and 2,300 cars per hour per lane (LOS E) during the AM peak hour. US 101 northbound south of Ignacio Boulevard would exceed 2,300 cars per hour per lane (LOS F) during the PM peak hour. These are not considered significant impacts because implementation of the No Action Alternative would result in better levels of service than provided under the city's Preferred General Plan.

State Route 37 eastbound between US 101 and Atherton Avenue would have between 1,824 and 2,300 cars per hour per lane (LOS E) in the PM peak hour. This is not considered a significant impact because implementation of the No Action Alternative would result in better levels of service than provided under the city's Preferred General Plan.

Transit Service

The New Hamilton Partnership project includes substantial improvements to transit infrastructure including the provision of turnouts on Nave Drive,

construction of internal roadways to ultimately accommodate buses, and the identification of a transit station along the GGBHTD right-of-way. A shuttle also will be provided as part of that project, shuttling people from within the site to the bus stops on Nave Drive. For the purpose of assessing transit impacts under the No Action Alternative, all improvements identified in the New Hamilton Partnership project are assumed to be in place under cumulative conditions.

No Impacts

For the No Action Alternative, no on-site transit would be required. There would be no transit impacts under this alternative.

Pedestrian and Bicycle Impacts

No Impacts

Under the No Action Alternative, the Navy would continue to maintain, police, and, where appropriate, provide lighting for all pedestrian and bicycle facilities. There would be no pedestrian or bicycle impacts under this alternative.

4.11 AIR QUALITY

The following section describes impacts to air quality resulting from disposal, no action, and community reuse of DODHF Novato.

Region of Influence

The ROI for air quality issues depends upon the type of air pollution being discussed. Primary pollutants such as carbon monoxide have localized regions of influence restricted to the immediate vicinity of the emission source. Secondary pollutants such as ozone have an ROI that encompasses the entire San Francisco Bay metropolitan area, including DODHF Novato.

Significance Criteria

Significance criteria for evaluating air quality impacts can be based on physical impacts, regulatory standards, or consistency with plans for meeting air quality standards. Air quality impacts are typically judged to be significant if the action would directly or indirectly:

- cause or contribute to a violation of state or federal ambient air quality standards;
- cause pollutant or pollutant precursor emissions in excess of BAAQMD impact significance thresholds (80 pounds per day for ozone precursors and PM_{10} from project-related traffic);
- conflict with specific air quality management plan policies or programs; or
- foster or accommodate development in excess of the levels assumed by applicable air quality management plans.

Table 4-20 summarizes the impacts to air quality from disposal, the Revised Reuse Plan Alternative, the Open Space Alternative, and the No Action Alternative.

4.11.1 Disposal

Property disposal actions would have no direct air quality impacts. Property disposal actions generally qualify as de minimis actions under EPA's Clean Air Act conformity determination rule.

Table 4-20
Summary of Air Quality Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Construction and Demolition	○	○	◑	◑
Carbon monoxide concentrations	○	○	◍	◍
Ozone precursor emissions	○	○	●	●
Air quality plan consistency	○	○	◍	◍

LEGEND:
● = Significant impact
◑ = Significant and mitigable impact
◍ = Not significant impact
○ = No impact

4.11.2 Revised Reuse Plan Alternative

Construction and Demolition

Significant Impacts

Impact 1. Building demolition, renovation, and construction activities have the potential for generating localized dust nuisance conditions. Construction, renovation, and demolition activities under the Revised Reuse Plan Alternative would occur incrementally over an extended buildout period. Demolition and construction would be a concern primarily in the Rafael Village planning area, where 503 existing residential structures would be replaced (with 500 new units). Buildout of the Commissary Triangle and Exchange Triangle areas also would involve demolition and construction. Construction-related dust would be a potentially significant and mitigable impact that can be reduced to acceptable levels by proper dust control measures.

Mitigation 1. Implementation of the following dust control practices during demolition, construction, and renovation activities would reduce potential impacts to a not significant level.

- Minimize the area disturbed by clearing, earthmoving, or excavation activities.
- Prevent excessive dust generation by using water or dust control solutions on all unpaved areas subject to vehicle traffic, grading, or excavation.
- Ensure that any petroleum-based dust control products used on the site meet BAAQMD regulations for cutback asphalt paving materials.

- Halt all site clearing, grading, earthmoving, and excavation activities during periods of sustained strong winds (hourly average wind speeds of 20 mph or greater).
- Sweep streets adjacent to the construction site as necessary to remove accumulated dust and soil.
- Properly maintain all construction vehicles and avoid excessive idling of inactive equipment.

Ozone Precursor Emissions

Impact 2. Table 4-21 summarizes estimates of average weekday vehicle travel and resulting vehicle emissions for land use patterns under the reuse and no action alternatives. Vehicle travel associated with the Revised Reuse Plan Alternative is estimated to produce a net increase in NOx emissions of 167 pounds per day and a net increase in reactive organic compounds (ROG) of 91 pounds per day. This increase would exceed the BAAQMD impact significance threshold of 80 pounds per day (for each ozone precursor pollutant) by 87 pounds of NOx per day and 11 pounds of ROG per day.

Table 4-21
Vehicle Travel and Emission Estimates for Alternatives

Parameter	Development Scenario		
	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative
Daily Internal Trips	1,296	973	25
Daily External Trips	10,302	7,355	1,887
Total Daily Vehicle Trips	12,065	8,651	1,933
Daily VMT	117,372	85,018	18,603
Summer ROG Emissions (lbs/day)	91	65	15
Summer NOx Emissions (lbs/day)	167	121	27
PM_{10} Emissions (lbs/day)	57	41	9
Summer CO Emissions (lbs/day)	1,117	810	174
Winter CO Emissions (lbs/day)	1,303	950	201

Notes: VMT = vehicle miles traveled
PM_{10} = inhalable particulate matter (exhaust and tire wear)
ROG = reactive organic compounds
CO = carbon monoxide
NOx = nitrogen oxides
BAAQMD significance thresholds are 80 lbs/day for ROG, NOx, and PM_{10}. Dispersion modeling was used to calculate CO emissions and is the best significance measure for CO.
Daily trip data based on traffic studies; these numbers take into account land use acreages, typical daily trip generation rates, and transit and ride sharing.
Land uses for reuse plan alternatives are summarized in Table 2-1.
Net daily trip estimates reflect adjustments for trips between study area land use categories.
Emission estimates are based on EMFAC7F emission rates for 2010.
Developed by Tetra Tech

While the quantity of project-related emissions is considered to be significant in a NEPA context, the added emissions are not expected to cause any change in federal or state air quality attainment designations. The Bay Area Clean Air

Plan estimates that regional emissions of ozone precursors are more than 500 tons per day for both reactive organic compounds and nitrogen oxides. The addition of 167 pounds per day of NOx emissions and 91 pounds per day of ROG emissions would not cause any measurable change in the location, magnitude, or frequency of high ozone concentrations. Consequently, the Revised Reuse Plan Alternative would not affect the Bay Area's attainment status for ozone.

Mitigation 2. No feasible mitigation has been identified for this impact.

Carbon Monixide Concentrations

Not Significant Impacts

As discussed in Section 4.10, Traffic and Circulation, buildout of the Reuse Plan would generate traffic that would contribute to traffic congestion problems at some locations in the Novato area. Air quality modeling was performed to determine whether vehicle emissions at congested intersections might cause localized violations of state or federal carbon monoxide standards. Table 4-22 summarizes the results of these dispersion modeling analyses. As indicated in Table 4-22, carbon monoxide levels would remain well below the applicable standards at all locations.

Air Quality Plan Consistency

Not Significant Impacts

Administrative procedures established by the EPA general conformity rule apply to federally designated nonattainment and maintenance areas. Property transfers associated with reuse of DODHF Novato are excluded from the requirements of the EPA general conformity rule. Interim lease arrangements might be subject to the requirements of the general conformity rule only if the Navy retains authority to control the proposed use.

Table 4-22
Summary of Carbon Monoxide Dispersion Modeling Results

Receptor Location	Peak 1-Hour Carbon Monoxide Concentration (ppm)			Peak 8-Hour Carbon Monoxide Concentration (ppm)		
	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative
NE of Nave Dr. and Bel Marin Keys	6.4	6.2	5.9	4.5	4.3	4.1
SE of Nave Dr. and Bel Marin Keys	7.7	7.3	6.9	5.4	5.1	4.8
NW of Ignacio and Safeway access	4.4	4.2	3.8	3.1	2.9	2.7
SW of Ignacio and Safeway access	4.7	4.5	4.2	3.3	3.2	2.9
NE of Ignacio and Safeway access	4.7	4.5	4.3	3.3	3.2	3.0
SE of Ignacio and Safeway access	5.0	4.8	4.5	3.5	3.4	3.2
NW of Ignacio and Entrada Drive	3.9	3.6	3.4	2.7	2.5	2.4
SW of Ignacio and Entrada Drive	4.2	3.8	3.5	2.9	2.7	2.5
NE of Ignacio and Entrada Drive	4.0	3.9	3.6	2.8	2.7	2.5
SE of Ignacio and Entrada Drive	4.8	4.3	4.0	3.4	3.0	2.8
NW of Ignacio and Sunset Parkway	8.5	8.1	3.3	6.0	5.7	2.3
SW of Ignacio and Sunset Parkway	6.6	6.4	2.9	4.6	4.5	2.0
NE of Ignacio and Sunset Parkway	7.2	6.9	2.9	5.0	4.8	2.0
SE of Ignacio and Sunset Parkway	6.3	6.0	2.8	4.4	4.2	2.0

Notes: ppm = parts per million, by volume
All modeling results for carbon monoxide are within federal and state standards.
Federal carbon monoxide standards are 35 ppm for a 1-hour average and 9 ppm for an 8-hour average.
California carbon monoxide standards are 20 ppm for a 1-hour average and 9 ppm for an 8-hour average.
Modeling results were generated using the CALINE4 dispersion model and EMFAC7F emission rates for the year 2010.
Emissions from extended vehicle idling at congested intersections are included in the modeling analysis.
Modeling analyses assumed poor dispersion conditions (moderate temperature inversion [stability class F], 2.2 mph wind speed, 50-meter mixing height limit, and 10 degree wind direction fluctuation parameter), with wind directions varied in 10 degree increments.
A background carbon monoxide value of 2 ppm has been added to the peak 1-hour modeling results.
Peak 8-hour carbon monoxide concentrations are estimated as 70% of the peak 1-hour concentration.

4.11.3 Open Space Alternative

Significant Impacts

Impact 1. Potential demolition-related air quality impacts under this alternative would be similar to those of the Revised Reuse Plan Alternative. Construction-related impacts would be less than under the Revised Reuse Plan Alternative because the 503 units in Rafael Village would not be replaced. Construction-related dust could be reduced to not significant levels by implementation of proper dust control measures.

Mitigation 1. See Mitigation 1 under the Revised Reuse Plan Alternative.

Impact 2. As shown in Table 4-21, vehicle travel associated with the Open Space Alternative would result in NOx ozone precursor emissions of 121 pounds per day, exceeding the BAAQMD significance threshold of 80 pounds per day by 41 pounds of NOx per day. ROG emissions would be below the 80 pound per day threshold under this alternative. As with the Revised Reuse Plan Alternative, although the quantity of project-related emissions is considered to be significant in a NEPA context, the added emissions are not expected to cause any change in federal or state air quality attainment designations. The addition of 121 pounds per day of NOx emissions would not cause any measurable change in the location, magnitude, or frequency of high ozone concentrations. Consequently, the Open Space Alternative would not affect the Bay Area's attainment status for ozone.

Mitigation 2. See Mitigation 2 under the Revised Reuse Plan Alternative.

Not Significant Impacts

The Open Space Alternative would generate traffic that would contribute to traffic congestion problems at some locations in the Novato area. Air quality modeling was performed to determine whether vehicle emissions at congested intersections might cause localized violations of state or federal carbon monoxide standards. Table 4-22 summarizes the results of these dispersion modeling analyses. As indicated in Table 4-22, carbon monoxide levels would remain well below the applicable standards at all locations.

Compliance with the EPA general conformity rule would be similar to the Revised Reuse Plan Alternative and would not result in impacts.

4.11.4 No Action Alternative

No Impacts

Caretaker status under the No Action Alternative would not have any air quality impacts from construction or demolition activities or, as shown on Tables 4-21 and 4-22, from vehicle traffic. The No Action Alternative would not require a Clean Air Act conformity determination because resulting annual direct and indirect emissions would clearly be less than the applicable de minimis levels.

4.12 NOISE

The following section describes noise impacts resulting from disposal, no action, and community reuse of DODHF Novato.

Region of Influence

The ROI for noise is limited since noise levels decrease as the distance from the noise source increases. The overall noise ROI for this EIS is the City of Novato. A more localized ROI is appropriate for some discrete noise sources; such localized areas of influence are generally within one-half mile of the noise source.

Significance Criteria

Noise impacts associated with the reuse of DODHF Novato fall into three categories—temporary noise generation from demolition and construction activities, noise generation from added vehicle traffic, and exposure of proposed land uses to the combination of background and added noise levels.

Noise impact significance criteria are based partly on land use compatibility guidelines and partly on factors related to the duration and magnitude of noise level changes. Annoyance effects are the primary consideration for most noise impact assessments. Because the reaction to noise level changes involves both physiological and psychological factors, the magnitude of a noise level change can be as important as the resulting overall noise level. A readily noticeable increase in noise levels often would be considered a significant effect by local residents even if the overall noise level is still within land use compatibility guidelines. On the other hand, noise level increases that are not noticeable to most people generally are not considered a significant change, even if the overall noise level is somewhat above land use compatibility guidelines.

- An adverse impact would occur if an alternative exposed noise sensitive land uses (e.g., residential, educational, and health care uses) to ambient noise levels that are higher than the 60 dB land use compatibility criterion.

- An incremental noise level decrease would be considered a beneficial impact even if the overall noise level remains above land use compatibility criteria.

- A project-related noise level increase of 3 dB or more would be considered a significant impact if noise-sensitive land uses (residential, medical, or educational land uses) are affected and if the overall noise level is within 5 dB of the land use compatibility criteria.

- A project-related noise level increase of 1 dB or more would be considered a significant impact if noise-sensitive land uses (residential, medical, or educational land uses) are affected and if the overall noise level is 5 dB or more above the applicable land use compatibility criteria.

- Temporary noise sources that are restricted to daytime hours (such as most construction and demolition activities) would be considered a significant impact only if they result in noise levels 10 dB or more above the land use compatibility criteria.

Table 4-23 summarizes potential noise impacts of disposal and reuse.

Table 4-23
Summary of Noise Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Construction and Demolition Noise	○	○	◑	◑
Added Traffic Noise	○	○	◌	◌
Noise Exposure of Proposed Land Uses	○	○	●	●

LEGEND:
● = Significant impact
◑ = Significant and mitigable impact
◌ = Not significant impact
○ = No impact

4.12.1 Disposal

Property disposal actions would have no direct noise impacts.

4.12.2 Revised Reuse Plan Alternative

Noise modeling analyses were performed to assess the noise effects of the alternatives. Modeled receptor locations were arranged in transects north and south of Ignacio Drive between Entrada Drive and Palmer Drive, east and west of US 101 south of the SR 37 interchange, and east and west of US 101 between Main Gate Road and Bolling Drive. Table 4-24 summarizes the results of these noise modeling analyses.

Table 4-24
Summary of Traffic Noise Modeling Results

General Location	Modeled Ldn Level (dB) by Reuse Alternative			
	Distance From Centerline (Feet)	Revised Reuse Plan Alternative	Open Space Alternative	No Action Alternative
N of Ignacio between Entrada and Palmer Drive	100	69.4	69.3	69.0
	150	68.7	68.6	68.4
	200	68.5	68.4	68.2
	400	68.8	68.8	68.6
	750	68.0	67.9	67.8
S of Ignacio between Entrada and Palmer Drive	100	68.9	68.8	68.5
	150	67.7	67.7	67.4
	200	67.1	67.0	66.8
	400	65.5	65.5	65.3
	750	64.0	64.0	63.8
	1,500	62.0	61.9	61.8
E of US 101, north of Rafael Village	100	80.6	80.6	80.5
	200	75.6	75.6	75.4
	400	70.5	70.4	70.3
	750	65.6	65.5	65.4
	1,500	59.9	59.9	59.8
	2,500	55.4	55.4	55.3
W of US 101 north of Rafael Village	100	80.6	80.6	80.5
	200	75.6	75.6	75.5
	400	73.3	72.9	72.1
	750	74.1	74.0	73.5
	1,500	61.4	61.4	61.1
	2,500	56.2	56.2	56.1
E of US 101 between Main Gate Road and Bolling Drive	100	80.7	80.7	80.6
	150	77.8	77.8	77.7
	200	75.9	75.9	75.8
	400	71.0	71.0	70.9
	750	66.2	66.2	66.1
	1,500	60.4	60.4	60.3
	2,500	55.7	55.7	55.6
W of US 101 between Main Gate Road and Bolling Drive	100	80.8	80.8	80.7
	150	77.9	77.9	77.8
	200	76.0	76.0	75.9
	400	71.5	71.5	71.4
	750	67.3	67.3	67.2
	1,500	61.9	61.9	61.8
	2,500	57.2	57.2	57.1

Notes: Traffic noise was modeled using the Federal US Highway Administration traffic noise prediction model, California vehicle noise emission levels, and hourly distributions of car and truck traffic representative of freeways and arterial highways. Modeled traffic speeds were adjusted according to hourly volume:capacity ratios.

Acceptable noise levels as specified in the Novato General Plan are 60 dB for residential uses, hotels, motels, schools, libraries, hospitals, churches, museums, and meeting halls; 65 dB for outdoor sports and recreation, parks, and playgrounds; and 70 dB for office buildings, business commercial, professional, industrial, manufacturing, utilities, and agriculture land uses.

Significant Impacts

Impact 1. Building demolition, renovation, and construction activities associated with reuse of the Rafael Village, Commissary Triangle, and Exchange Triangle planning areas would cause temporary noise disturbances to adjacent land uses. Occupied residential locations around these planning areas, including Lanham Village and neighborhoods adjacent to Rafael Village, may experience temporary disturbance from construction noise. This would be a short-term significant and mitigable impact. The Reuse Plan anticipates little or no construction or demolition at the remaining Navy-owned planning areas.

Mitigation 1. Limit the use of heavy construction equipment and outdoor power tools to normal daytime hours (7 AM through 7 PM) during construction and demolition activities. Limiting construction and demolition activities to normal daytime hours would reduce potential noise impacts to a less than significant level.

Impact 2. The Revised Reuse Plan Alternative would result in residential reuse in areas that would be exposed to existing ambient noise levels significantly above the land use compatibility guidelines provided in the Novato General Plan. The plan sets the acceptable noise level for residential housing at 60 dB. This level currently is exceeded due to noise from traffic along area roadways. As shown in Table 4-24, the 60 dB noise level is exceeded in Capehart Housing to a distance of 1,500 feet from the centerline of US 101, an area encompassing the western two-thirds and the most densely built portion of the planning area. As also shown on Table 4-24, this noise level is exceeded in Rafael Village north and south of Ignacio Boulevard to a distance exceeding 750 feet from the road, an area encompassing most of Rafael Village. The remaining planning areas would not be exposed to noise levels exceeding the standards for their specific type of land use.

Mitigation 2. The City of Novato and Caltrans should evaluate the feasibility of additional sound walls along US 101 in order to reduce traffic noise impacts on adjacent properties. During detailed planning for new housing units in Rafael Village, the City of Novato should consider site designs that provide for sound walls along Ignacio Boulevard. Although sound walls would reduce ambient noise levels by approximately 5 dB, the noise levels would still be significant in those areas nearest US 101 and Ignacio Boulevard.

Not Significant Impacts

As discussed in Section 4.10, Traffic and Circulation, buildout of the proposed reuse plan would generate traffic that would add marginally to background traffic volumes that are already high. Traffic noise modeling was performed to determine whether the added traffic volumes would have a significant effect on

ambient noise levels. Traffic noise modeling was performed for a simulated 24-hour pattern of auto and truck traffic on US 101, Ignacio Boulevard, and Nave Drive. As indicated in Table 4-24, traffic added by the Revised Reuse Plan Alternative would not cause any significant change in ambient noise levels (represented by the No Action Alternative).

4.12.3 Open Space Alternative

Significant Impacts

Impact 1. Noise impacts from demolition, renovation, and construction activities would be similar to those described for the Revised Reuse Plan Alternative. Construction-related noise would be less at Rafael Village, however, since the housing units demolished would not be replaced with new housing units.

Mitigation 1. Limit the use of heavy construction equipment and outdoor power tools to normal daytime hours (7 AM through 7 PM) during construction and demolition activities.

Impact 2. The Open Space Alternative would result in reuse of noise-sensitive land uses in areas that would be exposed to existing high ambient noise levels. This alternative would, however, result in better land use compatibility conditions along Ignacio Boulevard.

Mitigation 2. The sound wall evaluations discussed under the Revised Reuse Plan Alternative also should be considered for the Open Space Alternative.

Not Significant Impacts

As indicated in Table 4-24, traffic associated with the Open Space Alternative would not cause a significant change in ambient noise levels.

4.12.4 No Action Alternative

No Impacts

Caretaker status under the No Action Alternative would have no noise impacts from construction or demolition activities or from added vehicle traffic. Since none of the residential units at DODHF Novato would be occupied, there would be no impacts from ambient noise levels from US 101.

4.13 HAZARDOUS MATERIALS AND WASTE

This section addresses the potential impacts of the disposal, no action, and reuse alternatives and the potential for environmental impacts caused by hazardous materials and hazardous waste-related activities associated with the reuse alternatives. Hazardous materials and wastes, asbestos, PCBs, storage tanks, pesticides, lead, medical wastes, and radon are discussed in this section.

Region of Influence

The region of influence for hazardous materials and waste issues is DODHF Novato, including the Rafael Village housing area, and any surrounding area that may have been affected by hazardous materials or hazardous wastes originating at DODHF Novato or from which hazardous materials or wastes could migrate onto DODHF Novato property.

Significance Criteria

A project may have a significant impact if it would result in a substantial increase in the use of hazardous materials or the generation of hazardous wastes or if it increases the risk of exposure to hazardous or toxic substances. The following criteria were used to identify potential impacts:

- Release of asbestos during the demolition or renovation of a building;
- Reuses that would require plans or programs under federal, state, or local law and for which no remediation plans or programs have been developed;
- New operational requirements or service for underground storage tanks and tank systems; and
- Releases that result in exposure of the public or the environment to hazardous substances.

Table 4-25 summarizes hazardous materials and waste impacts and significance.

Planning Issues

BRAC requirements call for the removal of all hazardous materials and wastes, investigation of potentially contaminated areas, and remediation of contamination prior to disposal of the property by the Navy. Some areas of soil or ground water contamination have been identified at DODHF Novato.

Table 4-25
Summary of Hazardous Material and Waste Impacts

IMPACTS	NAVY		COMMUNITY REUSE	
	Federal Disposal	No Action Alternative	Revised Reuse Plan Alternative	Open Space Alternative
Hazardous materials management	○	○	◐	◐
Hazardous waste management practices	○	○	◐	◐
Asbestos	○	◐	◐	◐
PCBs	○	○	◐	◐
Hazards from existing storage tanks	○	○	◐	◐
Pesticides	○	◐	◐	◐
Lead hazards	○	○	◐	◐
Medical materials and waste	○	○	◐	◐
Radon	○	○	○	○

LEGEND:

● - Significant impact
◑ - Significant and mitigable impact
◐ - Not significant impact
○ - No impact

The Navy is required to remediate any contamination prior to disposal of DODHF Novato. Cleanup of hazardous materials and wastes would be completed prior to disposal of these lands by the Navy. Delays or restrictions in disposal and reuse of property are possible, depending upon the extent of contamination and the results of the risk assessment and remedial designs developed for contaminated sites. Examples of conditions resulting in possible land use restrictions would be the space required for operation of soil or ground water treatment systems and access to long-term monitoring wells. These conditions would have to be considered in the layout of future development. However, because the areas of potential contamination are relatively few and limited in size, any such restrictions are likely to be minor.

Section 3.13 details the Navy, regulatory, and public review processes to ensure property reuse is protective of human health and the environment. The BRAC Cleanup Plan (BCP) summarizes the status of the environmental restoration and compliance programs and presents a strategy for carrying out response actions necessary to protect human health and the environment.

Negligible quantities of hazardous materials and hazardous wastes are expected to be generated, handled, or disposed of by operations after base closure. In addition, maintenance operations associated with caretaker status are not expected to generate, handle, or dispose of significant quantities of such materials.

As reuse of DODHF Novato is implemented, hazardous waste management would be controlled by the property recipients. Once the responsibilities of hazardous waste management are allocated to individual organizations, proficiency with those materials and with spill response plans may be required by RCRA regulations. Business plans and risk management programs also may be required under state health and safety code requirements.

The presence of numerous independent operators/owners at DODHF Novato would change the existing regulatory requirements and may increase the regulatory burden relative to hazardous waste management.

4.13.1 Disposal

Disposal involves the transfer of DODHF Novato out of federal jurisdiction. No hazardous material or waste-related impacts would occur from disposal of DODHF Novato. The Navy is required to remediate contamination prior to transfer. Base activities, including those involving hazardous materials and hazardous wastes, would cease. Disposal would therefore result in far lower quantities of hazardous materials used or stored on federal surplus land or removed for off-site disposal. The impacts associated with disposal would not be significant.

4.13.2 Revised Reuse Plan Alternative

Hazardous Materials Management

Not Significant Impacts

The quantity of hazardous materials used, stored, and disposed under the Revised Reuse Plan Alternative likely would decrease over current conditions, although specific chemicals and uses are not known. Future uses would be tightly controlled under current regulations. Hazardous materials likely to be used for activities in all of the proposed reuse alternatives are identified in Table 4-26.

With implementation of any of the alternatives, separate organizations would be responsible for the management of hazardous materials according to applicable regulations. Depending on types and quantities of hazardous materials used, each organization would be subject to federal Superfund Amendments and Reauthorization Act (SARA) Title III requirements and state hazardous material business plans and risk management prevention programs for emergency planning review and community right-to-know inventory reporting. Mutual aid agreement with surrounding jurisdictions may require additional scrutiny and training of emergency staff. These impacts would therefore not be significant.

Table 4-26
Hazardous Materials Usage By Land Use Category

Land Use	Operation Process	Hazardous Materials
Commercial	Activities associated with offices, light industry, research and development, and higher value warehousing, retail, service industries, restaurants	Fuels, heating oils, pesticides, dry cleaning chemicals, solvents, corrosives, petroleum-based lubricants, ignitables
Residential	Utilization/maintenance of single-family and multi-family units, landscaping	Pesticides, fertilizers, fuels, oils, chlorine, and household chemicals
Recreation/open space	Maintenance of existing recreational facilities, including ball fields, swimming pools, and other recreational facilities	Pesticides, fertilizers, chlorine, heating oils, paints, thinners, cleaners, solvents, aerosols, petroleum-based lubricants
Institutional	Medical clinic, rehabilitation or elder care facilities, X-ray unit	Pharmaceuticals, medical biohazardous materials, chemotherapeutic drugs, nuclear medical sources, heavy metals
	Public education, higher education, research labs, training facilities, vocational schools	Laboratory chemicals, corrosives, ignitables, solvents, heating oils, solvents, lubricants, cleaners, pesticides, paints, thinners

Hazardous Waste Management Practices

Not Significant Impacts

Under the Revised Reuse Plan Alternative, the total quantity of hazardous wastes generated and stored on the property would decrease substantially. Following base closure, operation of the hazardous waste accumulation area is expected to be discontinued. Very limited quantities of hazardous wastes may be generated by maintenance operations. Such wastes would be handled and disposed of according to regulatory guidelines and industry standards enforced at that time, resulting in no significant impact.

Asbestos

Not Significant Impacts

Under the Revised Reuse Plan Alternative, a number of buildings and residential structures on federal surplus land with asbestos-containing materials (ACM) would be demolished or renovated. This impact would not be significant. Such activities would be subject to all applicable federal, state, and local regulations. DOD policy is that "property with ACM will not be disposed through the BRAC process unless it is determined that the ACM

does not pose a threat to human health at the time of transfer." Demolition activities would occur following transfer under the Revised Reuse Plan Alternative. Because any building demolition or renovation must comply with state and federal occupational health and safety and air emissions regulations for asbestos abatement, no significant environmental impact would result from these activities.

Polychlorinated Biphenyls

Not Significant Impacts

No polychlorinated biphenyls (PCB) release sites have been identified at DODHF Novato. Because any unidentified PCB release sites are likely to be relatively small, identifying, evaluating, and any necessary remediation of such sites would not be considered significant or be affected by the implementation of the Revised Reuse Plan Alternative.

The Navy plans to remove all PCB-containing electrical equipment prior to lease or transfer.

Storage Tanks and Oil/Water Separators

Not Significant Impacts

Reuse activities associated with the Revised Reuse Plan Alternative may require both aboveground storage tanks (ASTs) and underground storage tanks (USTs). The Navy plans to remove all USTs prior to lease or transfer. Any new USTs and ASTs required by the property recipients would be subject to all applicable federal, state, and local regulations. These regulations include acceptable leak detection methods, spill and overfill protection, cathodic protection, secondary containment for hazardous waste tank systems including the piping, and liability insurance. These measures would reduce potential impacts to a not significant level.

Pesticides

Not Significant Impacts

Minimal use of pesticides would be expected at DODHF Novato following base closure. The types of pesticides are likely to be consistent with those currently in use. This would not be a significant impact.

Lead

Not Significant Impacts

Lead-based paints have been used at DODHF Novato since its development. It is likely that all of the buildings at the facility built before 1980 have some amount of lead-based paint. In accordance with DOD policy and the Residential Lead-Based Paint Hazard Reduction Act of 1992, housing constructed prior to 1978 would be inspected for lead-based paint hazards. Lead-based paint hazards in housing constructed prior to 1960 would be abated if the housing is to be transferred out of federal ownership. The results of lead-based paint surveys and lead warning statements would be included in any contract for transfer or lease. This would not be a significant impact.

Medical Materials and Wastes

Not Significant Impacts

No medical wastes are now used or produced at DODHF Novato. Under the Revised Reuse Plan Alternative, a portion of the site may be used for assisted-care facilities for seniors. Small amounts of biohazardous waste may be generated and stored in the course of routine medical treatment for residents of these facilities. The new facilities would be required to comply with the requirements of the California Medical Waste Management Act for disposal of medical/biohazardous waste. This would not be a significant impact.

Radon

No Impacts

A radon survey of 86 buildings at DODHF Novato found no indication that radon levels are above the EPA-recommended action level for further assessment or remediation. In accordance with DOD policy, all available and relevant radon assessment data will be included in any contracts for transfer or lease. No impacts are expected.

4.13.3 Open Space Alternative

The impacts related to the Open Space Alternative would be essentially the same as for the Revised Reuse Plan Alternative. None of the impacts under this alternative would be significant.

Not Significant Impacts

Hazardous Materials and Waste Management Practices

Under this alternative, as under the Revised Reuse Plan Alternative, the total quantity of hazardous materials generated, used, and stored on the property could increase or decrease slightly compared to current conditions. Future uses would be tightly controlled under regulations enforced at the time of base closure and would not be considered significant.

Asbestos

Impacts would be similar to those under the Revised Reuse Plan Alternative.

Polychlorinated Biphenyls

Impacts would be similar to those under the Revised Reuse Plan Alternative.

Storage Tanks and Oil/Water Separators

Impacts would be similar to those under the Revised Reuse Plan Alternative.

Pesticides

Impacts would be similar to those under the Revised Reuse Plan Alternative.

Lead

Impacts would be similar to those under the Revised Reuse Plan Alternative.

Medical Materials and Waste

Impacts would be similar to those under the Revised Reuse Plan Alternative.

No Impacts

Radon

Impacts would be similar to those under the Revised Reuse Plan Alternative.

4.13.4 No Action Alternative

The No Action Alternative would involve the storage and use of general maintenance-related hazardous materials, such as paint, thinners, and fuel. Any hazardous waste generated during the caretaker period would be managed under the appropriate hazardous waste regulations. Separate

NEPA analysis and documentation, including hazardous materials impact evaluation, would be completed before Navy approval of any interim leases prior to final property transfers.

Not Significant Impacts

Asbestos

Any demolition or repair of existing buildings performed as part of caretaker activities under this alternative would be performed in accordance with applicable regulations controlling asbestos emissions and handling procedures. Asbestos materials will degrade over time and result in occasional abatement activities. No significant impacts are expected.

Pesticides

Under the No Action Alternative, caretaker activities may require application of pesticides. The amounts used are likely to be less than those used at present. No significant impacts are expected.

No Impacts

Hazardous Materials and Waste Management Practices

Under the No Action Alternative, the quantity of hazardous materials used, generated, stored, and disposed of would be minimal. Only limited quantities of hazardous materials, associated with facility caretaker activities, would be used. No impacts would be expected.

Polychlorinated Biphenyls

The Navy would continue to carry out its PCB removal program under the alternative. No impacts are expected.

Storage Tanks and Oil/Water Separators

Removal of inactive tanks and remediation of any residual contamination would be required at the time the facility was closed. These actions would preclude any impacts following closure of the facility.

Lead

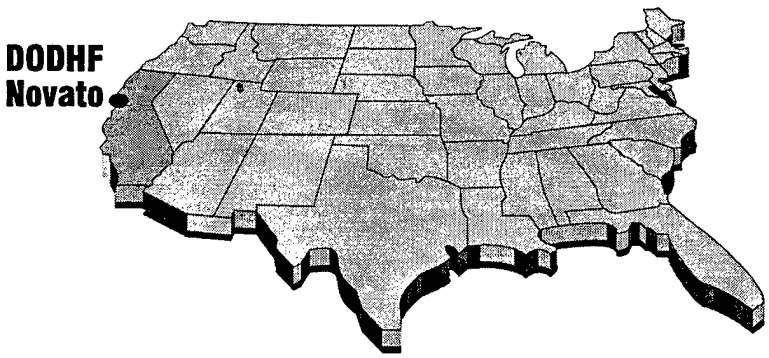
The No Action Alternative would not impact lead or lead remediation activities at DODHF Novato.

Medical Materials and Waste

No medical materials or wastes would be used or produced during the caretaker period. There would be no impacts from this alternative.

Radon

No significant radon concentrations have been detected. There would be no uses under this alternative that would warrant further testing. No impacts are expected.



5.0 OTHER CONSIDERATIONS REQUIRED BY NEPA

5.1	CUMULATIVE IMPACTS	5-1
5.2	GROWTH-INDUCING IMPACTS	5-15
5.3	UNAVOIDABLE ADVERSE EFFECTS	5-16
5.4	SHORT-TERM USES AND LONG-TERM PRODUCTIVITY	5-17
5.5	IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES	5-17
5.6	ENVIRONMENTAL JUSTICE	5-18

5. OTHER CONSIDERATIONS REQUIRED BY NEPA

This chapter addresses specific topics that NEPA requires in an EIS. These include an analysis of cumulative impacts, an analysis of growth-inducing impacts, the identification of any irreversible or irretrievable commitment of resources, the relationship between short-term uses and long-term productivity, and identification of any unavoidable adverse impacts from implementation of the alternatives. Issues related to environmental justice also are presented, in accordance with Executive Order 12898.

5.1 CUMULATIVE IMPACTS

An EIS must discuss cumulative impacts when they are significant, and when not significant, the document should explain the basis for that conclusion. Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Individual effects may be changes resulting from a single project or a number of separate projects. Cumulative effects from several projects are the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative effects can result from individually minor but collectively significant projects occurring over the lifetime of the project under consideration.

Analysis of cumulative impacts must include regional effects in addition to potentially cumulatively significant localized effects. The region considered in this analysis is Marin County except for air quality and biological resource issues, when the entire San Francisco Bay Area is considered. The alternatives would be implemented concurrently with other projects in the region of the project that could contribute to local and regionally cumulative impacts.

The methodology used to develop the cumulative analysis included reviewing the current general plans for the City of Novato and Marin County and compiling a list of ongoing and proposed specific projects near DODHF Novato that could reasonably contribute to cumulative impacts. Multiple sources were used to identify reasonably foreseeable projects because the general plans for the area do not include some of the most recent land use proposals in the DODHF Novato area. A list of cumulative projects is presented in Table 5-1, and their location is shown in Figure 5-1. The listed projects were considered with the disposal and reuse of DODHF Novato to prepare the following cumulative analysis.

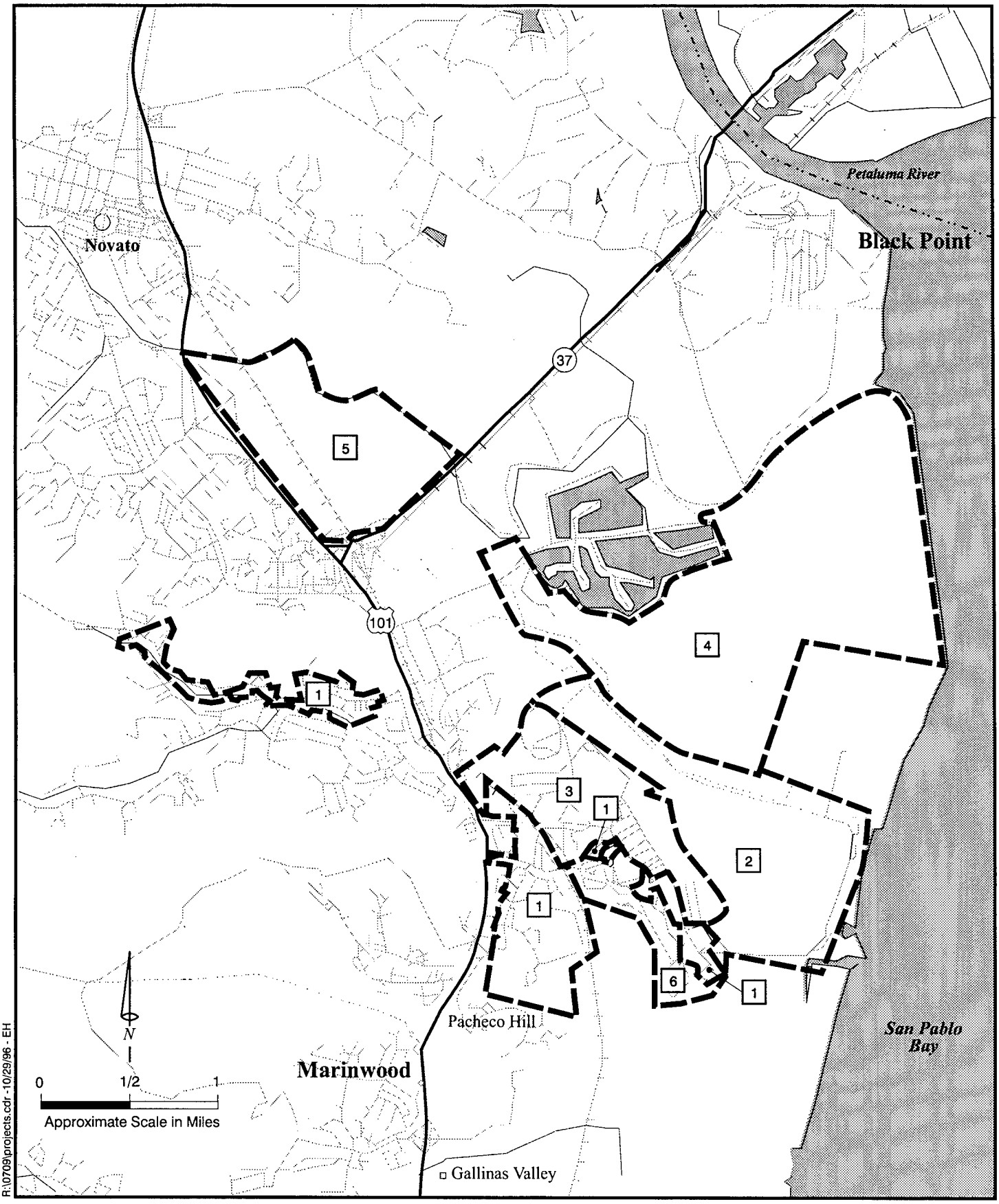
Table 5-1
Cumulative Projects

Project Name	Project Description	Status	Environmental Documentation
Bel Marin Keys Unit 5	Construction of 796 houses, 2,500 square foot community center, yacht club, swim and tennis club, and golf course.	Original application deemed incomplete.	None
New Hamilton Partnership	Construction of 920 homes north of Hamilton Field.	Under construction.	Final EIR
Buck Center for Research In Aging	Construction of Biomedical research complex and 130 homes on 180 acres on the eastern slopes of Mount Burdell.	Annexation to City of Novato approved. Construction not started.	Final EIR
Hamilton Army Airfield Reuse	Return runway to wetlands.	New levee under construction by New Hamilton Partnership.	Final EIS
Transfer of Spanish Housing to US Coast Guard	USCG use of 282 housing units in the Spanish Housing area of DODHF Novato	Awaiting finalization of Federal property transfer	Final NEPA Categorical Exclusion
Novato Redevelopment Project	City land use control established to replan and reuse a previously underutilized area. Five areas are encompassed within the project area, including Vintage Oaks Shopping Center and Rowland Plaza.	Vintage Oaks Shopping Center area has been built out and Rowland Plaza area is partially built out.	Final EIR on Vintage Oaks Shopping Center.

5.1.1 Major Cumulative Projects in the Vicinity of the Proposed Action

Six major projects located in the area immediately adjacent to DODHF Novato have the greatest potential for cumulative impacts with the reuse alternatives. These projects are the Bel Marin Keys Unit 5 development, the New Hamilton Partnership development, the Buck Center for Research in Aging, the disposal and reuse of the Hamilton Army Airfield property, transfer of the Spanish Housing area to the USCG, and a Novato shopping center redevelopment plan (see Figure 5-1).

Bel Marin Keys Unit 5. Plans for Bel Marin Keys Unit 5, which is located immediately northeast of the Hamilton Army Airfield, include 796 residential dwelling units, a neighborhood commercial center, an 18-hole golf course, a social center, a marina, a habitat enhancement program, and related roadway and other infrastructure facilities. The entire development would be situated around a 463-acre expansion to the existing lagoon that currently serves Bel Marin Keys Units 3 and 4. Area planners expect the revised development plan to include fewer residential units. The development application for this project was submitted in early 1996 but was deemed incomplete by the City of Novato.



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In addition to these developments, the Buck Center for Research in Aging is proposed for development at the northern edge of the Novato City limits.

LEGEND:

1. DODHF-Novato Reuse
2. Hamilton Army Airfield Reuse
3. New Hamilton Partnership
4. Bel Marin Keys Unit 5
5. Novato Redevelopment Project
6. USCG Spanish Housing

Source: Tetra Tech, 1995

Cumulative Project Location

DOD Housing Facility
Novato, California

Figure 5-1

New Hamilton Partnership (NHP) Master Plan. This master plan project involves development of a 415-acre parcel of land immediately adjacent to DODHF Novato. The parcel was also a part of the historic Hamilton Army Airfield but is now owned by private developers. Plans call for development of 920 dwelling units and approximately 600,000 to 800,000 square feet of commercial and office space. This project is approved and ground has been broken. The NHP Master Plan is incorporated into the Reuse Plan by reference.

Buck Center for Research in Aging. The Buck Center for Research in Aging is proposed to be located adjacent to the City of Novato northern limits west of US 101. The project would consist of a 220,000 square foot research facility and 135 housing units for research assistants and personnel. The facility was approved by the Marin County Board of Supervisors in 1995. Proposition B, passed by City of Novato voters in 1995, approved the project and the initiative to annex the area to the City of Novato. The Novato City Council approved the annexation in February 1996. Construction has not yet begun on the facility.

Hamilton Army Airfield - Disposal and Reuse. This action by the US Army includes disposal and reuse of the 720-acre Hamilton Army Airfield immediately northeast of Spanish Housing, the Officers' Club, the Town Center, and the Ballfields. This parcel contains the historic airfield and a number of airplane hangars and other structures. Although the EIS for the site included a number of reuse alternatives, the City of Novato has requested that the majority of the site become salt marsh wetlands. This would be accomplished by breaching the existing levee system adjacent to San Pablo Bay and allowing bay tidal flows to inundate the airfield parcel. Over a period of 10 to 20 years, natural tidal action would create salt marsh wetlands.

Transfer of Spanish Housing to USCG. The Navy is transferring ownership of the land and facilities in the 142-acre Spanish Housing planning area of DODHF Novato to the USCG. The USCG will use the 282 residential units on this site to house personnel working in the San Francisco Bay area.

Novato Redevelopment Project. The Novato Redevelopment Project is a special land use control in place on 400 acres east of US 101 between SR 37 and Rowland Boulevard. The project was established to replan and reuse a previously underutilized area to increase employment opportunities and to provide public improvements. The redevelopment project includes five parcels of land. One parcel, Vintage Oaks, is built out as the Vintage Oaks Shopping Center, and another parcel, Rowland Plaza, is partially built out. The EIR for the shopping center evaluated cumulative impacts of project buildout.

5.1.2 Cumulative Effects of Reuse Alternatives

The reuse alternatives, in conjunction with other major military and nonmilitary projects in the region, would result in cumulative impacts to several resources. Some of these impacts, such as land use and socioeconomics, would be beneficial. Other impacts would be fully or potentially offset through the planning process or specific mitigation measures. Potentially significant unmitigable cumulative impacts have been identified for traffic and circulation. Cumulative impacts projected to occur are described below.

Land Use

Cumulative land use effects of the Bel Marin Keys, NHP developments, and Hamilton Army Airfield reuse are addressed in the Novato General Plan and the Marin Countywide Plan. These two planning documents have analyzed reasonably foreseeable growth and include the reuse of DODHF Novato as part of that expected growth. The most significant cumulative land use impact to the planning area is the conversion of land from open space uses to urban uses. Long-term attempts to control the rate of conversion indicate that development throughout the county should be focused in the eastern portion of the county near US 101. The proposed reuse under each of the alternatives primarily is adaptive reuse of existing developed areas and does not change current open space to urban uses. None of the alternatives, therefore, contribute to this cumulative impact.

The Marin Countywide Plan identifies a shortage of developed recreational facilities, and the Novato General Plan indicates an excess of undeveloped open space and shortage of developed recreational facilities. The Novato General Plan recommends five acres of developed recreation per 1,000 residents for each new residential development. Cumulative growth in the region should attempt to address this discrepancy by providing more developed recreational opportunities in the area. All reuse alternatives analyzed included a provision for developed recreation facilities consistent with the population growth. The Revised Reuse Plan Alternative would include an adequate amount of developed recreational facilities for its share of population growth. The Open Space Alternative would provide more recreational facilities than required for its share of population growth, and would therefore improve the recreational balance in the county.

Visual Resources

Under the reuse alternatives, most structures would be adaptively reused. Under the Revised Reuse Plan Alternative, Rafael Village would be rebuilt with residential housing consistent with local planning requirements. Under the Open Space Alternative, existing housing at Rafael Village would be replaced with open space, and under the No Action Alternative, visual resources would

not change. The reuse alternatives would not have significant visual impacts and would not contribute to significant cumulative visual impacts in the ROI. There would be no significant cumulative visual impacts from any alternative.

Socioeconomics

Reuse of DODHF Novato under all alternatives, in combination with other projects in the region, would generate substantial job opportunities in Marin County. These new jobs would indirectly create a need for additional support services that could generate additional jobs. This would be a cumulatively beneficial economic impact.

Public Services

Reuse of DODHF Novato under all alternatives, added to other planned public and private development in the City of Novato, would add to cumulative demands on Novato's police, fire, and emergency medical service departments. These impacts would be offset by added taxes and other revenues generated from such development. Additional revenues would fund increased services.

Utilities

The proposed development alternatives for DODHF Novato do not indicate the need for utilities capacities significantly different from existing or recent historical levels. However, when such requirements are combined with those of the NHP development, further analysis may be required to evaluate utilities capacities. For example, Section 5.3 of the Reuse Plan states that the Ignacio Treatment Plant may need to be upgraded to handle the potential wastewater generated from Phase II of the NHP development.

Because several of the utility systems at DODHF Novato are connected to the utilities serving the Spanish Housing area that is being transferred to USCG, future developers would need to provide new metering facilities and may need to provide other system upgrades to effectively split the systems to serve both areas. The USCG will maintain separate utility systems without metering for individual housing units.

Cultural Resources

The New Hamilton Partnership development and the disposal and reuse of the Army property have altered the character of the NRHP district at Hamilton Army Airfield. The EIS for the Army disposal of their property discussed cumulative impacts on the historical district. Impacts were mitigated for the entire historic district, including the DODHF Novato Main Site property, through extensive HABS recordation, public interpretation

programs, museum displays, and permanent curtain of historical documents. Since mitigation has been completed by the Army for the entire historic district, no cumulative impacts from the DODHF Novato disposal would occur. USCG use of the Spanish Housing area would ensure continued government occupation and protection for the historic and architecturally significant housing units in this area.

Biological Resources

The region of analysis for biological resources is the San Francisco Bay Area. Within the past century, nearly 98 percent of the wetlands in the Bay Area have been removed by fill or other development activities. The removal of additional wetlands habitat adjacent to the bay could constitute a significant impact. Development of the railroad right-of-way through Capehart Housing could result in the loss of a small area of wetlands. Such a loss, along with the potential removal of several acres of wetlands for the New Hamilton Partnership development as identified in the NHP Master Plan, could, if not mitigated, contribute to the cumulative loss of wetlands habitat in the ROI. However, the combined acreage for these potential impacts is relatively small, and the proposed restoration of salt marsh habitat over an area of approximately 700 acres at the Hamilton Army Airfield and an undetermined amount in the revised Bel Marin Keys Unit 5 project would be a net cumulative benefit to wetlands in the ROI.

Geology and Soils

The reuse alternatives would locate additional people in a seismically active area, but would not contribute to cumulative geologic hazards, soil erosion, or impacts in the ROI.

Water Resources

The reuse alternatives could add incrementally to the contribution of nonpoint source runoff contaminants to receiving bay waters. This would be offset by upgrading of the stormwater and sanitary sewer systems and implementation of required NPDES stormwater pollution prevention measures. Therefore, this impact would be mitigated at DODHF Novato and would not contribute to cumulative impacts on this resource.

Traffic and Circulation

This section presents the traffic analysis for cumulative conditions under the city's Preferred General Plan scenario and describes the improvements that would be required in order to improve transportation facility service levels. For the purpose of this analysis, future background traffic conditions have been projected assuming local intersection and roadway improvements as

identified in the NHP Master Plan. These improvements include the following:

- A new loop on-ramp to intersect with Nave Drive at the existing US 101 northbound off-ramp just south of Ignacio Boulevard;

- Reconfiguration of the intersection of Ignacio Boulevard @ Nave Drive/US 101 on-ramp to eliminate the eastbound left-turn and to add an exclusive eastbound right-turn lane to tie the intersection with the new loop on-ramp;

- Increasing the sight distance at the southbound off-ramp to Enfrente Boulevard;

- An extension of the auxiliary lane on US 101 from the Enfrente Boulevard southbound off-ramp to the US 101 loop off-ramp to Ignacio Boulevard;

- Significant improvements to Nave Drive, including providing additional turn lanes at intersections and provision of continuous channelization, bicycle lanes, and bus turnout areas; and

- Signalization of the intersections of Nave Drive @ New Loop Road, Nave Drive @ State Access Road, Nave Drive @ Main Gate Road, Nave Drive @ Bolling Drive, and Alameda del Prado @ Clay Court.

In addition to these improvement assumptions, transportation improvements also have been identified in the Preferred General Plan scenario of the city's Updated General Plan. These improvements include widening US 101 north of Atherton Avenue (into Sonoma County) to six lanes and further improvements to the intersection of Ignacio Boulevard @ Nave Drive/US 101 on-ramp (restripe one eastbound through-lane to a shared right/through-lane).

Although this analysis of cumulative conditions represents conditions under the city's Preferred General Plan scenario, the extension of Hamilton Drive from the Bel Marin Keys area to State Route 37 identified in the Preferred General Plan was not included. This roadway improvement was removed from the traffic analysis conducted for this EIS because it is extremely speculative whether the subject link could actually be built from engineering, environmental, and funding perspectives. Removal of this improvement results in the most realistic traffic analysis scenario. This results in a higher right turning volume on the westbound approach at the intersection of Ignacio Boulevard @ Nave Drive under this analysis than the Preferred General Plan.

Cumulative background traffic volumes were obtained from the Novato General Plan Transportation Revision Transportation Background Report #3 (W-Trans, Inc. 1995).

Intersection Operations

In order to assess the impacts of cumulative conditions on the local intersections, AM and PM peak hour operations analyses were performed at 20 key intersections. Tables 5-2 and 5-3 summarize the intersection operations under cumulative conditions. Sixteen of the 20 key intersections would operate at or above the city's acceptable criteria of average delay of under 30 seconds per vehicle for unsignalized intersections and under 40 seconds for signalized intersections (LOS D) during AM and PM peak traffic hour. Four intersections along Ignacio Boulevard (Ignacio Boulevard @ Sunset Parkway, Ignacio Boulevard @ Entrada Drive, Ignacio Boulevard @ Safeway Access, and Ignacio Boulevard @ Nave Drive) would function below the city's acceptable criteria during one or more peak hour as discussed below.

- The four-way stop controlled intersection of Ignacio Boulevard @ Sunset Parkway would have delays of over 45 seconds (LOS F) during both the AM and PM peak hours under future conditions with the Preferred General Plan. This intersection currently operates with delays of over 45 seconds (LOS F) during the AM peak hour and with delays of between 30 and 45 seconds (LOS E) during the PM peak hour. Motorists traveling through this intersection during peak periods would experience long delays at this intersection.

- The unsignalized T-intersection of Ignacio Boulevard @ Entrada Drive would have delays of over 45 seconds (LOS F) during the PM peak hour under the Preferred General Plan scenario. Side street traffic from Entrada Drive and left turns from Ignacio Boulevard to Entrada Drive would experience long delays when waiting for gaps in traffic on Ignacio Boulevard. Although this intersection operates poorly under conditions with the Preferred General Plan, it would operate acceptably with delays of under 30 seconds (LOS D) or better with the Revised Reuse Plan Alternative or any of the reuse alternatives.

- The unsignalized T-intersection of Ignacio Boulevard @ the Safeway store access would have delays of over 45 seconds (LOS F) during the PM peak hour under the Preferred General Plan scenario. Side street traffic from the Safeway access and left turns from Ignacio Boulevard to the driveway would experience long delays when waiting for gaps in traffic on Ignacio Boulevard.

Table 5-2
Cumulative Intersection Levels of Service
AM Peak Hour

Intersections	Control Type	Preferred General Plan[1]		
		V/C	Delay (seconds)	LOS
Ignacio Blvd @ Sunset Pkwy	Stop (T Intersection)	2.53	OVRFL	F
Ignacio Blvd @ Sunset Pkwy[2]	*Signal (T Intersection)*	*0.57*	*9.60*	*B*
Ignacio Blvd @ San Jose Blvd W	Stop (T Intersection)	n/a	0.30	A
Ignacio Blvd @ San Jose Blvd E	Stop (T Intersection)	n/a	2.50	A
Ignacio Blvd @ Palmer Dr.	Signal (T Intersection)	0.28	8.10	B
Ignacio Blvd @ Entrada Dr.	Stop (T Intersection)	n/a	9.50	B
Ignacio Blvd @ Entrada Dr[2]	*Signal (T Intersection)*	*0.31*	*3.80*	*A*
Ignacio Blvd @ Safeway Access	Stop (4-way Intersection)	n/a	5.10	B
Ignacio Blvd @ Safeway Access[2]	*Signal (4-way Intersection)*	*0.49*	*13.60*	*B*
Ignacio Blvd @ Alameda Del Prado	Signal (4-way Intersection)	0.58	19.10	C
US 101 SB Off @ Enfrente Blvd	Stop (T Intersection)	n/a	1.40	A
Ignacio Blvd @ Enfrente Blvd	Signal (4-way Intersection)	0.64	20.90	C
Ignacio Blvd @ Nave Dr.	Signal (T Intersection)	0.93	21.70	C
Ignacio Blvd @ Nave Dr[2]	*Signal (T Intersection)*	*0.93*	*20.40*	*C*
US 101 NB Off @ Nave Dr.	Signal (T Intersection)	0.60	12.50	B
Roblar Dr. @ Nave Dr.	Stop (T Intersection)	n/a	0.60	A
New Loop Rd @ Nave Dr.	Signal (T Intersection)	0.51	7.60	B
State Access Rd @ Nave Dr.	Signal (T Intersection)	0.48	3.00	A
Main Gate Rd @ Nave Dr.	Signal (T Intersection)	0.68	16.80	C
Bolling Dr. @ Nave Dr.	Signal (T Intersection)	0.58	6.30	B
US 101 Off-Ramp @ Nave Dr.	Yield (T Intersection)	n/a	0.20	A
Nave Dr. @ Alameda Del Prado	Signal (4-way Intersection)	0.48	8.70	B
US 101 SB Ramp @ Alameda Del Prado	Stop (T Intersection)	n/a	10.70	C
Main Gate Rd @ Randolph Dr.	Signal (T Intersection)	0.45	0.30	A

NOTE:
[1] Represents cumulative conditions under the City of Novato's Preferred General Plan.
[2] Represents level of service conditions with improvements.
n/a - Volume to capacity ratio not applicable for unsignalized intersections.
OVRFL - Overflow

Table 5-3
Cumulative Intersection Levels of Service
PM Peak Hour

Intersections	Control Type	Preferred General Plan[1]		
		V/C	Delay (seconds)	LOS
Ignacio Blvd @ Sunset Pkwy	Stop (T Intersection)	1.93	521.40	F
Ignacio Blvd @ Sunset Pkwy[2]	*Signal (T Intersection)*	*0.51*	*8.20*	*B*
Ignacio Blvd @ San Jose Blvd W	Stop (T Intersection)	n/a	0.70	A
Ignacio Blvd @ San Jose Blvd E	Stop (T Intersection)	n/a	34.50	D
Ignacio Blvd @ Palmer Dr.	Signal (T Intersection)	0.39	3.60	A
Ignacio Blvd @ Entrada Dr.	Stop (T Intersection)	n/a	168.30	F
Ignacio Blvd @ Entrada Dr[2]	*Signal (T Intersection)*	*0.51*	*4.20*	*A*
Ignacio Blvd @ Safeway Access	Stop (4-way Intersection)	n/a	422.80	F
Ignacio Blvd @ Safeway Access[2]	*Signal (4-way Intersection)*	*0.86*	*22.10*	*C*
Ignacio Blvd @ Alameda Del Prado	Signal (4-way Intersection)	0.69	10.00	B
US 101 SB Off @ Enfrente Blvd	Stop (T Intersection)	n/a	3.40	A
Ignacio Blvd @ Enfrente Blvd	Signal (4-way Intersection)	0.95	27.00	D
Ignacio Blvd @ Nave Dr.	Signal (T Intersection)	1.22	98.00	F
Ignacio Blvd @ Nave Dr[2]	*Signal (T Intersection)*	*1.02*	*32.10*	*D*
US 101 NB Off @ Nave Dr.	Signal (T Intersection)	0.82	10.70	B
Roblar Dr. @ Nave Dr.	Stop (T Intersection)	n/a	3.80	A
New Loop Rd @ Nave Dr.	Signal (T Intersection)	0.74	8.80	B
State Access Rd @ Nave Dr.	Signal (T Intersection)	0.79	12.80	B
Main Gate Rd @ Nave Dr.	Signal (T Intersection)	0.85	20.80	C
Bolling Dr. @ Nave Dr.	Signal (T Intersection)	0.58	5.00	B
US 101 NB Ramps @ Nave Dr.	Yield (T Intersection)	n/a	0.50	A
Nave Dr. @ Alameda Del Prado	Signal (4-way Intersection)	0.49	6.70	B
US 101 SB Ramp @ Alameda Del Prado	Stop (T Intersection)	n/a	3.60	A
Main Gate Rd @ Randolph Dr.	Signal (T Intersection)	0.45	0.30	A

NOTE:
[1]Represents cumulative conditions under the City of Novato's Preferred General Plan.
[2]Represents level of service conditions with improvements.
n/a - Volume to capacity ratio not applicable for unsignalized intersections.

- The signalized intersection at Ignacio Boulevard @ Nave Drive/US 101 on-ramp would have delays of over 60 seconds (LOS F) during the PM peak hour under the Preferred General Plan scenario even with improvements (converting an eastbound through lane to a shared through/right-turn lane) described in the General Plan. Motorists would experience delays of a minute or more at this intersection in the future. This poor level of operation would result from cumulative development in the area. Operation of this intersection would improve to LOS E or better under the reuse alternatives.

Freeway Operations

As noted earlier, freeway analysis conducted for this EIS assumes that US 101 would be widened to six lanes north of Atherton Avenue and into Sonoma County within the next 20 years. This assumption has been included because it is included in the City of Novato's General Plan. No funding has been earmarked for this improvement, and there is likely to be considerable resistance to the widening. If this improvement cannot be constructed, the impacts of cumulative development on US 101 would be even more severe than those described below.

Freeway operations under cumulative conditions were performed on four segments along US 101 and State Route 37. Only one of the four freeway segments, US 101 north of Atherton Avenue, would function acceptably under cumulative conditions. Three of four key freeway segments analyzed (US 101 between State Route 37 and Ignacio Boulevard, US 101 south of Ignacio Boulevard, and State Route 37 between US 101 and Atherton Avenue) would exceed the city's freeway level of service criteria of no more than 1,824 passenger cars per hour per lane (LOS D) during peak periods. Table 5-4 presents a summary of the freeway levels of service for cumulative conditions. The operations of each freeway segments are discussed in more detail below.

US 101 southbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the AM peak hour and have between 1,824 and 2,300 cars per hour per lane (LOS E) during the PM peak hour. US 101 northbound between Ignacio Boulevard and State Route 37 would exceed 2,300 cars per hour per lane (LOS F) during the PM peak period.

US 101 southbound south of Ignacio Boulevard would have between 1,824 and 2,300 cars per hour per lane (LOS E) during the AM peak hour. US 101 northbound south of Ignacio Boulevard would exceed 2,300 cars per hour per lane (LOS F) during the PM peak hour.

State Route 37 eastbound between US 101 and Atherton Avenue would have between 1,824 and 2,300 cars per hour per lane (LOS E) in the PM peak hour.

Table 5-4
Cumulative Freeway Levels of Service

Locations	AM Peak Hour		PM Peak Hour	
	Volume	LOS	Volume	LOS
U.S. Highway 101				
N/O Atherton - NB	2,922	C	4,349	D
N/O Atherton - SB	4,713	D	3,796	C
37 to Ignacio - NB	4,029	C	8,822	F
37 to Ignacio - SB	7,499	F	6,089	E
S/O Ignacio - NB	3,799	C	8,512	F
S/O Ignacio - SB	6,847	E	5,326	D
State Route 37				
101 to Atherton - WB	3,378	D	2,171	C
101 to Atherton - EB	1,107	B	4,007	E

Transportation System Improvements

In order to improve traffic operations in the study area, several improvements to the local intersections and roadways would be necessary.

Intersection Improvements. Improvements are required to improve intersection operations at the four impacted intersections. Tables G-1 and G-2 in Appendix G present a summary of the intersection operations and control types with the proposed improvements. The following improvements are required to improve intersection operations:

- Signalize the intersections of Ignacio Boulevard @ Entrada Drive, Sunset Parkway, and Safeway access. Signalization of these three intersections would significantly improve their levels of service from LOS F to LOS A, B, and C, respectively, during the PM peak hour (see Table 5-3).

- Add a westbound right-turn lane at the intersection of Ignacio Boulevard @ Nave Drive. In order to provide this turn lane, it would be necessary to widen the Bel Marin Keys Boulevard bridge of the Northwest Pacific Railroad. This would improve the intersection's level of service from LOS F to LOS D during the PM peak hour.

Freeway Improvements. Under cumulative conditions, US 101 and State Route 37 would continue to function at LOS F. In order to improve these conditions it would be necessary to widen both facilities. However, given current funding levels for freeway projects and other political and environmental factors that would make widening difficult, it is unlikely that improvements would be made to these facilities within the 20-year time frame of this cumulative analysis.

Air Quality

For air quality, the cumulative ROI is the San Francisco Bay Area. The proposed reuse alternatives would contribute traffic to the local and regional transportation system, thereby contributing to the cumulative air quality degradation in the project area. Vehicle travel associated with the Revised Reuse Plan Alternative would produce a net increase in NOx and reactive organic compound emissions that would exceed the BAAQMD impact significance threshold of 80 pounds of ozone precursor pollutants per day. Vehicle travel associated with the Open Space Alternative would produce a net increase in NOx over the BAAQMD 80 pounds per day threshold. No feasible mitigation exists to reduce this impact to a not significant level. Although this would be an unavoidable project-specific significant impact, the added emissions would not cause any measurable change in the location, magnitude, or frequency of high ozone concentrations. Consequently, although adding to cumulative air emissions in the ROI, these alternatives would not affect the Bay Area's attainment status for ozone. Additionally, cumulative traffic, and therefore air emission levels, under all reuse alternatives would be less than under the Preferred General Plan scenario.

Noise

The proposed reuse alternatives would contribute traffic to the local and regional transportation system, thereby contributing to the cumulative noise level in the project area. However, cumulative traffic levels under all reuse alternatives would be less than under the Preferred General Plan scenario and would not contribute significantly to cumulative noise levels. The significant noise impacts associated with the project result from residents of reuse housing being exposed to existing sources of noise on US 101. This is a project-specific impact that would not add to cumulative noise impacts.

Hazardous Materials and Waste

The cleanup of hazardous materials and waste between closure of DODHF Novato and buildout of the reuse alternatives, as well as cumulative base conversion projects throughout the Bay Area region, would have a beneficial impact on the regional environment and would occur under the Revised Reuse Plan Alternative, Open Space Alternative, and No Action Alternative. All

contaminated areas would be remediated by the Navy to levels protective of human health and the environment.

5.2 GROWTH-INDUCING IMPACTS

An EIS must discuss the ways in which the proposed action and alternatives could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the area surrounding the project. Analysis of growth-inducing effects includes those characteristics of the action that may encourage and facilitate activities that, either individually or cumulatively, would affect the environment. Population increases, for example, may impose new burdens on existing community service facilities. Similarly, improvement of access routes may encourage growth in previously undeveloped areas. Growth may be considered beneficial, adverse, or of no significance environmentally, depending on its actual impacts to the environmental resources present.

The reuse alternatives would create a substantial number of jobs due to development of community facilities and commercial land uses. The Revised Reuse Plan Alternative would directly create approximately 938 new jobs. Reuse of existing housing (and replacement of the Rafael Village units) would provide housing opportunities. The combination of new housing and job creation under the Revised Reuse Plan Alternative would result in a direct population increase within Marin County of approximately 3,432 people at buildout. The Open Space Alternative also would result in growth in population and employment, producing 994 jobs and 2,275 people. The No Action Alternative would have little effect on population and employment by creating five jobs and two additional ROI residents.

The increase in population and jobs under each alternative also would have the indirect effect of creating an undetermined number of additional jobs to provide support services for new residents and jobholders. These induced jobs would further induce new economic and population growth in the region. This increase in population cannot be considered completely new because the housing units were occupied by military personnel prior to closure of DODHF Novato. Neither the direct or indirect growth under any of the reuse alternatives would be considered a significant adverse impact.

The reuse alternatives would reuse existing developed areas with existing infrastructure and would therefore not induce growth through extension of utilities or services.

5.3 UNAVOIDABLE ADVERSE EFFECTS

An EIS must describe any significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible, and may include imposing an alternative design on the alternatives if that is the only means of avoiding such impacts. For the majority of the identified significant impacts, feasible mitigations have been identified to reduce the impact to a not-significant level. Impacts for which no feasible mitigation measures have been identified are considered to be unavoidable adverse impacts. Unavoidable impacts associated with the alternatives are summarized below. No unavoidable adverse impacts would occur under the No Action Alternative.

- Under the Revised Reuse Plan Alternative and the Open Space Alternative, vehicle travel associated with the project is estimated to produce a net increase in NOx emissions of about 167 and 121 pounds per day, respectively. Under the Revised Reuse Plan Alternative, associated vehicle traffic would produce a net increase in reactive organic compounds of 91 pounds per day. The increase in NOx emissions would exceed the BAAQMD impact significance threshold of 80 pounds of ozone precursor pollutants per day by 87 and 41 pounds of NOx per day, respectively. The increase in reactive organic compounds under the Revised Reuse Plan Alternative would exceed the BAAQMD significance threshold by 11 pounds per day. No feasible mitigation exists to reduce this impact to a not-significant level. Although this would be an unavoidable significant impact, the added emissions would not cause any measurable change in the location, magnitude, or frequency of high ozone concentrations. Consequently, these alternatives would not affect the Bay Area's attainment status for ozone. Air quality standards for NOx would not be exceeded under the No Action Alternative.

- The Revised Reuse Plan Alternative would locate people in housing units in the Capehart Housing and Rafael Village areas. Both of these areas have existing ambient noise levels significantly above the land use compatibility guidelines provided in the Novato General Plan. The allowable level currently is exceeded to a distance of 1,500 feet from the centerline of US 101 due to noise from traffic. The allowable noise level is exceeded in Rafael Village north and south of Ignacio Boulevard to a distance exceeding 750 feet from the centerline of the road, an area encompassing most of Rafael Village. The remaining planning areas would not be exposed to noise levels exceeding the standards for their specific type of land use. Although sound walls would reduce ambient noise levels by approximately 5 dB, the noise levels would still be significant in those areas nearest US 101 and Ignacio Boulevard. The Open Space Alternative would have the same impact in the Capehart Housing area, but not in Rafael Village.

5.4 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires that an EIS consider the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. The productivity of DODHF Novato historically has been related to its operation as a military housing support facility, and the resulting military jobs and services it has provided. Since the Revised Reuse Plan Alternative would make use of properties that could otherwise be left unused, it would improve both the short- and long-term economic productivity of the City of Novato and Marin County over conditions that would occur with a closed, inactive base facility. Interim leasing of properties during the period that long-term tenants are being recruited also could add to the short-term productivity of DODHF Novato. Site remediation and cleanup activities will improve environmental conditions on the facility. The Revised Reuse Plan Alternative, with the mitigation measures identified in this report, would enhance the long-term productivity of the site. Long-term benefits include provision of housing, jobs, and opportunities for various recreational uses, maintenance of open space, and maintenance of various infrastructures on the site. The Open Space Alternative would have similar long-term benefits, but would provide less housing and slightly more jobs than the Revised Reuse Plan Alternative. Under this alternative, the Rafael Village planning area would provide additional open space and park land for recreational uses. The No Action Alternative would not provide housing, jobs, or recreational opportunities and would therefore not enhance the short- and long-term productivity of Novato and Marin.

5.5 IRREVERSIBLE /IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that an EIS analyze the extent to which the alternatives' primary and secondary effects would commit nonrenewable resources to uses that future generations would be unable to reverse. Federal disposal of DODHF Novato property and structures would not involve irreversible or irretrievable commitments of resources.

Implementation of the Revised Reuse Plan Alternative would largely continue current types of land uses. Because the majority of the Revised Reuse Plan Alternative would be adaptive reuse of existing structures, the Revised Reuse Plan Alternative would generally not require significant commitments of renewable and nonrenewable energy and material resources. However, demolition and construction of the new residences in Rafael Village and of other structures in Commissary Triangle and Exchange Triangle would require an irreversible commitment of the land area of those sites for the foreseeable future and would require an irretrievable commitment of building materials.

The Open Space Alternative also would consist largely of adaptive reuse and would generally not require significant commitments of renewable and nonrenewable energy and material resources. However, compared to the Revised Reuse Plan Alternative, there would be no new structures in Rafael Village. Open space use of this planning area would preserve future land use options.

The No Action Alternative would not require long-term commitment of resources and the site would be available for future use options.

5.6 ENVIRONMENTAL JUSTICE

This section summarizes potential impacts from disposal and reuse of the DODHF Novato facilities on issues of Environmental Justice. As discussed in Section 3.3, the "Executive Order on Federal Actions to Address Environmental Justice in Minority and Low-Income Populations" issued on February 11, 1994, requires that the relative impacts of federal actions on minority and/or low-income populations be addressed to avoid the placement of a disproportionate share of adverse impacts of these actions on these groups. On April 21, 1995 the Secretary of Defense submitted a formal Environmental Justice strategy and implementation plan to the U.S. EPA.

In order to comply with the Executive Order, this EIS included the following actions:

- Gathering of economic, racial, and demographic information generated from the 1990 census to identify areas of low-income and high minority populations in the vicinity of areas potentially exposed to project impacts;

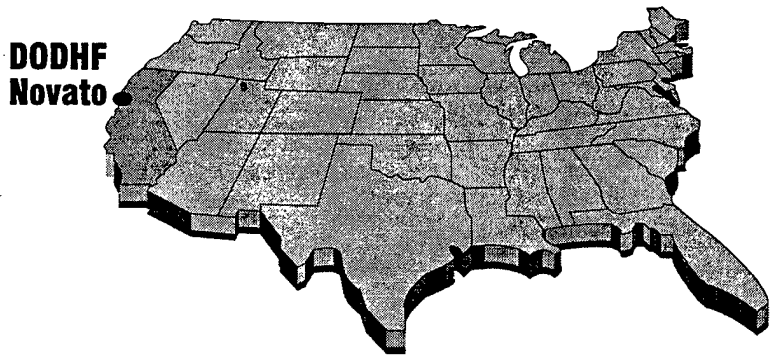
- Assessment of the disposal and reuse actions for disproportionate impacts resulting from on-site activities associated with reuse of DODHF Novato facilities; and

- Encouragement of community participation and input through public hearings and meetings and extensive public notification, as described in Chapter 1 of this document.

Summary of Environmental Justice Impacts

Issues related to environmental justice are addressed in detail in Sections 3.3 and 4.3, Socioeconomics, of this document. The following discussion summarizes this analysis. The analysis established that the impacts from the proposed disposal and reuse actions would be the same under each reuse alternative and would be mainly beneficial.

None of the alternatives would have a disproportionate adverse effect on minority or low-income populations. The Navy disposal action was determined to have no impacts on minority and/or low-income populations. The reuse alternatives would increase the availability of affordable housing units, which would benefit low-income people. All other potential impacts of the action would affect all segments of the population in and around the site equally. No one group would be disproportionately impacted, and no mitigations would be required.



6.0 CONSULTATION AND COORDINATION

6.1 REPORT PREPARATION 6-1

6.2 SCOPING 6-2

6. CONSULTATION AND COORDINATION

6.1 REPORT PREPARATION

The federal, state, and local agencies and private organizations that were contacted during the course of preparing this EIS are listed below.

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6.2 SCOPING

The project mailing list, including agencies, organizations, and individuals that received scoping letters, is provided in Chapter 10. The following parties responded to the scoping request.

Federal Agencies

US Environmental Protection Agency
US Department of Education
US Coast Guard

State Agencies

CA Environmental Protection Agency, Dept. of Toxic Substance Control

Local/Regional Agencies

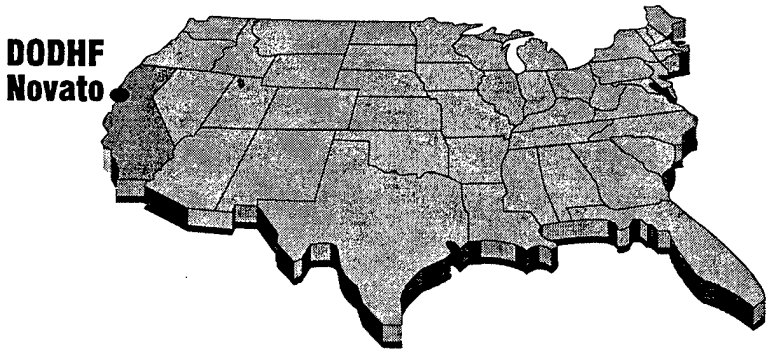
Historical Resources Information System
Marin Municipal Water District

Organizations

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Ignacio Neighborhood Committee
Lanham Village Homeowners Association
Marin Audubon Society
Marin Conservation League
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7. LIST OF PREPARERS

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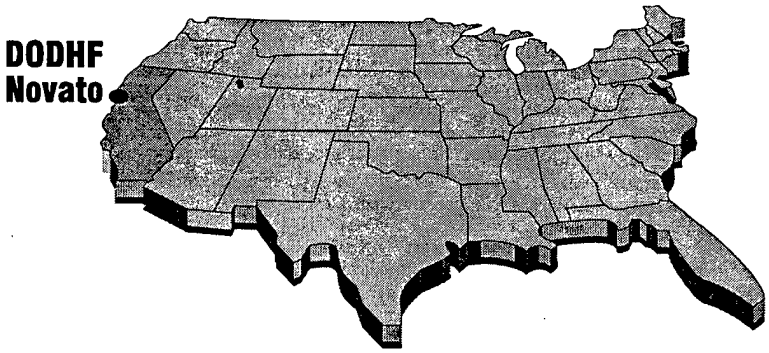
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9.2 GLOSSARY

100-Year Flood Zone	Land area having a one percent chance of being flooded during a given year.
A-Weighted Decibel (dBA)	A number representing the sound level which is frequency weighted according to a prescribed frequency response established by the American National Standards Institute (ANSI-S1.4-1971) and accounts for the response of the human ear.
Active Fault	A fault on which movement has occurred during the past 10,000 years and which may be subject to recurring movement, usually indicated by small periodic displacement or seismic activity.
Aesthetics	Referring to the perception of beauty.
Affected Environment	Existing biological, physical, social, and economic conditions of an area subject to change as a result of a proposed human action. Also, the chapter in an environmental impact statement describing current environmental conditions.
Air Quality	Measure of health related and visual characteristics of the air often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.
Alternatives	Courses of action which may meet the objectives of a proposal at varying levels of accomplishment, including the most likely future conditions without the project or action.
Ambient Air Quality Standards	Standards established on a state or federal level that define the limits for airborne concentrations of designated criteria pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, ozone, lead), to protect public health with an adequate margin of safety (primary standards) and public welfare, including plant and animal life, visibility, and materials (secondary standards).
Arterial	Signalized street that serves primarily through traffic and provides access to abutting properties as a secondary function.
Asbestos	A carcinogenic substance formerly used widely as an insulation material by the construction industry; often found in older buildings.
Attainment Area	An area which meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act or meets state air quality standards.
Burial	Human remains disposed of by interment. Burials may be *simple* (containing the remains of one person) or *complex* (containing the remains of two or more individuals), *primary* (including the remains as originally interred) or *secondary* (where a reinterment follows a temporary disposal elsewhere).

Capacity (Transportation)	The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.
Capacity (Utilities)	The maximum load a system is capable of carrying under existing service conditions.
Clean Air Act (CAA)	The CAA legislates that air quality standards set by federal, state, and county regulatory agencies establish maximum allowable emission rates and pollutant concentrations for sources of air pollution on federal and private property. Also regulated under this law is proper removal and safe disposal of asbestos from buildings other than schools.
Clean Water Act (CWA)	The CWA is the major federal legislation concerning improvement of the nations water resources. It provides for development of municipal and industrial wastewater treatment standards and a permitting system to control wastewater discharges to surface waters. The act contains specific provisions for regulation of ships' wastewater and disposal of dredge spoils within navigable waters. Section 404 of the act regulates disposal into waters of the United States, including wetlands.
Climate	The prevalent or characteristic meteorological conditions (and their extremes) of any given location or region.
Community Noise Equivalent Level	Noise Compatibility level established by California Administrative Code, Title 21, Section 5000. The 24-hour average A-weighted sound level with a 5 dB weighting added to levels occurring between 10:00 p.m. and 7:00 a.m.
Community Environmental Response Facilitation Act (CERFA)	A 1992 amendment to CERCLA, CERFA expedites the identification of uncontaminated real property within closing facilities which offer the greatest opportunity for reuse and redevelopment.
Comprehensive Environmental Response, Compensation, And Liability Act (CERCLA)	CERCLA, also known as Superfund, was enacted in 1980 to ensure that a source of funds is available to clean up abandoned hazardous waste dumps, compensate victims, address releases of hazardous materials, and establish liability standards for responsible parties. The act also requires creation of a National Priorities List which sets forth the sites considered to have the highest priority for cleanup under Superfund.
Contamination	The degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.
Council On Environmental Quality (CEQ)	Established by NEPA, the CEQ consists of three members appointed by the President. CEQ regulations (40 CFR 1500-1508, as of July 1, 1986) describe the process for implementing NEPA, including preparation of environmental assessments and environmental impact statements, and timing and extent of public participation.
Criteria Pollutants	The Clean Air Act required the EPA to set air quality standards for common and widespread pollutants after preparing "criteria documents" summarizing scientific knowledge on their health effects. Today there are standards in effect for six criteria pollutants: sulfur dioxide, carbon

	monoxide, particulate matter, nitrogen dioxide, ozone, and lead.
Cultural	(1) The nonbiological and socially transmitted system of concepts, institutions, behavior, and materials by which a society adapts to its effective natural and human environment. (2) Similar or related assemblages of approximately the same age from a single locality or district, thought to represent the activities of one social group.
Cultural History	The archeological sequence of cultural activity through time, within a defined geographic space or relating to a particular group.
Cultural Resource	Prehistoric or historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason.
Cumulative Impacts	The combined impacts resulting from all programs occurring concurrently at a given location.
Day-Night Average Sound Level (Ldn)	The 24-hour average-energy sound level expressed in decibels, with a 10 decibel penalty added to sound levels between 10:00 p.m. and 7:00 a.m. to account for increased annoyance due to noise during the night.
Decibel (dB)	A unit of measurement on a logarithmic scale which describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference value.
Developed	Said of land, a lot, a parcel, or an area that has been built upon, or where public services have been installed prior to residential or commercial construction.
Direct Impact	Effects resulting solely from the proposed program.
Disposal	Legal transfer of Navy property to other ownership.
Dredging	Removal of mud from the bottom of water bodies using a scooping machine.
Effluent	Waste material discharged into the environment.
Endangered Species	A species that is threatened with extinction throughout all or a significant portion of its range.
Endangered Species Act (ESA)	The ESA requires federal agencies to determine the effects of their actions on endangered species and their critical habitats.
Environmental Impact Statement (EIS)	A document required of federal agencies by NEPA for major projects or legislative proposals significantly affecting the environment. A tool for decision making, the EIS describes the positive and negative effects of the undertaking and lists alternative actions.
Equivalent Noise Levels (Leq)	Equivalent noise levels are used to develop single-value descriptions of average noise exposure over various periods of time.

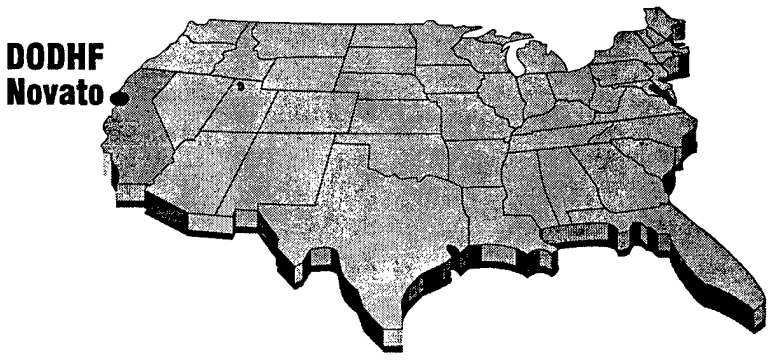
Fault	Fracture in earth's crust accompanied by a displacement of one side of the fracture with respect to the other and in a direction parallel to the fracture.
Floodplain	The relatively flat land lying adjacent to a river channel that is covered by water when a river overflows its banks.
Flora	Plants; organisms of the plant kingdom taken collectively.
Ground Water	Water within the earth that supplies wells and springs.
Habitat	Area where a plant or animal lives.
Hazardous Material	A substance or mixture of substances that poses a substantial present or potential risk to human health or the environment. Any substance designated by the EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or if it is otherwise released into the environment.
Hazardous Waste	A waste or combination of wastes which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Regulated under RCRA.
Historic (Cultural Resources)	A period of time after the advent of written history dating to the time first Euro-American contact in an area. Also refers to items primarily of Euro-American manufacture.
Historic District	National Register of Historic Places designation of a geographically defined area (urban or rural) possessing a significant concentration, linkage, or continuity of sites, structures, or objects united by past events or aesthetically by plan of physical development.
Impact	An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique.
Indirect Impact	Program-related impact not directly attributable to the program itself.
Infrastructure	The basic installations and facilities on which the continuance and growth of a locale depend (roads, schools, power plants, transportation, and communication systems).
Land Use Plans And Policies	Guidelines adopted by governments to direct future land use within their jurisdictions.

Level Of Service (LOS)	In transportation analysis, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or pedestrians. In public services, a measure describing the amount of public services available to community residents, generally expressed as the number of personnel providing service per 1,000 population.
Liquefaction	The transformation during an earthquake of unconsolidated, water-saturated sediment into a liquid form.
Long-term	Impacts that would occur over an extended period of time, whether they start during the construction or operations phase. Most impacts from the operations phase are expected to be long term since program operations essentially represent a steady-state condition (i.e., impacts resulting from actions that occur repeatedly over a long period of time). However, long-term impacts could also be caused by construction activities if a resource is destroyed or irreparably damaged or of the recovery rate of the resource is very slow.
McKinney Act	The McKinney Act gives recognized providers of assistance to the homeless a high priority in acquiring unneeded land and buildings on federal properties. The property can be used only for the homeless and only for two years. Homeless providers must be able to finance upgrades of facilities, pay a proportionate share of municipal service costs, and fund its program operations.
Mitigation	A method or action to reduce or eliminate program impacts.
Multi-Family Housing	Townhouse or apartment units that accommodate more than one family though each dwelling unit is only occupied by one household.
National Ambient Air Quality Standards	Section 109 of the Clean Air Act requires EPA to set nationwide standards for widespread air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide.
National Environmental Policy Act (NEPA)	Public Law 91-190, passed by Congress in 1969, established a national policy designed to encourage consideration of the influence of human activities on the natural environment. NEPA also established the Council on Environmental Quality. NEPA procedures require that environmental information be made available to the public before decisions are made.
National Historic Preservation Act (NHPA)	The NHPA protects cultural resources. Section 106 of the act requires a federal agency to take into account the potential effect of a proposed action on properties listed on or eligible for listing on the National Register of Historic Places.
National Register of Historic Places	A federally maintained register of districts, sites, buildings, structures, architecture, archeology, and culture.
National Register Resources	Properties listed on the National Register of Historic Places, properties formally determined eligible for listing on the National Register, and those properties appearing to qualify for listing on the National Register.

Native American Graves Protection and Repatriation Act (NAGPRA)	NAGPRA defines the ownership and control of Native American huma remains and associated funerary objects discovered or recovered from feder or tribal land.
Native Americans	Used in the collective sense to refer to individuals, bands, or tribes who tra their ancestry to indigenous populations of North America prior to Eur American contacts.
Native Vegetation	Plant life that occurs naturally in an area without agricultural or cultivational efforts. It does not include species that have been introduced from other geographical areas and have become naturalized.
Natural Gas	A natural fuel containing primarily methane and ethane that occurs in certain geologic formations.
Nitrogen Oxides (NOx)	Gases formed primarily by fuel combustion, which contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog.
Noise	Any sound that is undesirable because it interferes with speech and hearing, or intense enough to damage hearing, or is otherwise annoying.
Nonnative species	Species that have invaded or been introduced into an area.
Ozone	A major ingredient of smog. Ozone is produced from reactions of hydrocarbons and nitrogen oxides in the presence of sunlight and heat.
Particulate Matter (PM_{10})	PM_{10} is a fractional sampling of particle sizes that approximate the extent to which particles with aerodynamic equivalent diameters smaller than fifty (50) microns penetrate to the lower respiratory tract. The "10" in PM_{10} refers to a 50 percent collection efficiency size range, not an upper size limit.
Peak Hour	The hour of highest traffic volume on a given section of roadway between 7:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 6:00 p.m.
Permit	An authorization, license, or equivalent control document to implement the requirements of an environmental regulation.
Polychlorinated Biphenyls (PCBs)	Any of a family of industrial compounds produced by chlorination of biphenyl. These compounds are noted chiefly as an environmental pollutant that accumulates in organisms and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.
Potable Water	Water that is suitable for drinking.
Prehistory/Prehistoric	The archeological record of nonliterate cultures; the cultural past before the advent of written records.

Public Involvement	Process of obtaining citizen input into each stage of development of planning documents. Required as a major input into any environmental impact statement.
Record Of Decision (ROD)	The document prepared under the federal government that documents the reasoning behind the decision.
Recycling	The process of minimizing the generation of waste by recovering usable products that might otherwise become waste.
Region of Influence	For each resource, the region affected by the proposed action or alternatives and used for analysis in the affected environment and impact discussion.
Resource Conservation And Recovery Act (RCRA)	RCRA was enacted in 1976 as the first step in regulating the potential health and environmental problems associated with hazardous waste disposal. RCRA and the regulations developed by EPA to implement its provisions provide the general framework of the national hazardous waste management system, including the determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.
Runoff	The noninfiltrating water entering a stream or other conveyance channel shortly after a rainfall event.
Seismicity	Relative frequency and distribution of earthquakes.
Short Term	Transitory effects of the proposed program that are of limited duration and are generally caused by construction activities or operations start-up.
Significance	The importance of a given impact on a specific resource as defined under the Council on Environmental Quality regulations.
Single-Family Housing	A conventionally built house consisting oaf a single dwelling unit occupied by one household.
Site	The location of past cultural activity; a defined space with more or less continuous archeological evidence.
Soil	A natural body consisting of layers or horizons of mineral and/or organic constituents of variable thickness and differing from the parent material in their morphological, physical, chemical, and mineralogical properties, and biological characteristics.
Soil Types	A category or detailed mapping unit used for soil surveys based on phases or changes within a series (e.g. slope, salinity).
Solid Waste Management	Supervised handling of waste materials from their source through recovery processes to disposal.

State Historic Preservation Officer (SHPO)	The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for purposes of implementing the National Historic Preservation Act.
Sulfur Dioxide	A toxic gas that is produced when fossil fuels, such as coal and oil, are burned. It is the main pollutant involved in the formation of acid rain.
Superfund Amendments And Reauthorization Act (SARA)	SARA was enacted in 1986 to increase the Superfund to $8.5 billion, modify contaminated site cleanup criteria scheduling, and revise settlement procedures. It also provides a fund for leaking underground storage tank cleanups and a broad, new emergency planning and community right to know program.
Surface Water	All water naturally open to the atmosphere and all wells, springs, or other collectors which are directly influenced by surface water.
Threatened Species	Plant and wildlife species likely to become endangered in the foreseeable future.
Topography	Physical shape of the ground surface.
Toxic	Harmful to living organisms.
Toxic Substances Control Act (TSCA)	TSCA provides authority to test and regulate chemicals to protect human health. Substances regulated under TSCA include asbestos and PCBs.
Transfer	Deliver US government property accountability to another federal agency.
US Environmental Protection Agency	The independent federal agency established in 1970 to regulate federal environmental matters and oversees the implementation of federal environmental laws.
Wetlands	Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil. This classification includes swamps, marshes, bogs, and similar areas. Jurisdictional wetlands are those wetlands that meet the vegetation, soils, and hydrology criteria under normal circumstances (or meet the special circumstances as described in the US Army Corps of Engineers, 1987 wetland delineation manual where one or more of these criteria may be absent) and are a subset of "waters of the United States."
Zoning	The division of a municipality into districts for the purpose of regulating land use, types of buildings, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirement for each zoning category.



10.0 DISTRIBUTION LIST

10. DISTRIBUTION LIST

Title	First	Last	Organization	Branch	City	State
Elected Officials						
Mr.	John	Hass	Senator Boxer's Office		San Francisco	CA
Mr.	Russell	Lowe	Senator Feinstein's Office		San Francisco	CA
The Honorable	Milton	Marks	State Senator		Sacramento	CA
The Honorable	Mazzoni	Kerry	State Assemply Representative		Sacramento	CA
The Honorable	Patricia	Ecklund	City of Novato		Novato	CA
Mayor Pro Tem	Carole	Dillon-Knutsen	City of Novato		Novato	CA
Councilmember	Michael	DiGiogio	City of Novato		Novato	CA
Councilmember	Ernest	Gray	City of Novato		Novato	CA
Councilmember	Cynthia	Murray	City of Novato		Novato	CA
Supervisor	John	Kress	Marin County		San Rafael	CA
Supervisor	Annette	Rose	Marin County		San Rafael	CA
Supervisor	Gary	Giacomini	Marin County		San Rafael	CA
			Marin County Board of Supervisors		SanRafael	CA
Supervisor	Harry	Moore	Marin County		San Rafael	CA
Supervisor	Harold	Brown	Marin County		San Rafael	CA
The Honorable	Lynn	Woolsey	US Representative		Washington	DC
Federal Agencies						
	Lee	Keating	Advisory Council on Historic Preservation	Western Division, Project Review	Golden	CO
Executive Director			Advisory Council on Historic Preservation		Washington	DC
Mr.	Richard	Brown	Dept of Housing and Urban Development	Office of Community Viability	Washington	DC
Director	Steven	Sachs	Dept of Housing and Urban Development	Community Planning and Development, 9ADE	San Francisco	CA
Mr.	Jimmy	Prater	Dept of Housing and Urban Development		San Francisco	CA
			Federal Aviation Administration	Branch AWP530	Los Angeles	CA
Mr.	Gene	Buvelot	Federal Coast Miwok		Novato	CA
Regional Director			Federal Emergency Management Agency	Region IX	San Francisco	CA
Chief, Northern Branch	Dianne	Cah	General Services Administration	Office of Real Estate Sales (90R)	San Francisco	CA
	Dale M.	Lanzone	General Services Administration		Washington	DC
Mr.	Tom	Doszkocs	General Services Administration	Interagency Real Estate Coordinator	San Francisco	CA
Regional Director	Helda	Diaz Soltero	National Marine Fisheries Service	SW Region	Long Beach	CA
Ms.	Diane	Windham	National Marine Fisheries Service		Santa Rosa	CA
Ms.	Courtney	Damkroger	National Trust for Historic Preservation		San Francisco	CA
			National Wildlife Federation	Public Affairs	Washington	DC
Mr.	Larry	Myers	Native American Heritage Commission	Executive Secretary	Sacramento	CA
Ms.	Laurie	Sullivan	Dept. of Commerce	NOAA	San Francisco	CA
Mr.	George	Hoops	US Dept of Education	Federal Real Property Assistance Program	Seattle	WA
Director	David	Hakola	US Dept of Education	Real Property Group	Washington	DC
			US Dept of Energy	Office of EC&E, Env Program Division	Oakland	CA
			US Dept of State	Environmental Affairs Office	Washington	DC
Chief, Environmental Section			US Dept of the Interior	Bureau of Indian Affairs	Sacramento	CA
Director			US Dept of the Interior	Office of Environmental Policy and Compliance	Washington	DC

Title	First	Last	Organization	Branch	City	State
Associate Regional Director	John	Cherry	US Dept of the Interior	National Park Service	San Francisco	CA
Chief of Planning, Grants, & Env. Qual.	Ray	Murray	US Dept of the Interior	National Park Service	San Francisco	CA
	Pat	Port	US Dept of the Interior	Office of Environmental Policy and Compliance	San Francisco	CA
Director's Representative			US Dept of the Interior, USGS		Menlo Park	CA
Region IX Secretary	Thomas	Patak	US Dept of Transportation		San Francisco	CA
			US Dept of Transportation	Federal Highway Administration	San Francisco	CA
			US Dept of Transportation		Washington	DC
Mr.	Raymond	Seid	US Environmental Protection Agency	Office of the Federal Facilities Cleanup	San Francisco	CA
Reuse Representative	Esther	Hill	US Environmental Protection Agency, Region IX	Code H-9-2	San Francisco	CA
Mr.	David	Farrel	US Environmental Protection Agency, Region IX	Environmental Review Section (E-3-1)	San Francisco	CA
Mr.	David	Tomsovic	US Environmental Protection Agency, Region IX	Office of External Affairs	San Francisco	CA
Mr.	Joel	Medlin	US Fish & Wildlife Service	Ecological Services	Sacramento	CA
Department of Defense						
	District	Engineer	US Army Corps of Engineers	Attn: CESPK-PM-M	Sacramento	CA
	Robert	Koenig	US Army Corps of Engineers	CESPK-PD-R	Sacramento	CA
Mr.	Graham	Sharpe	US Army Corps of Engineers	CESPK-PM-M (ISS)	San Francisco	CA
	District	Engineer	US Army Corps of Engineers		San Francisco	CA
Commander			US Coast Guard	(G-EVC-4)	Washington	DC
LCDR	Rod	Smith	US Coast Guard	MLCP	Alameda	CA
Ms.	Sue	Boyle	US Coast Guard	Pacific Area	Alameda	CA
	Pat	O'Brien	US Dept of Defense	Office of Economic Adjustment	Arlington	VA
Mr.	Paul	Ryeff	US Dept of Defense	Office of Economic Adjustment	Sacramento	CA
Navy						
Mr.	John	Scales	Navy Public Works Center		Novato	CA
Chief of Naval Operations	Tom	Peeling, N456	Office of the Chief of Naval Operations	Crystal Plaza 5, Room 680	Arlington	VA
CDR	Steve	Daugherty	Navy CNO (N44)		Reston	VA
CDR	Al	Elkins	Base Transition Coordinator	CNB Code 00TC	Oakland	CA
CAPT	Tom	Christensen	Commanding Officer, PWC		Oakland	CA
CDR	Chuck	Doherty	Executive Officer	PWC	Oakland	CA
Mr.	Bill	Oswood	BRAC Division Head	PWC	Oakland	CA
Env Planning	Gary	Munekawa	EFA West	Code 185	San Bruno	CA
Mr.	John	Parsons	Navy Public Works Center	Code 100	Oakland	CA
State Agencies						
Director	James	Boyd	CA Air Resources Board	Stationary Sources	Sacramento	CA
Mr.	Bob	Fletcher	CA Air Resources Board		Sacramento	CA
			CA Archaeological Inventory	Sonoma State University, Foundation Center	Rohnert Park	CA
			CA Dept of Conservation	Div of Mines & Geology	San Francisco	CA
Mr.	Ken	Trott	CA Dept of Conservation	Office of Land Conservation	Sacramento	CA
Mr.	Pete	Phillips	CA Dept of Fish & Game	Environmental Services Div.	Sacramento	CA
Mr.	Brian	Hunter	CA Dept of Fish & Game	NW Region 3	Yountville	CA
Mr.	Douglas	Wickizer	CA Dept of Forestry		Sacramento	CA
			CA Dept of Health Service	Public Water Supply Branch	Sacramento	CA
Mr.	Steve	Hsu	CA Dept of Health Services	Office of Noise Control	Berkeley	CA

Title	First	Last	Organization	Branch	City	State
Mr.	Ken	Pierce	CA Dept of Parks & Recreation	Resource Management Division	Sacramento	CA
			CA Dept of Transportation	Environmental Branch	Sacramento	CA
Chief	Edwin	Erwin	CA Dept of Transportation	Transportation Planning, Branch A	Stockton	CA
Branch Chief	Ace	Forsen	CA Dept of Transportation, District 4	Office of Transportation Planning, IGR/CEQA Branch	Oakland	CA
Mr.	Walt	Pettit	CA Dept of Water Resources		Sacramento	CA
			CA Division of Water Quality		Sacramento	CA
			CA Energy Commission		Sacramento	CA
Ms.	Theresa	McGarry	CA Environmental Protection Agency	Dept of Toxic Substance Cntl, Office of Military Facilities	Sacramento	CA
Mr.	James M.	Strock	CA Environmental Protection Agency		Sacramento	CA
Ms.	Shirley	Buford	CA Environmental Protection Agency	Dept of Toxic Substances Control	Berkeley	CA
Ms.	Raymond	Leclerc	CA EPA, Dept of Toxic Substance Control	Region 1, Base Closure Branch	Sacramento	CA
			CA Highway Patrol		Corte Madera	CA
			CA Highway Patrol, Long Range Planning Section	Planning and Analysis Division	Sacramento	CA
			CA Native American Heritage Community		Sacramento	CA
Mr.	John	Walters	CA Native Plant Society	Marin Chapter	San Anselmo	CA
			CA Office of Emergency Services		Pleasant Hill	CA
Mr.	Mike	Chiaritti	CA Office of Planning & Research		Sacramento	CA
Mr.	Ben	Williams	CA Office of Planning and Research		Sacramento	CA
Mr.	Ernie	von Ibsch	CA Public Utilities Commission	Safety and Enforcement Division	San Francisco	CA
Mr.	Tom	Gansbury	CA Regional Water Quality Cntl Brd	Basic Planning Unit	Oakland	CA
Mr.	John	Adams	CA Regional Water Quality Cntl Brd	Land Disposal Section	Sacramento	CA
Mr.	Jack	Gregg	CA Regional Water Quality Cntl Brd		Oakland	CA
			CA State Clearing House		Sacramento	CA
Project Manger	Terri	Nevins	CA State Coastal Conservatory		Oakland	CA
CA State Historic Preservation Officer	Cherilyn	Widell	CA State Historic Preservation Office		Sacramento	CA
Chief	Jane	Sekelsky	CA State Lands Commission	Div of Land Management	Sacramento	CA
Mr.	Dave	Plummer	CA State Lands Commission	Div of Research and Plan	Sacramento	CA
Mr.	Robert	Berry	CA Trade and Commerce		Sacramento	CA
			CA Water Resources Con. Board		Sacramento	CA
Mr.	Earl	Tucker	Caltrans	Divisions of Aeronautics	Sacramento	CA
Transportation Planning	Wade	Greene	Caltrans District IV		Oakland	CA
			Caltrans Planning		Sacramento	CA
Mr.	Thomas	Nagle	Coastal Area Information Group	Employment Development Dept	San Francisco	CA
Mr.	Marc F.	Roddin	Metropolitan Transportation Commission		Oakland	CA
Mr.	Bill	Johnson	Native American Heritage Commission		Sacramento	CA
Executive Director	William	Travis	SF Bay Conservation & Dev Commission		San Francisco	CA
Mr.	Douglas	Wheeler	The Resources Agency		Sacramento	CA
Regional Agencies						
Mr.	Richard	Arrow		Controllers Office	San Rafael	CA
	Pat	Perry	Association of Bay Area Government		Oakland	CA
			American Indian Council Of Marin		San Rafael	CA

Title	First	Last	Organization	Branch	City	State
Supervising Environmental Planner	Irwin	Mussen	Bay Area Air Quality Management District		San Francisco	CA
Mr.	Rolf	Pendall	Bay Area Council		San Francisco	CA
			Bel Marin Keys	Community Services Dept	Novato	CA
Director	Dennis	Dorch	City of Cotati	Planning Dept	Cotati	CA
City Manager	Rod	Wood	City of Novato		Novato	CA
Mr.	Tom	Elliott	City of Novato	Fire District	Novato	CA
Mr.	Ken	Bell	City of Novato		Novato	CA
			City of Novato	Sanitary District	Novato	CA
Director	Larry	Dito	City of Novato	Parks & Recreation	Novato	CA
Chief			City of Novato	Police Dept	Novato	CA
City Engineer	Tim	Nolan	City of Novato		Novato	CA
Development Director	Sonja	Seeman	City of Novato		Novato	CA
Director	Vi	Grinsteiner	City of Novato	Community Development Department	Novato	CA
Ms.	Carol	Hollander	City of Novato	Community Development Department	Novato	CA
Mr.	Mark	Westfall	City of Novato	Community Development Department	Novato	CA
Ms.	Annette	Conklin	City of Novato	Unified School District	Novato	CA
			City of Petaluma	Planning Department	Petaluma	CA
Director	Robert	Pendoley	City of San Rafael	Planning Department	San Rafael	CA
Mr.	Ron	Allen	City of Santa Rosa	Community Development	Santa Rosa	CA
Mr.	Harvey	Katz	Golden Gate Bridge Highway Transit Dist.	Planning Department	San Rafael	CA
General Manager			Golden Gate Bridge Highway Transit Dist.		San Francisco	CA
			Las Gallinas Valley Sanitary District		San Rafael	CA
Ms.	Dawn	Mittleman	Local Agency Formation Commission		San Rafael	CA
			Marin Air Response Instant Network		Tiburon	CA
Mr.	Lester	Roth	Marin Chamber of Commerce		San Rafael	CA
			Marin County	Homeless Programs Office	San Rafael	CA
Mr.	Mark	Riesenfield	Marin County	Planning Department	San Rafael	CA
Mr.	Donald	Ward	Marin County	Planning Department	San Rafael	CA
			Marin County	Public Works Department	San Rafael	CA
			Marin County	Flood Control and Water Conservation District	San Rafael	CA
	Francis E.	Torr	Marin County Aviation Commission		Novato	CA
			Marin County Counsel		San Rafael	CA
			Marin County Open Space District	Department of Public Works	San Rafael	CA
			Marin County Open Space District	Marin County Parks and Recreation	San Rafael	CA
			Marin County Planning Department	Airport Land Use Committee	San Rafael	CA
Mr.	John	Law	Marin County Transit District		SanRafael	CA
Mr.	Ronald	Johnson	Marin Municipal Water District		Corte Madera	CA
Mr.	Eric	McGuire	Marin Municipal Water District		Corte Madera	CA
			Marin-Sonoma	Mosquito Abatement District	Petaluma	CA
			North Bay Transit Committee		San Rafael	CA
			North Marin Recreation Center, Inc.		Novato	CA
Mr.	John	Nelson	North Marin Water District		Novato	CA
Ms.	Leigh	Jordan	Northwest Information Center	Historical Resources Information Systems	Rohnert Park	CA
Ms.	Maria	Davalos	Novato Chamber of Commerce		Novato	CA
			Novato City Council		Novato	CA
Mr.	Dennis	Scoles	Novato Task Force on Homelessness & Restoration Advisory Board	Novato		CA
			Public Works Department	Marin County Aviation	San Rafael	CA

Title	First	Last	Organization	Branch	City	State
				Commission		
Director	Paul	Skanchy	Rohnert Park	Planning Department	Rohnert Park	CA
Vice President	Janet	Jacob	San Marin Improvement Association		Novato	CA
			Hamilton Reuse Entities			
	Shira	Wight	Hamilton Advisory Commission		Novato	CA
Ms.	Nicki	McIntyre	Hamilton Advisory Commission	c/o Marin County Housing	San Rafael	CA
Ms.	Betty	Pagett	Hamilton Advisory Commission	Ecumenical Association for Housing	San Rafael	CA
Ms.	Gail	Wilhelm	Hamilton Advisory Commission		Novato	CA
Mr.	Jeff	McAlpin	Hamilton Advisory Commission		Novato	CA
Ms.	Nancy	Sangster	Hamilton Advisory Commission		Novato	CA
Mr.	Harold J.	Leeds	Hamilton Advisory Commission		Novato	CA
Ms.	Elizabeth	Moody	Hamilton Advisory Commission		Novato	CA
Mr.	Robert	Gallimore	Hamilton Advisory Commission		San Rafael	CA
Ms.	Susan	Stompe	Hamilton Advisory Commission		Novato	CA
Mr.	Robert	Telder	Hamilton Advisory Commission		Novato	CA
Ms.	Debbie	Rowland	Hamilton Advisory Commission		Novato	CA
Ms.	Bobbi	Smith	Hamilton Advisory Commission		Novato	CA
Mr.	Earl	Robertson	Hamilton Advisory Commission		Novato	CA
Mr.	Ross	Millerick	Hamilton Advisory Commission		Novato	CA
Ms.	Gloria	Maniscalco	Hamilton Advisory Commission		Novato	CA
Mr.	Martin	Mackey	Hamilton Advisory Commission		Belvedere	CA
Mr.	John	Bishop	Hamilton Advisory Commission & Los Robles Mobile Home Park		Novato	CA
Mr.	Otis	Bruce, Jr.	Hamilton Advisory Commission		Novato	CA
Mr.	Michael	Di Giorgio	Hamilton Advisory Commission		Novato	CA
Mr.	David	Sowers	Hamilton Advisory Commission & Restoration Advisory Board		Novato	CA
Ms.	Cheryl	Van Den Handel	Hamilton Air Field Action Association & Hamilton Advisory Commission		Novato	CA
	Alix T.	Coutts	Hamilton Field Preservation Association		Corte Madera	CA
	Vic	Canby	Hamilton Re-Use Committee		San Rafael	CA
Mr.	William	Long	Multi-Use Agency Board		Novato	CA
Ms.	Cynthia L.	Murray	Multi-Use Agency Board		Novato	CA
Ms.	Betsey	Cutler	Multi-Use Agency Board		Mill Valley	CA
Supervisor	Brady	Bevis	Multi-Use Agency Board		San Rafael	CA
Mr.	Tom	Gram	Martin Group & Restoration Advisory Board		Emeryville	CA
Ms.	Polly O.	Smith	Restoration Advisory Board		Tiburon	CA
	Karol	Raymer	Restoration Advisory Board		Mill Valley	CA
Mr.	Harrison	Karr	Restoration Advisory Board		Novato	CA
Mr.	Earl Graham	Marshall	Restoration Advisory Board		Novato	CA
Mr.	Richard	Draeger	Restoration Advisory Board		Novato	CA
Mr.	Matthew J.	McCarron	Restoration Advisory Board		Novato	CA
Mr.	Franklin D.	Ruona	Restoration Advisory Board		Novato	CA
Mr.	Andre	Klein	Restoration Advisory Board		Novato	CA
Mr.	Manuel	Mier	Restoration Advisory Board		Mill Valley	CA
Mr.	Christopher	Valentino	Restoration Advisory Board		Novato	CA
Mr.	Jack	Walton	Restoration Advisory Board		Novato	CA
Mr.	James	Wilson	Restoration Advisory Board		Novato	CA
Ms.	Tunstall	Lang	Restoration Advisory Board		Novato	CA
			Organizations			
	Ceil	Scandone	ABAG Bay Trail	Metro Center	Novato	CA
			Allen Larsen Venture Corp.	Bel Marin Keys Development Association	Mill Valley	CA

Title	First	Last	Organization	Branch	City	State
	Patrick	Murphy	ARINC		Alameda	CA
	Wendy	Curtis	ARINC		Alameda	CA
President	Harold	Bexton	Bahia Homeowners Association		Novato	CA
Ms.	Ellen	Fusso	Bahia Homeowners Association		Novato	CA
President	Bob	Jordon	Bahia Homeowners Association		Novato	CA
Mr.	Gabriel	Murano	Bahia Homeowners Association		Novato	CA
Corresponding Sec.	Diane	Thompson	Bahia Homeowners Association		Novato	CA
Mr.	Ken	Bell	Robert Bein, Frost, & Associates		Irvine	CA
Ms.	Margit	Allen	Robert Bein, Frost, & Associates		Irvine	CA
Director	Ron	Simkins	Bel Marin Keys C.S.D.		Novato	CA
			Bianchi, Paxton, Engel, Keegin		San Rafael	CA
			Beryl Buck Inst for Education		Novato	CA
Ms.	Rosalie	Webb	Black Point Environmental Association		Novato	CA
	H.	Barner	Black Point Improvement Club	Liled's Candy Kitchen	Vallejo	CA
Ms.	Susan R.	Diamond	Brobeck, Phleger, & Harrison		San Francisco	CA
			Buller Properties	Buller Family Partnership	San Francisco	CA
			Cheda Knolls HOA	Excel Management Association, Inc.	Novato	CA
			Church of the Nazarene		Novato	CA
	John E.	Gibbons	Consultant		El Granada	CA
			CSW / Stuber-Stroch Assoc.			CA
			Del Monte HOA	Excel Management Association	Novato	CA
Mr.	Richard	Devereaux	Del Monte HOA		Novato	CA
Mr.	Doug	Hale	Domingo Canyon HOA		Novato	CA
Mr.	Joel	Jutovski	Domingo Canyon HOA		Novato	Ca
Mr.	Luc	Vercamman	East Novato Neighborhood Association		Novato	CA
Ms.	Mary	Murtagh	Ecumenical Association for Housing		San Rafael	CA
Mr.	Tom	Graff	Environmental Defense Fund		Oakland	CA
Mr.	Tim	Campbell	Federated Coast Miwok		Novato	CA
			Crossroads HOA	Excel Management Association	Novato	CA
			GCX Corporation		Novato	CA
			Ghilotti Brothers		San Rafael	CA
			Gladish Interests Partnerships		Kentfield	CA
Mr.	Ron	Frazier	Global Garden Projects, Inc.		San Francisco	CA
Mr.	Ed	Stark	Griffiths Insurance		Novato	CA
			Guild Mortgage Company		Sacramento	CA
			Guzzardo Association		San Francisco	CA
Mr.	Stan	Dennison	Hidden Valley HOA		Novato	CA
Mr.	Vern	Dwelly	Hidden Valley HOA		Novato	CA
Mr.	Jim	Parrett	Hidden Valley HOA		Novato	CA
Mr.	Agnus	Gibson	Hill Neighborhood Association		Novato	CA
Ms.	Patricia	Ecklund	Hillside Park East HOA		Novato	CA
Ms.	Peggy	Hewett	Hillside Park HOA		Novato	CA
			Horizon Cable Manitton Field		Fairfax	CA
	Robert	Grice	Ignacio Neighborhood Committee		Novato	CA
Ms.	Susan	Alexander	Indian Valley Association		Novato	CA
Mr.	Ronald	Jorgensen	Jorgesen Properties		San Rafael	CA
Mr.	Joseph	La Vigna	La Vigna & Co.		San Francisco	CA
President	Debbie	Taylor	Lanham Village HOA		Novato	CA
Mr.	Stuart	Flashman	Re: Lanham Village HOA		Oakland	CA
President	Bob	Mohr	Laurel Creek HOA		Novato	CA
Mr.	Kevin	Patterson	Living History Centre		Novato	CA
Mr.	Peter	Schunk	Loma Verde HOA		Novato	CA
	Jack & Elsie	Taylor	Los Robles Mobile Home Park Association		Novato	CA
			Lynwood Park Improvement Center		Novato	CA

Title	First	Last	Organization	Branch	City	State
Mr.	Homer	Osgood	Marin Athletic Association		San Rafael	CA
Ms.	Barbara	Salzman	Marin Audubon Society and Hamilton Advisory Commission		Larkspur	CA
Mr.	George	Kozitza	Marin Community College		Kentfield	CA
Mr.	Chip	Wray	Marin Conservation League		San Rafael	CA
Executive Director			Marin Conservation League		San Rafael	CA
Mr.	Hale	Knight	Marin Country Club HOA		Novato	CA
Mr.	Robert	Resner	Marin County Dog Training Club		San Rafael	CA
Mr.	Michael	Lewis	Marin Horse Council		Belvedere	CA
Mr.	Jim	McDermott	Marin House Council		Kentfield	CA
			Marin Humane Society		Novato	CA
President	Lew	Olds	Marin Valley Homeowners League		Novato	CA
			Marin Valley Mobile Country Club HOA		Novato	CA
Mr.	Todd	Wright	Martin Group		San Francisco	CA
Mr.	Dennis	Foley	McClay Road HOA		Novato	CA
			Millard Dubose Trust		Novato	CA
President			Mission Estates HOA		Novato	CA
Ms.	Evelyn	Kelly	Nave Gardens HOA		Novato	CA
			North Marin Recreation Center		Novato	CA
	Todd	Wright	New Hamilton Partnership		Emeryville	CA
Mr.	Clark	Blasdell	Northbay Ecumenical Homes		Novato	CA
Mr.	Michael G.	Malone	Northern Calfornia Rugby Football Union		San Rafael	CA
Mr.	Charles	Badell	Northern California Rugby Union		Petaluma	CA
	M.	Begley	Northwest Information Center	Department of Anthropology	Rohnert Park	CA
Mr.	Paul	Scheller	Novations for Sensible Growth		Novato	CA
	Ms.	Kapranos	Novato Child Care Family Task Force		Novato	CA
Ms.	Marsha	Triplett	Novato Heights HOA		Novato	CA
President	Karen	Millikin	Novato Historical Guild		Novato	CA
Mr.	Bill	Palmer	Novato Historical Guild		Novato	CA
	Bruce E.	Johnson	Novato Little League		Novato	CA
	Bosco	Wai-Choy Chiu	Novato Marie Callender Investors		San Francisco	CA
			NWPRR	Southern Pacific Trans. Co.	Oakland	CA
Mr.	Bill	Gabbert	Old Town Merchants Association		Novato	CA
Ms.	Lola	Gerhard	Pacheco Meadows HOA		Novato	CA
Mr.	Frank	Bullentine	Pacheco Valle Hillside		Novato	CA
President	Walter	Kettler	Pacheco Valle Masters Assoc.		Novato	CA
Ms.	Louise	Sullivan	Pacheco Valle Masters Association		Novato	CA
Mr.	Jerry	Evans	Pacheco Villas HOA		San Francisco	CA
Mr.	Ron	Lake	Pacheco Villas HOA		Corte Madera	CA
Staff Manager			Pacific Bell	Property Taxes	San Francisco	CA
Manager			Pacific Gas & Electric Company		San Rafael	CA
	A.	Steinau	Pamaron Partners		San Rafael	CA
President	Bob	Dreher	Parkridge Knolls HOA		Novato	CA
Ms.	Cynthia	Clinton	Partridge Knolls Hoa		Novato	CA
			Pioneer Park Neighborhood Association		Novato	CA
Mr.	Jack	Slade	Poplar Terrace Neighborhood Association		Novato	CA
			Prospect Place HOA		Novato	CA
			Redwood Townhome Association	Excel Management Assoc. Inc	Novato	CA
			Reorganized Church of Jesus	Christ of Latter Day Saints	Fremont	CA
	B.	Worthington	River Vista HOA		Novato	CA
	K.	Symonds	Rolling Thunder		Novato	CA
Manager	Les	McDonald	Roman Catholic Archdiocese of San Francisco	Real Estate Department	San Francisco	CA
Ms.	Joyce T.	Lashbrook	San Geronimo Valley Horseman's		Fairfax	CA
Mr.	Richard	Warren	San Marin HOA		Novato	CA

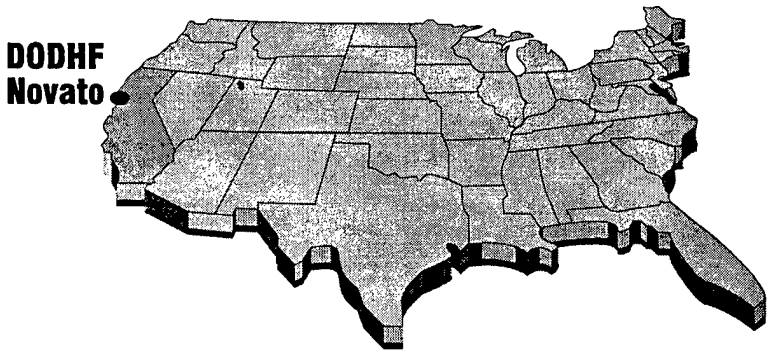
Title	First	Last	Organization	Branch	City	State
	R.	Crutchfield	San Marin Valley HOA		Santa Rosa	CA
Ms.	Patricia	Miller	Scottsdale Lake Homeowners Assoc.		Novato	CA
Mr.	Larry	Fahn	Sierra Club, Marin Group		Mill Valley	CA
Mr.	Stuart	Ludlow	Skylark Meadows HOA		Novato	CA
Executive Director	Neil	Havlik	Solano County Farmlands and Open Space Foundation		Fairfield	
President	Victor	Perella	South Novato HOA		Novato	CA
	S.E.	Karson	Southern Pacific Transportation Co.		San Francisco	CA
Mr.	Mike	Markovich	St. Vincents School for Boys		San Rafael	CA
Ms.	Kathy	Lowrey	The Environmental Forum of Marin		Larkspur	CA
	Colleen		The Nature Conservancy		San Francisco	CA
Ms.	Virginia	Brunini	The Prudential CA Reality		Mill Valley	CA
Mr.	Roger	Will	Trust for Public Land		San Francisco	CA
Mr.	Frank	Falzon	Verissmo Valley HOA		Novato	CA
Mr.	Ed	Dill	Village Marin Hillside		Novato	CA
Mr.	Jeffrey A.	Walter	Walter & Pistole		Santa Rosa	CA
	P.	Midburst	Western Media		Novato	CA
	Vic	Udaloff	Western Oaks Village Association		Novato	CA
Mr.	Rich	Di Martini	Wild Horse Valley Association		Novato	CA
Mr.	Palmer	Wilkins	Woodlands Homeowners Association		Novato	CA

Individuals (on distribution list)

Sarah Angulo-Curry
Anne Arena
John Arntz
Cindy Berinson
Ralph Bien
Richard Breiner
Charles Buada
Thomas Buckle
Bob Burke
Ted Cain
Jack Campbell
Tony Campodonico
Irving Chapman
Erika Choy
Ruth Clark
Braith and Jane Cleary
Lauren Cobb
James Coyle
Rolfe and Julie Croker
James Current
Geoffrey Currie
Elaine Dal Bon
John Daniels
RJ DeRecat
Daniel Donovan
Roy Dotto
Loree Draeger
Donald Dunn
Guy and Mary Duryee
Lynda Edwards
Deborah Emory
Harry Flachs
Harry Forrest
Berwyn Forsythe
Rick Fraites
Charles Gallagher
John Garrett
John and Cheryl Giles
John Gill
Forrest Goff
Jean and Dorothy Goldstone
Mike Gozashti
Robert Griegg
John Groshak
Wayne Gurney
Thomas Haas
Patricia Hadfield
Jim Hickey
Steve Hoxie
M.C. Hungerford
Wendy Kallins
Alice Kelly
Dave Kenyon
Nancy and Mark Kubik
Chris Lang
Stuart Levin
Robert Levy
Lora Logsdon
Robert Luff
Betty Machado
Marjorie Macris
John Mani
Jerry Mayer
Reed and Susan McClintock
Louis McDonald
Gail Meyers
Earnest Molins
Harry Moore
C.O. and Alexa Morrison
Bob Morrow
Catherine Morsehead
Jeffory Morsehead
Dean Moser
Martin Mueller
Karen Neilson
Terri Nevins
Don Nowacki
Rita Pingatore
Victor Pizarro
Steven Podesta
Charlotte Poole
Bob Puett
Carol Riklin
David Ripple
Denny Rodown
Herb Rowland
David Rubinger
William Rutledge
Paul and Eleanor Sade
Adrian and Jacqueline Scharlach
Leonard Shaw
Merton Shelton
William Silva
Joseph and Mary Silveira
David and Anne Silverman
Grant Smith
Kathleen Smith
Lawrence Smith
T.F. Spink

Individuals (cont'd)

Bjorn Stumer
Marc Tatarian
CJ Thelem
Kenneth and Teresa Toscanini
Hugh Turner
Louis Vaccaro
Joyce Van Denburg
Bobbe Vargas
Augie Venezia
Loreene Volk
James Wallace
Jack Walton
Patsy White
Kelly William
Cope Williams
Don Wilson
Fred Worth
John Zamboli



APPENDIX A

PHOTO DOCUMENTATION

APPENDIX A
PHOTO DOCUMENTATION

Appendix A presents photographs of DODHF Novato and the surrounding areas. The photos are meant to be used in conjunction with Figure A-1, which shows the location of each planning area.

Photo 1, Rafael Village (Planning Area 1): One of 503 similar housing units in Rafael Village. The housing units have landscaped lawns, fenced backyards, and mature trees in the front yards.

Photo 2, Rafael Village (Planning Area 1): Rafael Village is surrounded by typically newer residential neighborhoods.

Photo 3, Capehart Housing (Planning Area 2): The Hillside Housing subarea, which includes 150 two-story, sixplex units, is located in the southeast corner of Capehart Housing.

Photo 4, Capehart Housing (Planning Area 2): Capehart Housing includes a variety of housing types. Four wooded knolls are located in the central and southwestern portions of the area.

Photo 5, Capehart Housing (Planning Area 2): Capehart Housing includes a number of styles of multiple family housing units.

Photo 6, Capehart Housing (Planning Area 2): Hamilton School is an elementary school located in the Capehart Housing area.

Photo 7, Commissary Triangle (Planning Area 4): The Commissary Triangle consists of warehouse buildings and parking lots. Christmas Tree Hill borders the area to the west, separating it from US 101.

Photo 8, Commissary Triangle (Planning Area 4): The Commissary is still in use.

Photo 9, Exchange Triangle (Planning Area 5): The Exchange Triangle area contains the Navy Exchange, youth center, gas station, and credit union.

Photo 10, Town Center (Planning Area 6): The Chapel building, located along Palm Drive, is in use as a chapel and Sunday school.

Photo 11, Town Center (Planning Area 6): The Hamilton AFB Theater and NCO Club, two of the four building in the Town Center planning area, are part of the original base architecture and are eligible for nomination to the National Register of Historic Places.

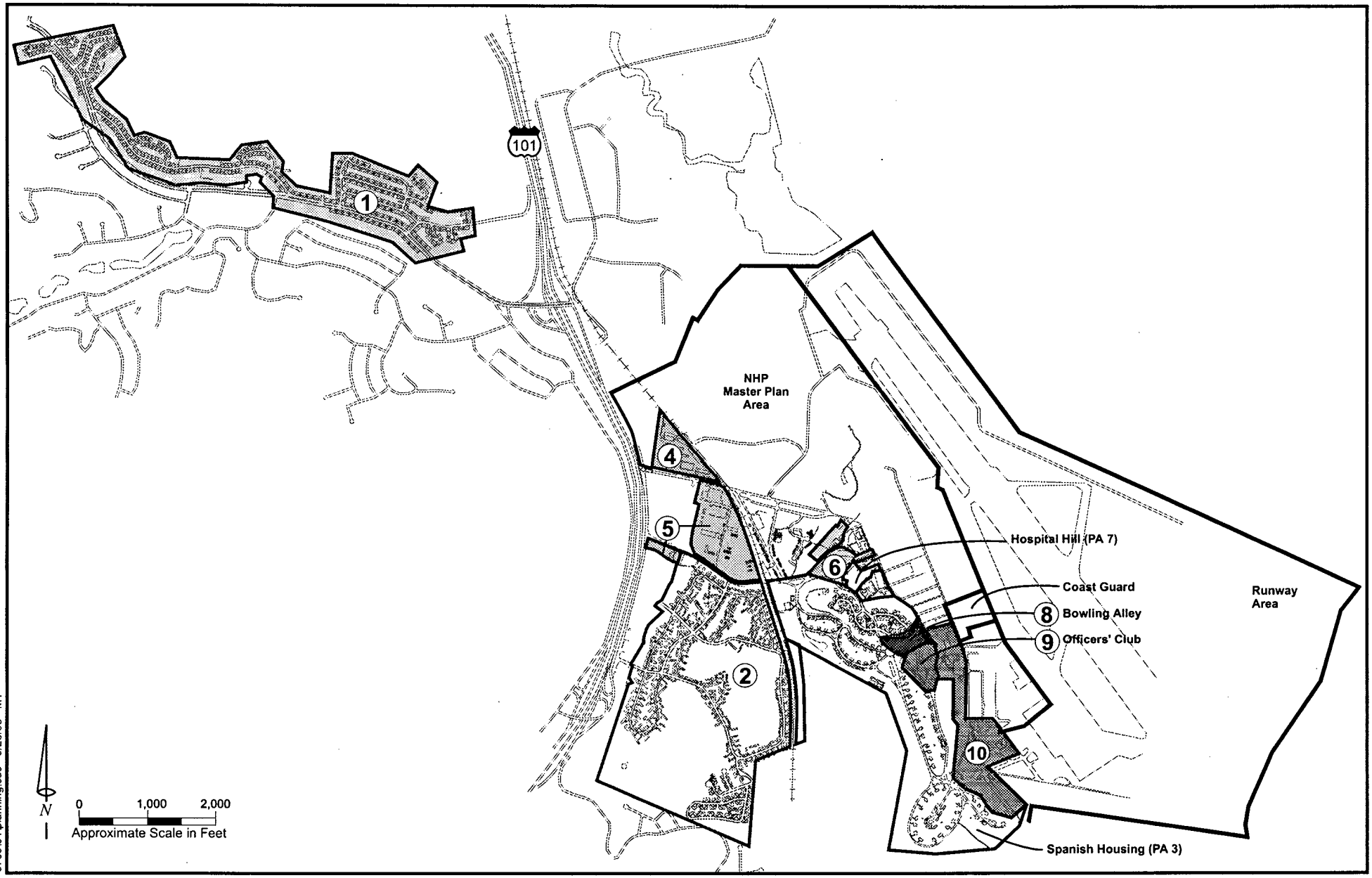
Photo 12, Bowling Alley (Planning Area 8): The bowling alley building, one of two buildings in the planning area, was constructed in 1945 and renovated in 1982.

Photo 13, Bowling Alley (Planning Area 8): The gymnasium contains indoor racquetball courts.

Photo 14, Officers' Club (Planning Area 9): The former Officers' Club, located on a hill adjacent to Spanish Housing, now serves as the Community Center.

Photo 15, Ballfields (Planning Area 10): The planning area includes two regulation and two Little League fields.

Photo 16, Ballfields (Planning Area 10): The swimming pool and poolhouse are located on a hill next to the ballfields.



A-2

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The Hamilton Army Airfield Reuse Plan divides the former base into 10 planning areas. This EIS evaluates the disposal and reuse of the eight Navy-owned planning areas. The two remaining planning areas, Hospital Hill and Spanish Housing, are owned by the Army and USCG, respectively.

Source: Hamilton Reuse Planning Authority 1995

LEGEND:

- 1 Rafael Village
- 2 Capehart Housing
- 4 Commissary Triangle
- 5 Exchange Triangle
- 6 Town Center
- 8 Bowling Alley
- 9 Officers' Club
- 10 Ballfields

DODHF Novato Planning Areas

DOD Housing Facility
Novato, California

Figure A-1



1: Rafael Village (Planning Area 1) - Typical single-story housing unit



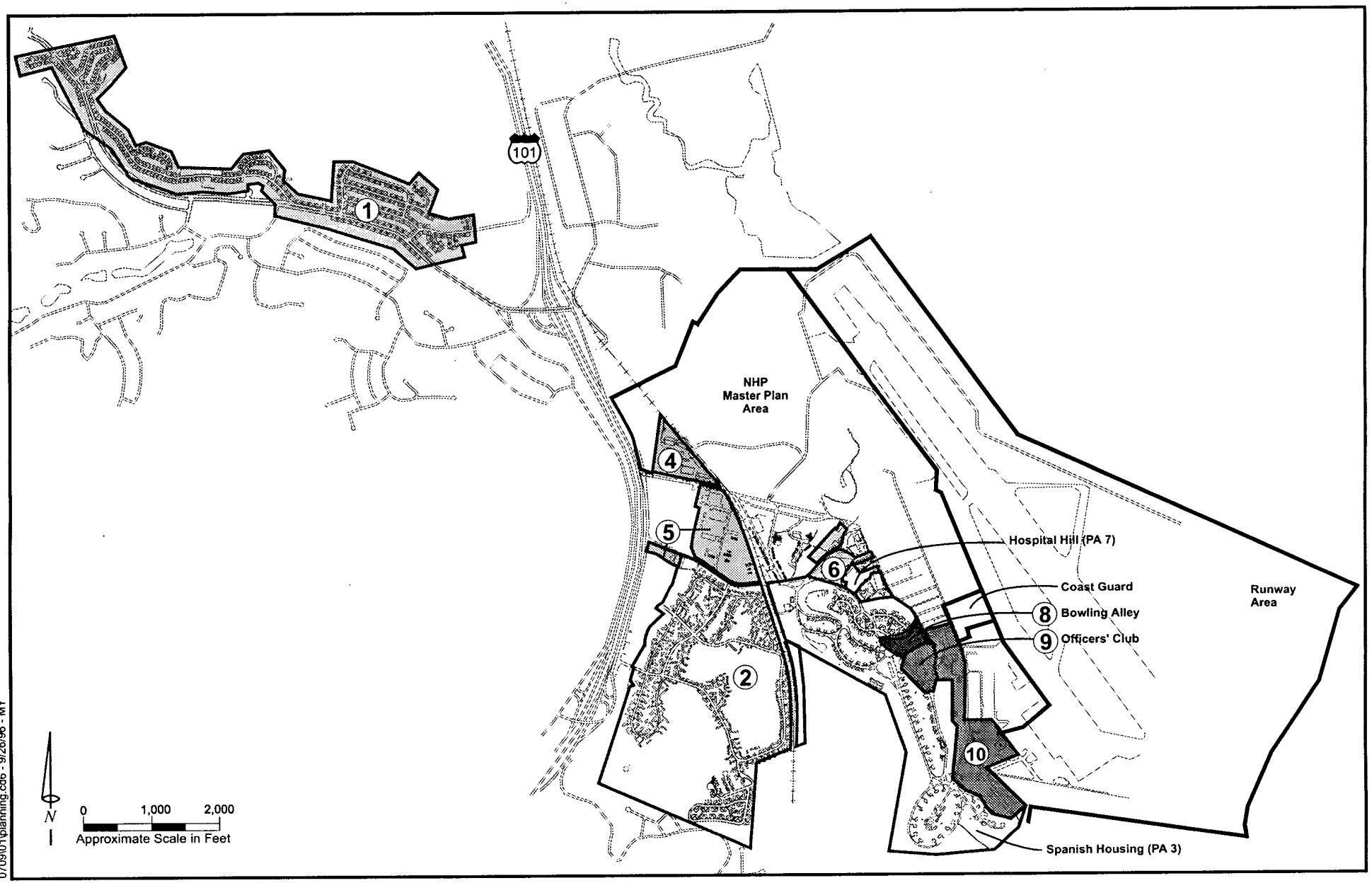
2: Rafael Village (Planning Area 1) - Adjacent land use



3: Capehart Housing (Planning Area 2) - A typical multiple family housing unit in Hillside Housing



4: Capehart Housing (Planning Area 2) - Example of a single family housing unit



A-4

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The Hamilton Army Airfield Reuse Plan divides the former base into 10 planning areas. This EIS evaluates the disposal and reuse of the eight Navy-owned planning areas. The two remaining planning areas, Hospital Hill and Spanish Housing, are owned by the Army and USCG, respectively.

Source: Hamilton Reuse Planning Authority 1995

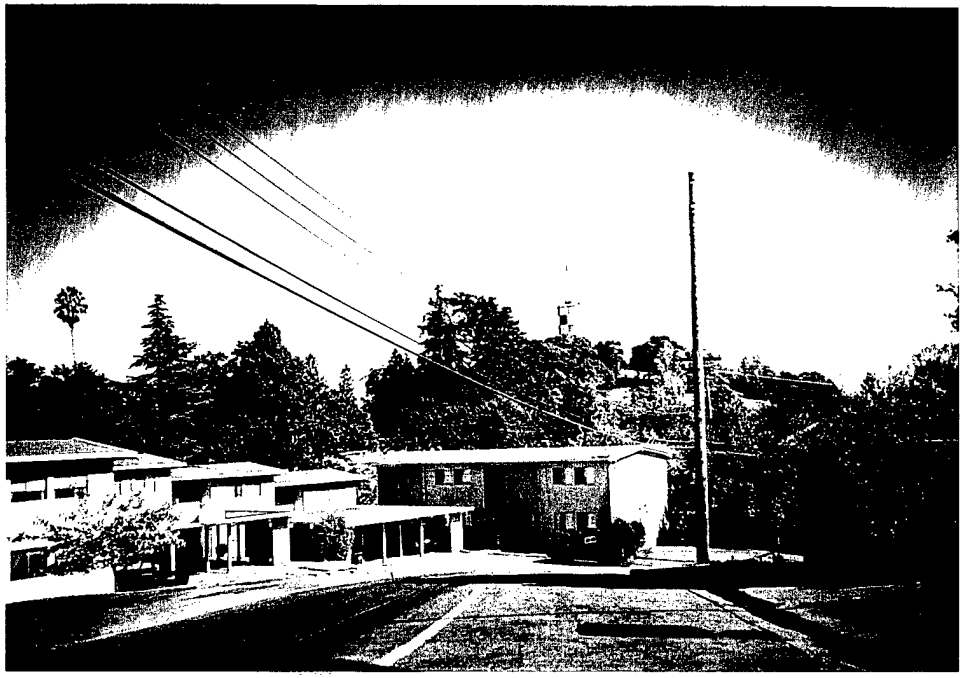
LEGEND:

1 Rafael Village	6 Town Center
2 Capehart Housing	8 Bowling Alley
4 Commissary Triangle	9 Officers' Club
5 Exchange Triangle	10 Ballfields

DODHF Novato Planning Areas

DOD Housing Facility
Novato, California

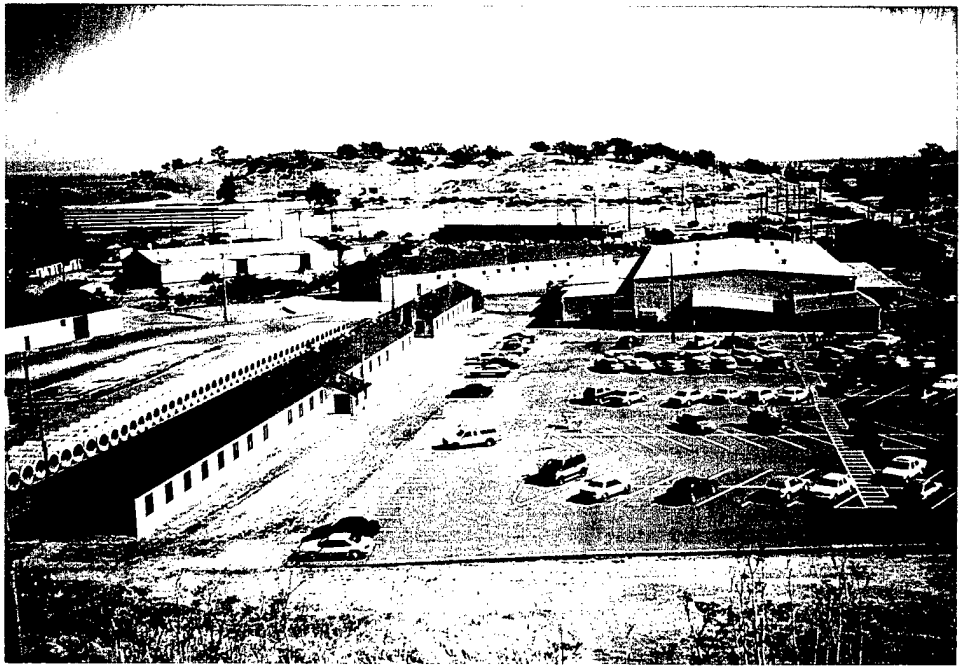
Figure A-1



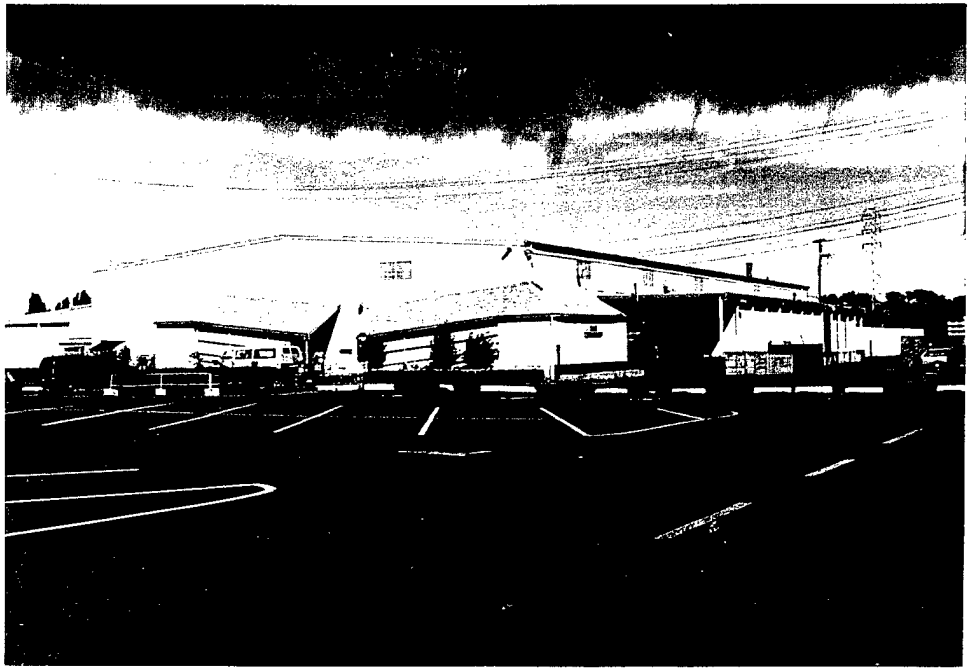
5: Capehart Housing (Planning Area 2) - Typical multiple family housing units



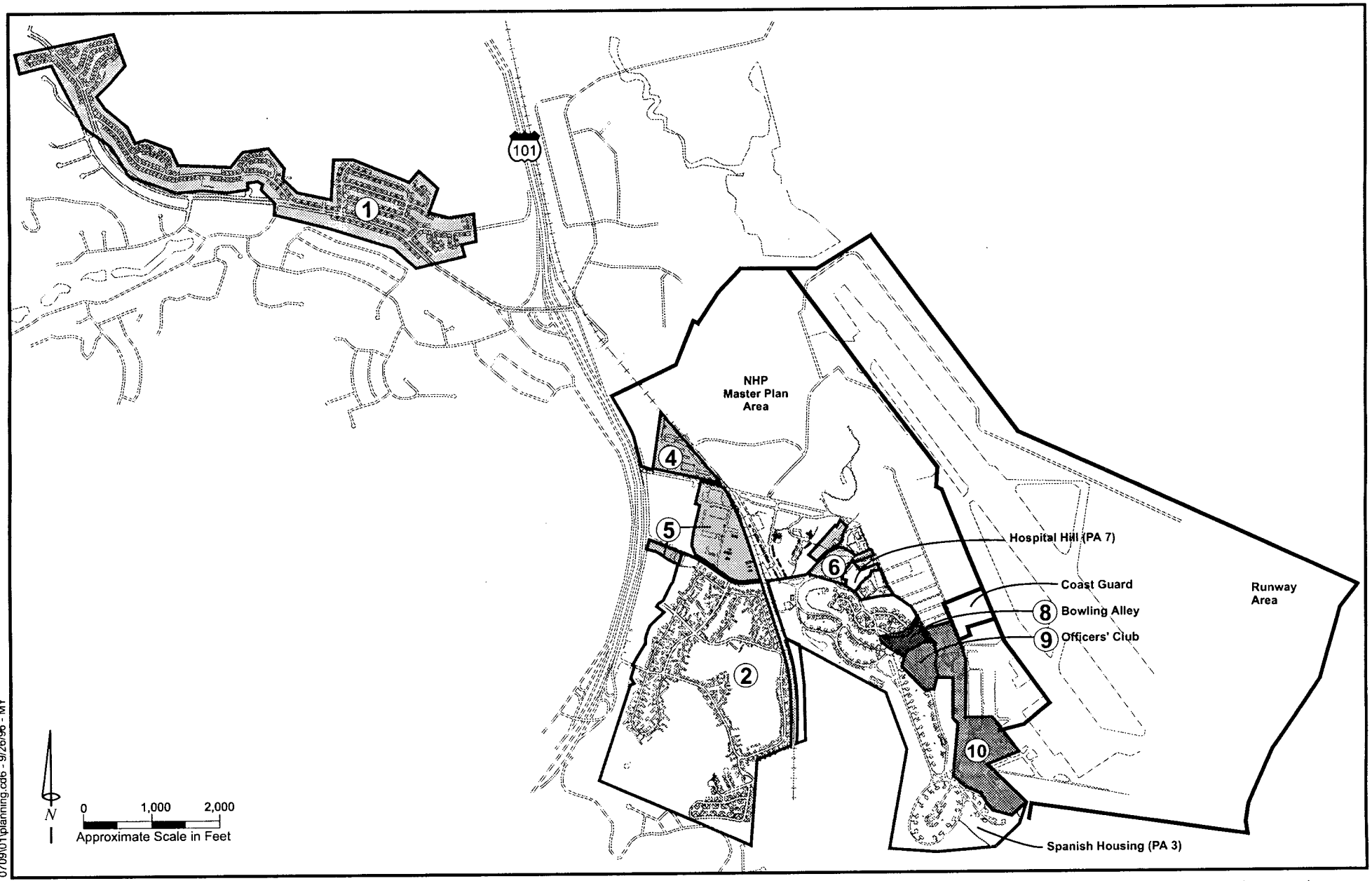
6: Capehart Housing (Planning Area 2) - Hamilton School



7: Commissary Triangle (Planning Area 4) - Overview from Christmas Tree Hill



8: Commissary Triangle (Planning Area 4) - The commissary building



A-6

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The Hamilton Army Airfield Reuse Plan divides the former base into 10 planning areas. This EIS evaluates the disposal and reuse of the eight Navy-owned planning areas. The two remaining planning areas, Hospital Hill and Spanish Housing, are owned by the Army and USCG, respectively.

Source: Hamilton Reuse Planning Authority 1995

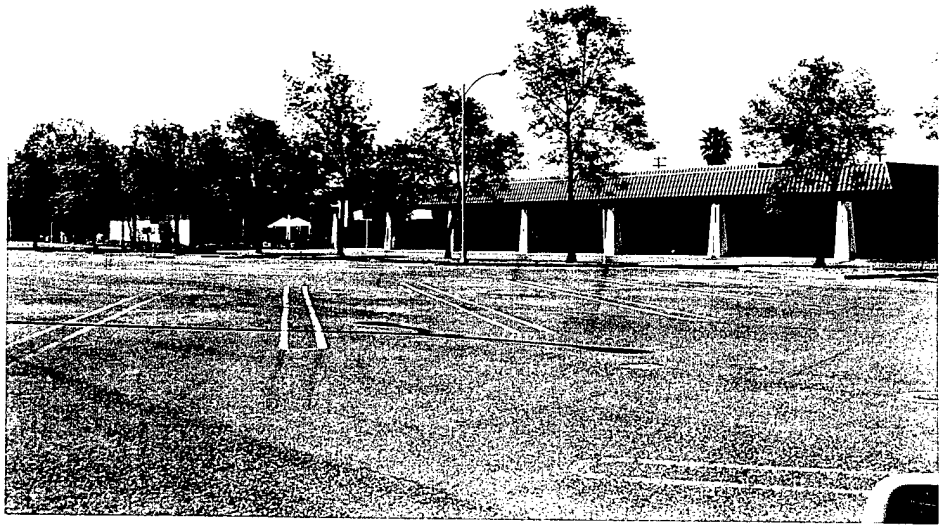
LEGEND:

① Rafael Village	⑥ Town Center
② Capehart Housing	⑧ Bowling Alley
④ Commissary Triangle	⑨ Officers' Club
⑤ Exchange Triangle	⑩ Ballfields

DODHF Novato Planning Areas

DOD Housing Facility
Novato, California

Figure A-1



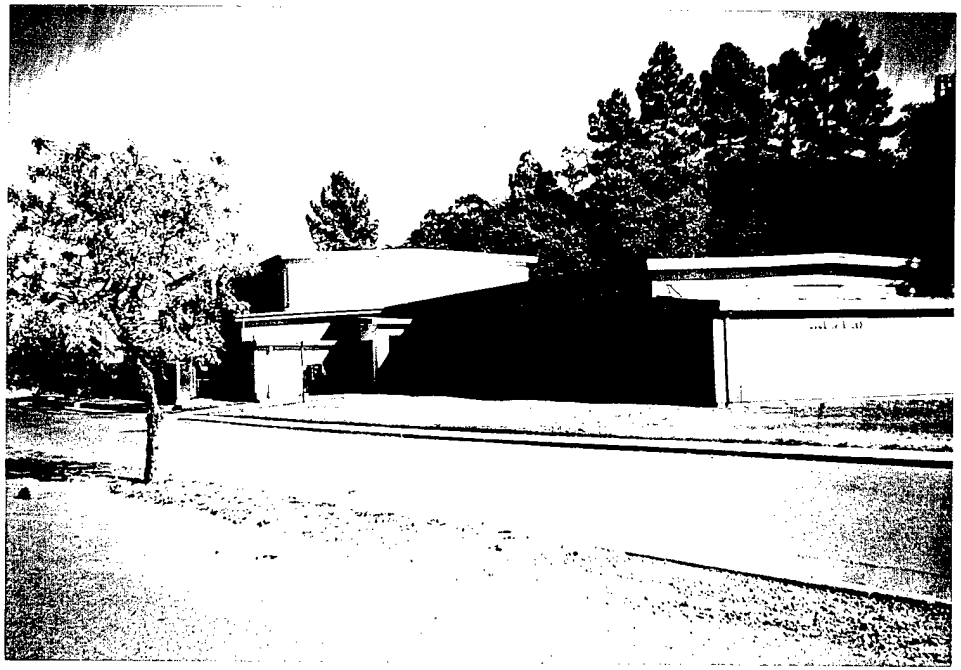
9: Exchange Triangle (Planning Area 5) - The Navy Exchange Building



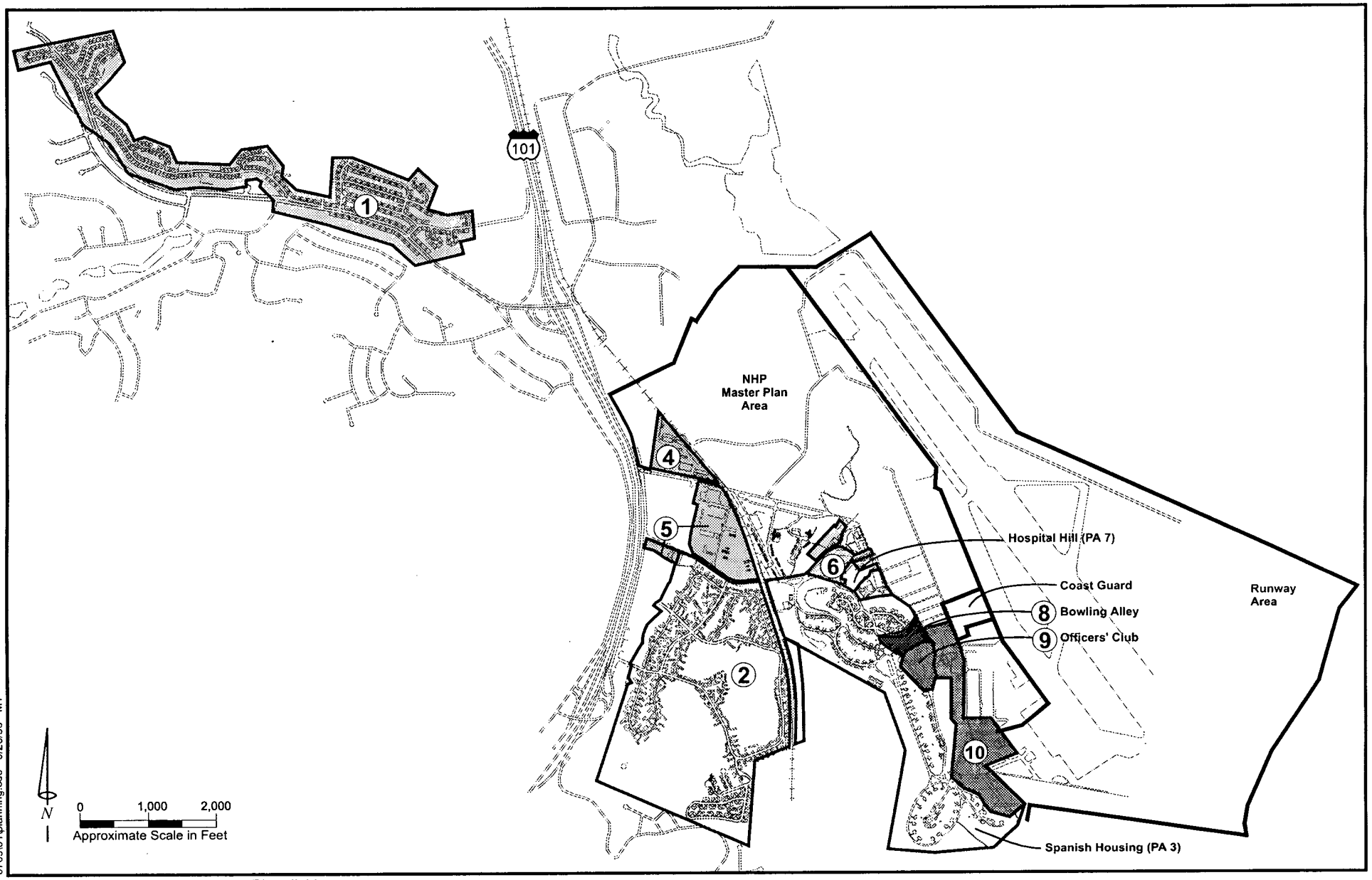
10: Town Center (Planning Area 6) - The Chapel located along Palm Drive



11: Town Center (Planning Area 6) - Hamilton AFB Theater is part of the original base architecture



12: Bowling Alley (Planning Area 8) - The bowling alley contains 10 lanes



A-8

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The Hamilton Army Airfield Reuse Plan divides the former base into 10 planning areas. This EIS evaluates the disposal and reuse of the eight Navy-owned planning areas. The two remaining planning areas, Hospital Hill and Spanish Housing, are owned by the Army and USCG, respectively.

Source: Hamilton Reuse Planning Authority 1995

LEGEND:

- 1 Rafael Village
- 2 Capehart Housing
- 4 Commissary Triangle
- 5 Exchange Triangle
- 6 Town Center
- 8 Bowling Alley
- 9 Officers' Club
- 10 Ballfields

DODHF Novato Planning Areas

DOD Housing Facility
Novato, California

Figure A-1



13: Bowling Alley (Planning Area 8) - The gymnasium houses racquetball courts



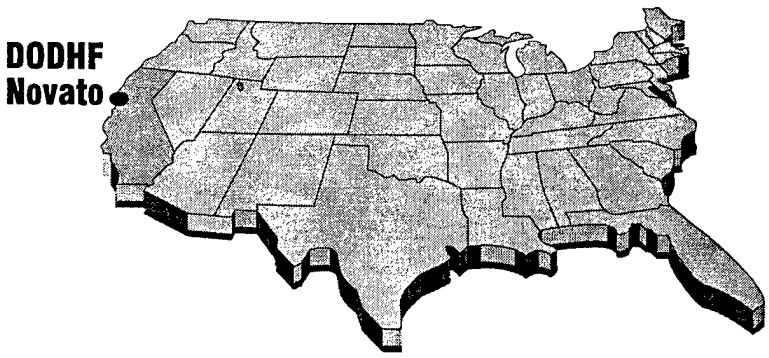
14: Officers' Club (Planning Area 9) - The former Officers' Club serves as the Community Center



15: Ballfields (Planning Area 10) - The area includes two regulation and two Little League fields



16: Ballfields (Planning Area 10) - The swimming pool and poolhouse



APPENDIX B

PUBLIC INVOLVEMENT

SCOPING LETTER B-2

NOTICE OF INTENT B-9

NEWSPAPER ADVERTISEMENT B-11

SCOPING SUMMARY B-12

APPENDIX B
PUBLIC INVOLVEMENT

As discussed in Section 1.5 of this document, the NEPA process is designed to involve the public in the federal decision making process. Appendix B contains the public involvement materials used to inform federal, state, and local agencies, elected officials, organizations, and individuals about this EIS process.

A scoping letter including a project summary and location maps was developed to announce the Navy's intent to prepare the DODHF Novato Disposal and Reuse EIS, the start of the public scoping period, and the scoping meeting. A Notice of Intent was published in the Federal Register and a summary of the NOI and scoping meeting information was published in three local newspapers. The scoping summary presents the written and verbal comments received during the scoping period.

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO :

5090.1
Ser 185/P5-859

November 1, 1995

PUBLIC NOTICE

Subject: **Notice of Scoping of Public Concerns regarding an Environmental Impact Statement on the disposal and reuse of the Department of Defense Housing Facility Novato, California**

The United States Department of the Navy, with the City of Novato, is preparing a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) on the disposal and proposed reuse of the Department of Defense Housing Facility (DODHF) property and structures located in Novato, California. The Defense Base Closure and Realignment Act (Public Law 101-510), as implemented by the 1993 base closure process, directs the U.S. Navy to dispose of DODHF. The EIS will be prepared in accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508).

DODHF is within the jurisdiction of the City of Novato in Marin County, approximately 20 miles north of San Francisco. DODHF is one of several facilities on a larger area formerly known as the Hamilton Air Force Base. DODHF consists of approximately 481 acres of Navy-owned land in two sites. The 383 acre primary DODHF includes military family housing, commissary, exchange, community service areas, bowling alley, officer's club, and recreational fields. An additional 98 acre Rafael Village military housing area is located one mile north of the main DODHF facility. Other portions of the former Hamilton Air Force Base adjacent to DODHF, and not included with the disposal of the DODHF property or in this disposal and reuse EIS, include the 720 acre former Hamilton Army Airfield, which was closed under the Defense Base Closure and Realignment Act of 1988, and a 415 acre site being developed under the New Hamilton Partnership Master Plan.

The EIS will address the disposal of the property and the potential impacts to the environment that may result from reuse development and a "No Action" alternative. The Hamilton Army Airfield Reuse Plan, developed by the Hamilton Reuse Planning Authority and adopted by the City of Novato on October 24, 1995, will serve as the basis for the preferred alternative. The Reuse Plan proposes 406 acres of housing with up to 1,490 total units, 51 acres of mixed use community support facilities, and up to 24 acres of recreational fields on the DODHF property. The alternatives analyzed in the EIS will include a less intensive development of the DODHF property, still based in large part upon the Reuse Plan, and such other reasonable alternatives as may evolve through the public involvement process. The No Action alternative would have DODHF remain federal government property in a caretaker status.

Probable environmental impacts that will be addressed in the EIS include such resources as: land use, public policy conformity, socioeconomics, cultural resources, transportation including traffic and parking, vegetation and wildlife, air quality, noise, aesthetics, geology and soils, hydrology, seismicity, hazardous materials, municipal services and utilities.

Federal, State, and local agencies, and interested groups and individuals, are encouraged to participate in the scoping process, to assist in determining the range and depth of issues and alternatives to be addressed.

A **public scoping meeting** to receive oral and written comments regarding the proposed disposal and potential reuse of the DODHF will be held on **Thursday, November 16, 1995**, from 7:00 p.m. to approximately 10:00 p.m., in the Student Center at San Marin High School, 15 San Marin Drive, Novato, California. Navy and City representatives will briefly summarize the environmental impact assessment and the reuse planning processes, and will then solicit public comments on the scope of environmental impact analysis studies. In the interest of allowing everyone a chance to participate, speakers will be requested to limit their oral comments to approximately five minutes or less, and may submit more lengthy or detailed comments in writing. All substantive comments will be addressed in the EIS.

Additionally, the Navy and City invite and encourage the public to express in writing their comments and concerns regarding the action above. Affected Federal, State, and local agencies and other interested groups and individuals should **submit their written comments** to:

U.S. Navy, Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-5006
Attn.: Mr. Gary Munekawa, Environmental Planning Branch, Code 185

Mr. Munekawa's fax number is (415) 244-3737, and telephone is (415) 244-3022. Written comments must be postmarked no later than **December 1, 1995**, in order to assure their full consideration in the EIS preparation. For information concerning the Hamilton Army Airfield Reuse Plan process, please contact Mr. Ken Bell at the City of Novato, Hamilton Reuse Planning Authority, telephone (415) 457-5661 or fax number (714) 472-8122.

Thank you for participating with the Navy and the City in the environmental planning process.

John H. Kennedy

JOHN H. KENNEDY
Head, Environmental Planning Branch

ATTACHMENT A
DEPARTMENT OF DEFENSE HOUSING FACILITY NOVATO DISPOSAL AND REUSE

I. INTRODUCTION

The Department of Defense Housing Facility (DODHF) in Novato, California has been identified for closure under the Defense Base Closure and Realignment Act, as implemented by the 1993 base closure process. In accordance with the National Environmental Policy Act (NEPA), the Navy is preparing this Environmental Impact Statement (EIS) to evaluate the environmental effects of disposal and reuse of the DODHF property and structures.

II. HISTORY AND LOCATION

The former Hamilton Army Airfield is located in southeast Novato, eastern Marin County, approximately 20 miles north of San Francisco (Figure 1). The original installation was established in 1934 as the first West Coast Army Air Corps facility. The facility was transferred to the Air Force in the 1940s. Beginning in 1974, the Air Force discontinued its operations, and slowly excessed the property. The housing, personnel support, and recreation portions of the base were transferred to the Navy to form the DODHF. Small portions were also transferred to the Army, with the Army officially acquiring the Airfield in July 1984. In March 1976, parts of the base were declared excess property and assigned to the GSA for property disposal. The excessed portions are now being developed by the New Hamilton Partnership. The Army-owned portions of the base were slated for closure under the 1988 base closure decision.

DODHF, operated by the Navy Public Works Center San Francisco, is comprised of approximately 481 acres of Navy-owned land on two sites: 383 acres on the Main Site and 98 acres at Rafael Village, an off-site military housing area.

III. REUSE PLAN

Development of the Hamilton Army Airfield Reuse Plan was initiated in 1994 for the purpose of defining a community reuse plan for the entire Hamilton complex, including DODHF, the Army-owned parcels, and the New Hamilton Partnership development area. The Draft Hamilton Army Airfield Reuse Plan was approved by the City of Novato in October 1995.

The Hamilton Army Airfield Reuse Plan divides Hamilton into 10 planning areas (PAs). Nine of these are Navy-owned and include: Rafael Village (PA 1), Capehart Housing (PA 2), Spanish Housing (PA 3), Commissary Triangle (PA 4), Exchange Triangle (PA 5), Town Center (PA 6), Bowling Alley (PA 8), Officers Club (PA 9), and Ballfields (PA 10). The remaining planning area is the Army-owned Hospital Hill (PA 7). These areas are delineated on Figure 2. Navy-owned planning areas are described below.

Planning Area 1: Rafael Village

Rafael Village is a 98-acre off-site military housing area constructed in the early 1950s. Rafael Village consists of a community center building, a maintenance yard, and 503 one-, two-, and three-bedroom housing units situated in a linear configuration along Ignacio Boulevard. The site contains significant amounts of open space, and mature trees line the streets. San Jose Creek flows behind a number of the houses both north and south of Ignacio Boulevard (the creek crosses the roadway near Montura Way). The housing units are in poor condition and have been vacant since the fall of 1995.

Planning Area 2: Capehart Housing

Capehart Housing is a 183-acre site located in the southwestern-most portion of the Hamilton main site. The site contains substantial amounts of open space, and four large wooded knolls dominate the planning area. Capehart Housing consists of 558 single- and double-story multi-family housing units constructed in the late 1950s and

early 1960s. The units are in generally good condition. Primary access to the area is from Main Gate Road off Nave Drive.

Planning Area 3: Spanish Housing

Spanish Housing is located in the southeastern-most portion of the Hamilton main site. The site consists of 132 residential units and 16 other buildings on 125 acres with a high visual quality. Many of the Spanish-style residential units, constructed in the 1930s, are considered historic. The other buildings have been used primarily as recreational and support facilities. Primary access to the planing area is via Crescent Drive off Main Gate Road.

Planning Area 4: Commissary Triangle

The Commissary Triangle is located on the northernwestern portion of the Hamilton main site. The area is separated from Nave Drive and Highway 101 by Christmas Tree Hill. The remainder of the planning area is flat and completely urbanized. The 12-acre site contains 10 nonresidential buildings that have been used as dry cleaning facilities, vehicle maintenance shops, a morgue, offices, retail stores, storage warehouses, and the Commissary. Primary access is from State Access Road off Nave Drive.

Planning Area 5: Exchange Triangle

The Exchange Triangle, consisting of 26 acres and 16 nonresidential buildings, is located in the northwestern portion of the Hamilton main site. The site is flat and completely urbanized. The buildings have been used as vehicle maintenance shops, service stations, housing, mess halls, for exchange and commissary uses, education and daycare facilities, and recreational facilities. The area currently contains the exchange, thrift store, credit union, gas station, warehouses, youth center, playgrounds, and a skateboard ramp. Primary access is from Main Gate Road off Nave Drive.

Planning Area 6: Town Center

The Town Center is located in the central portion of the Hamilton main site. The area consists of four nonresidential buildings, including the historic Hamilton Theater and Noncommissioned Officer's Club, on five acres. The site is adjacent to the New Hamilton Partnership town center and Hospital Hill. Primary access is via Main Gate Road.

Planning Area 8: Bowling Alley

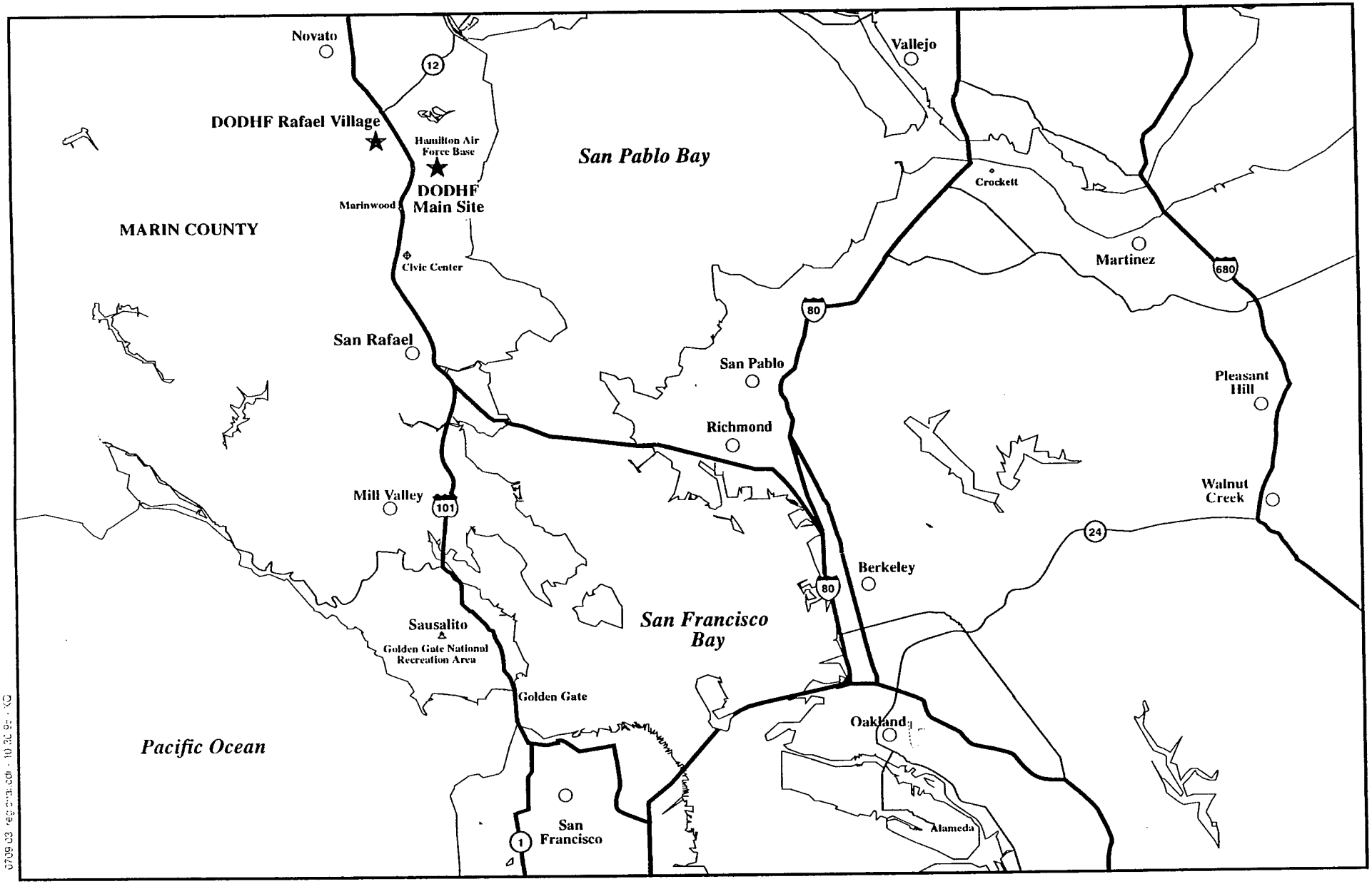
The Bowling Alley, a three-acre site located in the central portion of the main site, is dominated by the historic bowling alley and racquetball court building. The site is located in a valley area surrounded by hillsides. Primary access is via San Pablo Avenue.

Planning Area 9: Officer's Club

The Officer's Club is located on a hillside adjacent to Spanish Housing. The five-acre site includes two nonresidential building, including the Officer's Club and historic Bachelor's Officers' Quarters. The Officer's Club now serves as the Community Center. Primary access is via El Bonita Road.

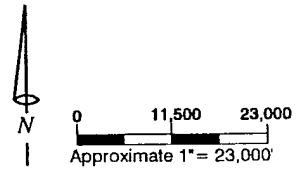
Planning Area 10: Ballfields

The Ballfields area consists of two regulation ballfields, two little league fields, and a recreation center on 24 acres of land. The site is generally flat and located within the 100-year floodplain, with the exception of the pool area on a knoll overlooking one of the ballfields. Primary access is via Caliente Road.



Located approximately 20 miles north of San Francisco, the DOD Housing Facility Novato housed military personnel stationed at installations throughout the Bay Area.

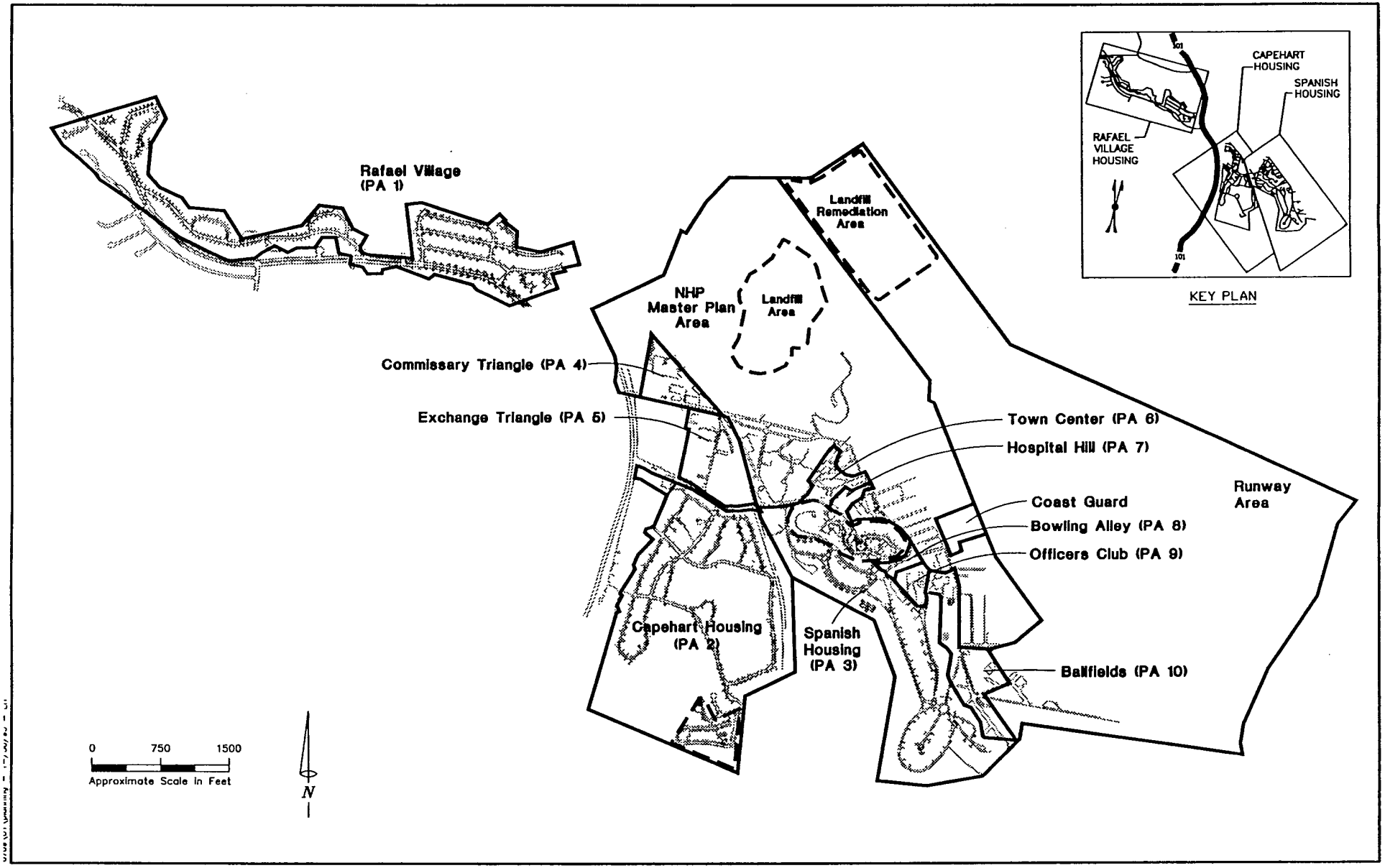




Regional Location Map

DOD Housing Facility
Novato, California
Figure 1

Source: Developed by Tetra Tech, 1995.



Planning Areas 1 through 10 are owned by the Navy, with the exception of Planning Area 7, Hospital Hill, which is owned by the Army. The Army also owns the Runway area. The remainder of the site is being developed by the New Hamilton Partnership (NHP).

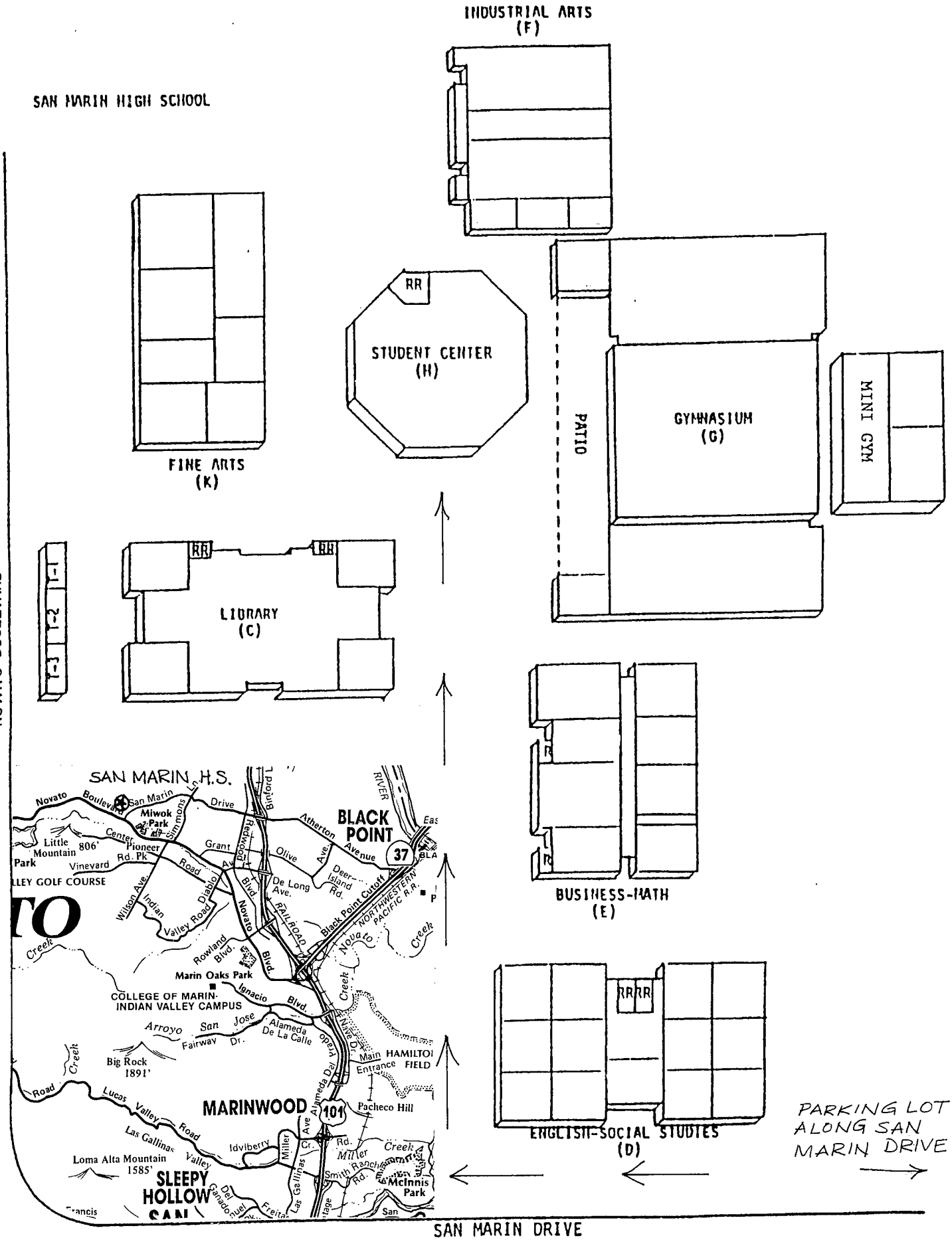
Source: Hamilton Army Airfield Reuse plan, 1995

TETRA TECH

Planning Areas

DOD Housing Facility Novato
Disposal and Reuse EIS
Novato, California

Figure 2


SAN MARIN HIGH SCHOOL
INDUSTRIAL ARTS
(F)
FINE ARTS
(K)
RR
STUDENT CENTER
(H)
PATIO
GYMNASIUM
(G)
MINI GYM
LIBRARY
(C)
T-1
T-2
T-3
BUSINESS-MATH
(E)
ENGLISH-SOCIAL STUDIES
(D)
PARKING LOT
ALONG SAN
MARIN DRIVE
NOVATO BOULEVARD
SAN MARIN DRIVE
SAN MARIN H.S.
BLACK POINT
MARINWOOD
SLEEPY HOLLOW
Marin Oaks Park
COLLEGE OF MARIN-
INDIAN VALLEY CAMPUS
HAMILTON FIELD
Pacheco Hill
Loma Alta Mountain
1585'
Big Rock
1891'
Little Mountain
806'
Miwok Park
McInnis Park
Miller Creek
Novato Creek
Arroyo San Jose
Las Gallinas Valley
Lucas Valley Road
Black Point Cutoff
NORTHWESTERN PACIFIC R.R.
RAILROAD
Novato Blvd.
Ignacio Blvd.
Rowland Blvd.
Center Rd.
Pioneer Rd. Pk
Grant Ave.
Olive Ave.
Deer Island Rd.
De Long Ave.
Wilson Ave.
Indian Valley Road
Diablo Ave.
Redwood Blvd.
Simmons Ln.
Drive
Atherton Avenue
Alameda De La Calle
Alameda Del Prado
Main Entrance
Smith Ranch Rd.
Idylberry
Miller Ave.
Las Gallinas
Del Ganado
Freitas
Vineyard Road
Novato Boulevard
San Marin
Park
LLEY GOLF COURSE
RIVER
37
101

NOTICE OF INTENT

The Notice of Intent to prepare the Department of Defense Housing Facility Novato Disposal and Reuse EIS appeared in the October 31, 1995, Federal Register, Volume 60, Number 210, p. 55366.

UCSD, SS&H Library, GPO Gate http://ssdc.ucsd.edu/cgi-bin/SFgpo...a/1995_register/fr31oc95.dat wais:

[Federal Register: October 31, 1995 (Volume 60, Number 210)]
[Notices]
[Page 55366]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]

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[[Page 55366]]

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare an Environmental Impact Statement for the Disposal and Reuse of the Department of Defense Housing Facility, Novato, CA

Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), the Department of the Navy in coordination with the City of Novato, is preparing an Environmental Impact Statement (EIS) for the proposed disposal and reuse of the Department of Defense Housing Facility (DODHF) property and structures at Novato, California. This proposed action is in accordance with the Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the 1993 Base Closure process, which directed the Navy to close DODHF.

DODHF is within the jurisdiction of the City of Novato, Marin County, California, approximately 20 miles north of San Francisco. DODHF is one of several facilities on a larger area formerly known as the Hamilton Air Force Base. DODHF consists of approximately 481 acres of Navy-owned land in two sites. The 383 acre primary DODHF facility includes military family housing, commissary, exchange, community services areas, bowling alley, officer's club, and recreational fields. An additional 98 acre Rafael Village military housing area is located 1 mile north of the main DODHF facility. Other portions of the former Hamilton Air Force Base adjacent to DODHF and not included with the disposal of the DODHF property or in this disposal and reuse EIS, include the 720 acre former Hamilton Army Air Field, which was closed under the Defense Base Closure and Realignment Act (Public Law 100-526) of 1988, and a 415 acre site being developed under the New Hamilton Partnership Master Plan.

The EIS will address the potential impacts to the environment that may result from the disposal of the Navy's DODHF property and subsequent reuse. The Hamilton Army Air Field Reuse Plan, developed by the Hamilton Reuse Planning Authority, proposes 406 acres of housing with up to 1,490 total units, 51 acres of mixed use community support facilities, and 24 acres of recreational fields on the DODHF property.

The Reuse Plan will constitute the preferred alternative for the EIS. However, the EIS will also analyze alternatives to the Reuse Plan. The alternatives analyzed in the EIS will include a less intensive development of the DODHF property, still based in large part on the Reuse Plan, and a No Action Alternative. The No Action alternative would result in federal government retention of the DODHF property in an ``inactive'' status. Other alternatives may be evaluated if warranted.

Federal, state and local agencies, and interested individuals are encouraged to participate in the scoping process for the EIS to determine the range of issues and reuse alternatives to be addressed. A public scoping meeting to receive oral and written comments will be held on Thursday, November 16, 1995, at the Student Center, San Marin High School, 15 San Marin Drive, Novato, California at 7:00 p.m. In the interest of the available time, each speaker will be asked to limit their oral comments to five minutes.

In addition, written comments may be submitted no later than

December 1, 1995 to Mr. Gary Munekawa, Environmental Planning Branch, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006; telephone (415) 244-3022, fax (415) 244-3737. For further information regarding the Hamilton Army Air Field Reuse Plan which includes the reuse of the Navy's DODHF property, please contact Mr. K.H. Bell, Program Manager, Hamilton Reuse Planning Authority at (415) 457-5661, fax (714) 472-8122.

Dated: October 26, 1995.
M.A. Waters,
LCDR, JAGC, USN, Federal Register Liaison Officer.
[FR Doc. 95-26926 Filed 10-30-95; 8:45 am]
BILLING CODE 3810-FF-M

NEWSPAPER ADVERTISEMENT

The following newspaper advertisement announcing the preparation of the Department of Defense Housing Facility Novato Disposal and Reuse EIS and the start of the public scoping process was published in the San Francisco Chronicle and Marin Independent Journal on Sunday, November 5, 1995, and Monday, November 6, 1995, and in the Novato Advance on Wednesday, November 15, 1995.

PUBLIC NOTICE

The United States Navy announces its intent to prepare an Environmental Impact Statement (EIS) to evaluate the environmental impacts of disposal and proposed reuse of the Navy Public Works Center, Department of Defense Housing Facility (DODHF) in Novato, CA. DODHF includes all Navy-owned property and structures at the former Hamilton Air Force Base as well as the off-site Rafael Village Housing Facility. The Navy's Engineering Field Activity West, Naval Facilities Engineering Command will be the lead agency for the preparation of the EIS. This action is being conducted in accordance with the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510) and the specific 1993 base closure decisions approved by the Congress in September 1993.

The EIS will address the disposal of the property and the potential impacts to the environment that may result from reuse development and a "No Action" alternative. The Hamilton Army Airfield Reuse Plan, developed by the Hamilton Reuse Planning Authority and adopted by the City of Novato on October 24, 1995, will serve as the basis for the preferred alternative. The Reuse Plan proposes 406 acres of housing with up to 1,490 total units, 51 acres of mixed use community support facilities, and up to 24 acres of recreational fields on the DODHF property. The alternatives analyzed in the EIS will include a less intensive development of the DODHF property, still based in large part upon the Reuse Plan. The No Action alternative would have DODHF remain federal government property in a caretaker status. Environmental issues that will be addressed in the EIS include, but are not limited to, land use, public policy conformity, cultural resources, transportation, vegetation and wildlife, air quality, noise, geology and soils, hydrology, hazardous materials, municipal services and utilities, and socioeconomics. The Draft EIS is due to be published in the Spring of 1996. A public hearing and a 45-day review period will follow the publication and distribution of the Draft EIS.

PUBLIC SCOPING HEARING
ENVIRONMENTAL IMPACT STATEMENT
DISPOSAL AND REUSE OF THE NAVY PUBLIC WORKS CENTER
DEPARTMENT OF DEFENSE HOUSING FACILITY
NOVATO, CALIFORNIA
Thursday, November 16, 1995 at 7:00 p.m.
at the following address:
SAN MARIN HIGH SCHOOL
STUDENT CENTER
15 SAN MARIN DRIVE
NOVATO, CA

The purpose of this hearing is to receive written and verbal comments regarding the potential environmental impacts of the disposal and proposed reuse of DODHF. A brief presentation will precede the request for public comment. Navy and City of Novato representatives will be available at this hearing to receive comments from the public regarding issues of concern to the public. It is important that federal, state, and local agencies and interested individuals take this opportunity to identify environmental concerns that should be addressed during the preparation of the EIS.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. To be most helpful, scoping comments should clearly describe specific issues or topics which the commentor believes the EIS should address. Written statements must be received no later than December 1, 1995. Please send written comments to: Mr. Gary Munekawa, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, Ca 94066-5006, Telephone (415) 244-3022, Fax (415) 244-3737. For information regarding the Hamilton Army Airfield Reuse Plan, please contact Mr. K.H. Bell, Program Manager, Hamilton Reuse Planning Authority, telephone (415) 457-5661, fax (714) 472-8122.

No. 2171 Nov. 5, 6, 1995

SCOPING SUMMARY

Table B-1 contains a summary of the written and verbal comments received during the DODHF Novato scoping process. Verbal comments were received at the scoping meeting held November 16, 1995, in Novato, CA.

Table B-1
DODHF Novato Disposal and Reuse EIS Scoping Comment Summary

Commenter	Form	Issues
U.S. Environmental Protection Agency	Letter	• Include local, state, and federal agencies in process. • Provide information of air quality attainment status and criteria pollutant generation in the context of that status • Analyze reuse effects on water quality standards • Determine the need for a Section 404 discharge permit • Discuss effect to wetlands or wetland drainage areas • Describe biologically sensitive areas and the effects of reuse on these areas • Include survey of regional landfill capacity and analyze net increase/decrease in waste generation due to reuse • Discuss pollution prevention and energy conservation opportunities • Include a survey of regional water supplies available to DODHF and analyze net increase/decrease in water demand due to reuse • Include all direct and indirect traffic impacts from increased traffic associated with project buildout • Identify hazardous material storage, disposal, and contamination history • Describe proposed efforts to remove hazardous waste from the site • Describe measures taken to comply with Executive Order 12898 regarding environmental justice • Include analysis of potential cumulative effects in region of influence • Identify a Preferred Alternative and an Environmentally Preferable Alternative • Describe proposed mitigation measures • Define significance criteria and include a level of significance for each impact • Clearly define and describe baseline conditions
U.S. Department of Education	Letter	• Requested copies of all EISs prepared for DODHF properties
U.S. Coast Guard	Letter	• Requests that the EIS evaluate the environmental and socioeconomic impacts of their new housing request
CAL EPA, Dept. of Toxic Substance Control	Letter	• Identify characterization status of any contaminated areas • Address coordination of characterization and remediation actions withreuse scenarios • Discuss requirements of CERCLA for federal property transfers • Requested copies of Draft EIS
Historical Resources Information System	Letter	• Requested a copy of the Draft EIS and Final EIS
Marin Municipal Water District	Letter	• Provided facts concerning domestic water supply to DODHF
Sierra Club, Marin Group	Letter	• Describe demolition and renovation activities, including benefits and adverse impacts of demolishing Rafael Village housing units • Identify wetland and riparian areas • Describe areas of geologic or soil instability • Identify stands of native trees and rock outcroppings • Identify flooding potential • Describe interface between reuse and seasonal wetlands
Marin Audubon Society	Letter	• Describe native trees, rock outcroppings, and tree removal • Describe creeks, waterways, drainages, wetlands, and other aquatic resources • Identify flooding potential • Identify lands subject to landslides, seismic risk or other geologic instability • Impacts to landfills, traffic, water quality, creeks, air quality, and noise generation from demolition of Rafael Village housing • Describe Spanish housing open space and drainage patterns

Table B-1
DODHF Novato Disposal and Reuse EIS Scoping Comment Summary

Commenter	Form	Issues
Marin Audubon Society (cont'd)		• Describe Capehart Housing open spaces and drainage patterns Show the drainage patterns at Hillside housing and discuss daylighting of undergrounded creek • Describe traffic levels associated with reuse of the Town Center, Commissary, and Exchange Triangle areas and identify creeks and drainages in these areas • Describe interface of ballfield lands with baylands and potential tidal marsh
Marin Conservation League	Letter	• Identify impacts of demolition of Rafael Village housing units on air quality, traffic, and landfills • Identify wetlands and riparian areas, native vegetation, and rock outcroppings • Identify traffic impacts • Identify wildlife corridors • Identify reuse impacts on seasonal wetlands • Identify areas subject to flooding
Mr. Stuart M. Flashman, for the Lanham Village Homeowners Association	Letter	• Examine noise and air quality impacts on Lanham Village from potential development of corporation yards or semi-industrial uses • Identify impacts from the mitigation measures proposed by the city and homeless providers regarding the proposed homeless shelter • Discuss the compatibility of uses in Areas 4 and 5 with existing residential uses and proposed senior housing and homeless shelter uses
Ms. Debbie Taylor, Lanham Village Homeowners Association	Verbal Comment	• Examine the compatibility of reuse of the Commissary and Exchange Triangle areas with the Lanham Village residential area • Analyze traffic impacts
Mr. Alex Coutts, Hamilton Field Preservation Association	Letter	• Expressed the opinion that Hamilton Field be returned to Marin County • Provided a history of how Marin came to deed the property to the military
Mr. Robert Grice, Ignacio Neighborhood Committee	Verbal Comment	• Expressed support for demolition of Rafael Village housing units • Examine asbestos and lead issues connected with units to be demolished
Mr. Bruce Johnson, Novato Little League	Verbal Comment	• Expressed concern for the continuing viability of using the Little League fields located in planning area 10, specifically access to the fields, the availability of adequate parking, whether utility construction at the fields will be completed in time for the 1996 spring season, and if electricity and water service will still be available to the fields after base closure
Mr. Donald Dunn	Letter	• Requested that the Navy consider the impact of putting a corporate yard or bus transit yard next to Lanham Village housing development
Dr. Merton Shelton, M.D.	Verbal Comment	• Expressed the opinion that the Hamilton property should be retained in public ownership for parks, sports, the arts, a small airport rather than housing developments that will generate more traffic on already crowded roads
Mr. Bill Long	Verbal Comments	• Encouraged the Navy to maintain or accelerate the EIS base conversion process to avoid the problems that have hindered reuse at Hamilton in the past • Requested that the EIS not waste time examining alternatives already rejected by the reuse authority through the community reuse planning process; rather, study the impacts of the adopted reuse plan in detail
Ms. Diane Dito	Verbal Comment	• Supported conversion of airstrip to wetlands
Ms. Betty Pagett	Verbal Comment	• Identify the process for evaluating the environmental impacts of homeless and transitional housing