

4 Environmental Consequences

4.1 Introduction

Chapter 4 describes the potential direct, indirect, short-term, and long-term impacts on the human and natural environmental resources from the disposal of surplus property and the subsequent reuse of the property by the local community under Alternative 1, Alternative 2, or the No Action Alternative.

Alternative 1 is the reuse of the property in a manner consistent with the City of Concord’s Area Plan (Figure 2-1). Alternative 2 is generally consistent with the policies adopted by the City of Concord during reuse planning between 2008 and 2012 but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2). In addition, the Navy is evaluating a No Action Alternative, as required by the CEQ regulations implementing NEPA. The No Action Alternative is the retention of surplus property at the former NWS Concord by the U.S. government in caretaker status. Under the No Action Alternative, no reuse would occur at the surplus property.

Components of the proposed action that will be evaluated in Chapter 4 include:

1. Disposal of the property;
2. Foreseeable reuse of the surplus property, which will include but not be limited to:
 - i. Construction of a mix of office, retail, residential, community facilities, parks, light industrial, and research and development uses;
 - ii. Development of new infrastructure, including utilities and transportation networks;
 - iii. Habitat restoration and management; and
 - iv. Creation and improvement of a new regional park
3. Establishment of a permanent residential population and creation of new jobs; and
4. Interim land uses and activities that do not conflict with the proposed reuse of the property.

Both Alternative 1 and Alternative 2 assume full build-out over a 25-year period; the period of analysis for this EIS is during construction and when full build-out has been completed.

Table 4.1-1 provides a summary of the development footprint for Alternatives 1 and 2, including impervious surface totals, at full build-out.

Table 4.1-1 Summary Comparison of Proposed Alternatives: Development Footprint and Impervious Surface Totals

District	Approximate Acres		Total Impervious Surface (acres)	
	Alt 1	Alt 2	Alt 1	Alt 2
North Concord TOD Core	55	80	47.8	67.8
North Concord TOD Neighborhoods	90	85	71.4	67.6
Central Neighborhoods	180	200	136.9	148.3
Village Centers	70	50	67.5	39.3

Table 4.1-1 Summary Comparison of Proposed Alternatives: Development Footprint and Impervious Surface Totals

District	Approximate Acres		Total Impervious Surface (acres)	
	Alt 1	Alt 2	Alt 1	Alt 2
Village Neighborhoods	740	730	462.4	457.2
Commercial Flex	210	210	192.2	192.2
Campus	120	80	65	40
First Responder Training Center	80	-	48	-
Greenways, Citywide Parks, and Tournament Facilities	786	786	215.3	215.3
Conservation Open Space	2,715	2,825	135.8	141.3
Total^{1,2}	5,046	5,046	1,442	1,369

¹ The total area of the surplus property is approximately 5,038 acres. This total area being evaluated for disposal and reuse in this EIS is smaller than that of the Area Plan (5,046 acres) because the city's plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property.

² Total approximate land use includes city parks and/or streets as an overall component of all development districts except First Responder Training Center; Greenways, Citywide Parks, and Tournament Facilities; and Conservation Open Space.

The City of Concord's reuse planning process is the primary factor in defining the action alternatives considered in this EIS. However, implementation of the reuse will be dynamic, long term, and dependent on market and general economic conditions beyond the control of both the Navy and the City of Concord. Specific activities and uses that may be developed at the former NWS Concord site cannot be predicted precisely at this time; nonetheless, the reuse of the former NWS Concord is expected to take place in a manner generally consistent with the nature of uses described in the adopted Area Plan.

In addition, specific development proposals throughout the build-out period will need to follow a design review and permitting process by the City of Concord. The city is considering the entitlement procedures that will be required to develop specific development districts, including the possibility of implementing an expedited permit approval process. The real estate development team, or master developer, that will lead the first stage of the development of the former NWS Concord will be selected in 2015 by a selection recommendation panel formed by the city. Procurement of all land use and regulatory approvals and permits, including subsequent or supplemental environmental assessments required under CEQA, will be the responsibility of the master developer. The master developer will also be responsible for defining specific plans, design standards, and zoning based on the Concord Reuse Project Area Plan and Concord's 2030 General Plan guidelines and standards.

Resource areas evaluated in Chapter 4 include: land use (4.2); socioeconomic and environmental justice (4.3); air quality and greenhouse gas emissions (4.4); biological resources (4.5); cultural resources (4.6); topography, geology, and soils (4.7); hazards and hazardous substances (4.8); noise (4.9); public services (4.10); transportation, traffic, and circulation (4.11); utilities and infrastructure (4.12); visual resources and aesthetics (4.13); and water resources (4.14).

As discussed in Chapter 1, the City of Concord evaluated the potential impacts of reuse of the former NWS Concord under CEQA in accordance with its reuse planning process. The Navy has also conducted an evaluation of the reuse of the former NWS Concord in this EIS in accordance with NEPA, as the reuse of the former NWS Concord is a reasonably foreseeable consequence of the Navy's disposal action. The Navy's analysis has been conducted independently of the city's analysis, and also includes Alternative 2 and the No Action Alternative, which were not considered in the CEQA EIR. Therefore, the results of the impact analyses presented in Chapter 4 may differ from the results presented in the City of Concord's FEIR (City of Concord 2010) and FEIR Addendum (City of Concord January 2012a). The Navy's EIS relies on baseline information that may have changed in the time that has passed since the city's FEIR and

FEIR Addendum were prepared. In addition, the Navy used updated models to estimate transportation impacts and air emissions associated with the proposed action. Methodologies used to prepare the impact evaluations are discussed in the respective resource area sections of Chapter 4.

As discussed in Chapter 1, the Concord City Council has adopted the Area Plan and certified the FEIR, Findings of Significance, and a MMRP completed under CEQA to implement the Area Plan for the former NWS Concord. Measures identified in the certified FEIR and its addendum and the associated MMRP that will avoid or mitigate potential environmental impacts are the responsibility of future developers or owners of the property. Compliance with these measures would take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources. Where appropriate, the mitigation measures that have been committed to by the City of Concord in its Area Plan (including the MMRP) are identified here in Chapter 4 and in Chapter 7.

4.2 Land Use and Zoning

This section describes the potential land use impacts resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of site-specific land use changes, direct and indirect¹⁵ impacts on surrounding existing land uses, and consistency with local zoning codes and local and regional land use plans. The study area includes the former NWS Concord, the City of Concord, the City of Pittsburg, and Contra Costa County.

Upon completion of the BRAC disposal process under both Alternatives 1 and 2, the former NWS Concord property would be under the jurisdiction of the City of Concord. The use of the land and the development of new buildings or structures on the site would be regulated by the City of Concord, the city's zoning code, and other applicable plans and regulations.

4.2.1 Alternative 1

4.2.1.1 Onsite Land Use

Under Alternative 1, existing structures, including ammunition bunkers, buildings, the abandoned runway, and other infrastructure, would be demolished, and the site would be developed in accordance with the City of Concord's Area Plan (see Table 4-2.1, Summary Comparison of Proposed Alternatives). The western side of the former NWS Concord would be developed into eight different development districts as described in Chapter 2 to form a mixed-use, transit-oriented development community. Once full build-out is complete, approximately 2,331 acres of land would be developed and integrated into the City of Concord. Approximately 2,715 acres along the eastern side of the former NWS Concord would become conservation open space and be maintained by the East Bay Regional Park District.

The most intense development would occur near the North Concord/Martinez BART Station, where three- to six-story office and residential buildings would be located (see Figure 2-1). The intensity and density of development would progressively decrease toward the edges and to the east, where building height and density would be reduced and village neighborhoods would consist primarily of single-unit detached residences. Neighborhood parks, greenways, and citywide parks, in addition to conservation open spaces, would be located throughout the planning area. New roads would connect to Bailey Road, Willow Pass Road, Salvio Street, Denkinger Road, and Lynwood Drive.

Full build-out would be implemented over a 25-year period. Full build-out of Alternative 1 would provide for a maximum of 12,272 residential units; 6,115,718 million square feet of commercial/retail space;

¹⁵ Indirect impacts on surrounding land uses are based on the potential for the proposed action to generate changes in the land use type, pattern, or density.

2,715 acres of conservation open space; 786 acres of greenways and citywide parks; 80 acres for a first responder training center; and 120 acres for a campus. The majority of conservation open space and parks would be located east of Mt. Diablo Creek to the Los Medanos Hills ridgeline to the east.

Grazing leases currently held at the former NWS Concord would expire or be terminated. Livestock grazing within the proposed conservation open space area, however, is expected to continue under the management of the EBRPD in accordance with EBRPD natural resource management policies (EBRPD 2013a, Holt 2014). The Contra Costa Canal and Clayton Canal would continue under U.S. Bureau of Reclamation ownership after transfer; easements for three pipelines would transfer with the property.

The City of Concord will work with the CCWD to determine how water would be supplied to the site. Therefore, these canals could be incorporated into future site-planning efforts as design elements, or the Contra Costa Canal could be relocated underground and the unused Clayton Canal could be abandoned. Should future alterations or modification be considered for implementation, relevant regulations and procedures would be followed.

Table 4-2.1 Summary Comparison of Proposed Alternatives

District	Approximate Acres		Approximate Housing Units		Approximate Commercial Floor Space (sq. ft.)	
	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2
Development Program						
North Concord TOD Core	55	80	700	2,113	3,000,000	3,000,000
North Concord TOD Neighborhoods	90	85	2,200	4,209	150,000	150,000
Central Neighborhoods	180	200	2,600	2,908	100,000	100,000
Village Centers	70	50	500	500	350,000	350,000
Village Neighborhoods	740	730	6,200	6,143	N/A	N/A
Commercial Flex	210	210	N/A	N/A	1,700,000	1,700,000
Campus	120	80	TBD	TBD	800,000	800,000
First Responder Training Center	80	–	N/A	N/A	N/A	N/A
Greenways, Citywide Parks, and Tournament Facilities	786	786	N/A	N/A	N/A	N/A
Conservation Open Space	2,715	2,825	N/A	N/A	N/A	N/A
Total¹	5,046	5,046	12,200	15,872	6,100,000	6,100,000
Maximum Planning Area-wide Total²	5,046		12,272		6,115,718	

¹ The total area of the surplus property is approximately 5,038 acres. This total area being evaluated for disposal and reuse in this EIS is smaller than that of the Area Plan (5,046 acres) because the city's plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property.

² The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan and represents the maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area. Future planning phases will determine the precise acreage, number of dwelling units, and square feet of commercial space in each district; therefore, the final development program may differ from the one represented in this table as long as the Maximum Planning Area-wide Total is not exceeded. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's General Plan.

The proposed action would impact the existing land use conditions within the boundaries of NWS Concord. These impacts would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use, transit-oriented development district with commercial, recreation, and open space land uses. Implementation of Alternative 1 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact.

4.2.1.2 Regional Land Use

The former NWS Concord lies within the City of Concord's northeast quadrant. Single-family residential is the primary existing land use in the City of Concord. The City of Concord is located in Contra Costa County, which has a diverse mix of land uses in proximity to the former NWS Concord site, including areas of agricultural, industrial, public and semi-public, single-family residential, multiple-family residential, and open space uses. The City of Walnut Creek is located to the south, the City of Clayton to the southeast, the City of Pittsburg and the unincorporated community of Bay Point to the northeast, the unincorporated community of Clyde to the north, and the cities of Martinez and Pleasant Hill to the west. Single-family residences and open space are located in the City of Pittsburg in the area closest to the former NWS Concord. The City of Concord is connected to the cities of Pittsburg, Pleasant Hill, Walnut Creek, Lafayette, Orinda, and other communities in the Bay Area through the BART system.

As discussed in Section 4.3, Socioeconomics and Environmental Justice, development of 12,200 housing units under Alternative 1 is not anticipated to negatively impact the local housing market, primarily because of the expected increase of population in the region, the limited supply of vacant housing currently available, and the length of the build-out period (25 years), which will allow the 12,200 proposed housing units to be more gradually absorbed into the market. The accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. The proposed commercial/retail space is also expected to be built in tandem with the residential development. Therefore, a larger population base would be developing to support this additional commercial/retail development. Because the implementation of Alternative 1 is not anticipated to negatively impact the region's housing and commercial markets, it is also not anticipated to negatively impact land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord. This is also further supported by the land use pattern of Alternative 1 and its consistency with regional and local land use plans and zoning ordinances, as discussed in Section 4.2.1.4.

Contra Costa County's Measure C-1990 defines a 65/35 land preservation standard, which requires at least 65 percent of all land in the county be preserved for agriculture, open space, wetlands, parks, and other non-urban uses (Contra Costa County 2010). Prime and unique farmlands are primarily located in eastern Contra Costa County. The Brentwood farming region located east of Mount Diablo has more than 12,000 acres of contiguous prime farmland. Much of this area is within the County Agricultural Core General Plan designation. The Brentwood farming region has experienced development pressure over the past 20 years, which has contributed to a rapid loss of prime farmlands to urban development. Contra Costa County lost almost 40 percent, or 16,000 acres, of its most fertile farmland between 1990 and 2008. While development pressures have eased with the economic downturn of recent years, the Brentwood farming region remains at risk for suburban and estate home development (American Farmland Trust 2011). Reuse of the site under Alternative 1 could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland, as future demands for housing and commercial space could be met by reuse of the installation.

4.2.1.3 Adjacent Land Use

In general, proposed land uses along the periphery of the installation would be compatible with existing land uses adjacent to the installation. The following description provides a discussion of land use compatibility adjacent to the former NWS Concord in the City of Concord, City of Pittsburg, and Contra Costa County.

North

The predominant land uses north of SR 4 include office and light industrial along Port Chicago Highway and a portion of Diablo Creek Golf Course. In addition, 115 acres of the former Administrative Area

located east of the golf course was transferred to the Army in 2008. This area has been developed as an administrative support area for MOTCO. The Willow Pass Business Park is located north of SR 4 on the east side of the former Administrative Area in unincorporated Contra Costa County. Agricultural lands are located north of the business park and east of the former Administrative Area and Clyde. Because of the type of training and recreational activities that would occur onsite, the proposed First Responder Training Center and the Diablo Creek Golf Course, located in the northwest area of the former NWS Concord, would be compatible with the existing office, industrial, recreational, agricultural, and military land uses located north and northwest of the site.

East

Undeveloped open space along the highlands of the Los Medanos Hills and agricultural land are the primary land uses adjacent to the eastern boundary of the installation. Single-family residences and open space areas are located in the area of the City of Pittsburg closest to the former NWS Concord. The active Keller Canyon Landfill is located east of Bailey Road. The proposed Conservation Open Space development district would be compatible with the primarily undeveloped open space of the Los Medanos Hills because the district's primary purpose is resource conservation. The accessible regional parkland would enhance the site's habitat value.

South

Land uses adjacent to the southern boundary of the installation include residential (including community uses such as churches) and undeveloped open space. Most of the undeveloped open space is located in the Los Medanos Hills. Land uses in the City of Clayton that border the installation include parks and recreation, commercial, and high-, low-, and very low-density single-family residential land uses. The proposed Conservation Open Space development district would be compatible with the primarily undeveloped open space of the Los Medanos Hills because the district's primary purpose is resource conservation. The Conservation Open Space development district's regional park is compatible with the adjacent residential land use and would be an amenity for residents of the existing communities.

West

Existing land uses along the western boundary of the installation are primarily low-density residential, with a mix of education and parks and recreation land uses interspersed throughout. Under Alternative 1, the majority of the new land uses proposed along the western edge of the installation would be village neighborhoods consisting of low- to moderate-density, low-rise, attached single-unit housing and detached single-unit homes along the neighborhood edges. Therefore, housing density would gradually decrease at the edge of the site to provide a gentle transition to adjacent neighborhoods. In addition, greenways and citywide parks would provide a buffer between existing neighborhoods and Alternative 1 proposed land uses. The Neighborhood Frame greenway is a proposed linear park and open space that would contain bicycle and pedestrian trails and other programmed uses. It would also provide a sensitive transition between the Alternative 1 development districts and adjacent neighborhoods.

Existing land uses around the North Concord/Martinez BART Station include four moderate-density residential neighborhoods known as Victory Village, Quinault Village, Sun Terrace, and Holbrook. The proposed Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be located adjacent to these existing neighborhoods. The highest density development in the Central Neighborhood, including mid-rise commercial buildings, would occur near transit stops along Los Medanos Boulevard and decrease toward the edge of the installation boundary to a similar scale and density as existing residences in the Victory Village and Quinault Village neighborhoods. The Neighborhood Frame greenway would provide a sensitive transition between the Central Neighborhood and the Victory Village and Quinault Village neighborhoods. The North Concord TOD Neighborhood and North Concord TOD Core development district buildings would be approximately three to six stories high and decrease in height in the area adjacent to the Holbrook and

Sun Terrace neighborhoods. The Neighborhood Frame greenway would also provide a sensitive transition between the North Concord TOD Neighborhood and the Holbrook and Sun Terrace neighborhoods.

Proposed land uses in the Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be compatible with existing land uses in the surrounding neighborhoods because potentially incompatible uses, such as three- to six-story office buildings, would be located away from the edges of the development districts. Building sizes and heights would be reduced in all development districts to be consistent with the character of surrounding areas and provide a gradual transition from the existing low to moderate uses to proposed higher-density uses. In addition, greenways and city parks would provide a buffer between Victory Village and Quinault Village. The North Concord/Martinez BART Station and associated parking lot, BART Yellow Line, Port Chicago Highway, and SR 4 interchange with Port Chicago Highway would provide an intrinsic buffer between the North Concord TOD Neighborhood and North Concord TOD Core development districts and the Holbrook and Sun Terrace neighborhoods. Therefore, the implementation of Alternative 1 is compatible with the existing land uses west of the former NWS Concord.

4.2.1.4 Consistency with Land Use Plans and Zoning

Regional

Bay Area Rapid Transit District. Implementation of Alternative 1 is consistent with the applicable strategies contained in the BART Strategic Plan and TOD policy. Alternative 1 would maximize connectivity with the North Concord/Martinez BART Station through the implementation of a TOD with complete streets that provide for multiple forms of transportation, including walking, biking, and mass transit. This is consistent with the BART Strategic Plan's implementation strategies that focus on maximizing connectivity, facilitating multi-modal access, supporting TOD, and enhancing livability and vitality at BART stations. Alternative 1 would also enhance the livability of the area surrounding the BART station and increase BART ridership by providing for a densely populated area with mixed uses within walking distance of the station. This is consistent with BART's TOD policy to increase transit ridership, enhance quality of life at and around BART stations, and promote more intensive, higher-density development near BART-owned properties.

Association of Bay Area Governments. Implementation of Alternative 1 is consistent with the applicable goals contained in the ABAG Strategic Plan. Implementation of Alternative 1 would result in a complete community that provides access to employment, shopping, and mass transit. This is consistent with the ABAG Strategic Plan goal to promote the creation of complete communities with ready, close, and safe access to employment, shopping, amenities, services, and transit. The majority of the installation would be set aside as conservation open space to protect sensitive species habitat and provide a variety of recreational activities. This is consistent with the ABAG Strategic Plan goal to protect, conserve, and restore critical habitats, recreational areas, and other regionally significant resource areas.

Plan Bay Area: Strategy for a Sustainable Region. Implementation of Alternative 1 is consistent with the land use objectives contained in the Plan Bay Area: Strategy for a Sustainable Region. The land use pattern of Alternative 1 would create a complete community that provides housing and transportation choices to its residents along with convenient access to the North Concord/Martinez BART Station and a range of jobs, schools, amenities, and recreation options. In addition, the majority of the installation would be set aside as conservation open space to protect sensitive-species habitat and provide a variety of recreational activities. This is consistent with the Plan Bay Area's four primary land use objectives that promote a network of complete communities; an increase in the accessibility, affordability, and diversity of housing; job creation; and protection of the region's unique natural environment.

In addition, the Jobs-Housing Connection Strategy, which represents Plan Bay Area's land use component, identifies the former NWS Concord site as a Priority Development Area, which is defined as a prime location for a range of infill development opportunities identified by local governments. Priority Development Areas are a key element of the region's long-term growth strategy by providing capacity to accommodate 80 percent of projected housing growth and 66 percent of new employment in the Bay Area over a 25-year timeframe. The Jobs-Housing Connection Strategy recognizes that the most "transformative" growth within Contra Costa County will occur at the former NWS Concord site. The Community Reuse Area is designated as a Regional Center Priority Development Area. The implementation of Alternative 1 is consistent with the description of the Community Reuse Area Priority Development Area as a place that fosters a vibrant and diverse community, economy, and environment and embraces the principles of smart growth, TOD, and sustainability as expressed in the Concord Reuse Project Area Plan (ABAG and the MTC 2013).

Bay Area Joint Policy Committee. Implementation of Alternative 1 is consistent with the applicable goals and strategies contained in FOCUS, a development and conservation strategy that promotes compact development. Alternative 1 would be an infill development located on land that was previously used by the Navy to store munitions. Alternative 1 would maximize connectivity with the North Concord/Martinez BART Station by concentrating the highest-intensity development near the station and the lowest-intensity land uses away from the station. A high-frequency transit service would connect the BART station to the lower-intensity areas that are not within walking distance. As a mixed-use community, Alternative 1 would include a variety of land uses that would provide jobs, housing, retail, schools, parks, recreation, and services in proximity to one another. As mentioned previously, the majority of the reuse under Alternative 1 would be conservation open space, which would provide habitat for sensitive species and a variety of recreation activities. As a result, the development approach of Alternative 1 is consistent with the goals and strategies in the FOCUS document that encourage infill; compact, complete, and resource-efficient communities near existing or planned transit; a mix of land uses; development in areas served by frequent passenger rail and bus service; and protection and enhancement of significant open space and recreation areas.

Local

Contra Costa County. Implementation of Alternative 1 is consistent with the applicable goals of the Contra Costa General Plan. Under Alternative 1, higher densities would be located near the North Concord/Martinez BART Station, with lower densities further away from the station. All development would be located within the county's urban limit line, and a majority of the installation would be designated conservation open space, which includes the hillsides and ridgelines of the Los Medanos Hills. This area is intended to preserve unique habitat for wildlife and plants and provide a variety of recreational opportunities. Proposed land uses along the periphery of the installation would be compatible with Contra Costa General Plan land use designations and zoning designations on property adjacent to the installation.

City of Concord. In 2012, the City of Concord amended Concord's citywide Concord 2030 General Plan (City of Concord 2012) to include the Area Plan. By incorporating the Area Plan into the General Plan, the community's state-required "constitution for future development," the City of Concord institutionalized its policies and guidance for reuse of the former NWS Concord. In addition, the Concord City Development Code was revised and adopted in 2012 to be consistent with the 2030 General Plan. The former NWS Concord is zoned Study Area (S), which is an interim zoning district for the installation. Detailed development standards within this zone will be developed prior to adoption of a specific plan or regulatory document that conforms to the General Plan. Therefore, development under Alternative 1 would be consistent with the land use designations adopted in the Concord 2030 General Plan land use element and the Concord City Development Code.

Alternative 1 is also consistent with the key planning concepts identified by the community during the Concord Reuse Project public involvement process. The planning concepts include locating higher-intensity uses around the North Concord/Martinez BART Station; supporting TOD; integrating the site with the existing City of Concord; creating a balance in housing types; and providing a range of community and cultural facilities.

In addition, Alternative 1 is consistent with the applicable goals and policies contained in the land use element of the General Plan. Under Alternative 1, hillsides, ridgelines, and open space along the Los Medanos Hills would be permanently preserved; retail would be within walking distances of residential areas; office space would be located near the North Concord/Martinez BART Station; rural residences located south of the installation would be adjacent to designated conservation open space to preserve their rural character; residential development would provide a variety of housing options; and the open space network would connect with the regional open space network. This is consistent with the General Plan principles and their associated goals that encourage infill residential development, preserve the unique character of rural residential areas, and protect ridgelines and visible hillsides.

Alternative 1 is also consistent with the principles contained in the General Plan that are specific to the reuse of NWS Concord. Under Alternative 1, neighborhoods would be diverse in type and affordability, centered around village centers, and connected to open space, pocket parks, plazas, neighborhood parks, adjacent neighborhoods, and the regional transportation network. In addition, open space and buildings would be similar in scale and compatible with adjacent land uses; a variety of workplace and shopping options would be located throughout the development area; and the Los Medanos Hills, Mt. Diablo Creek, and areas with a slope greater than 30 percent would be dedicated as permanent open space. The transportation network and development pattern under Alternative 1 would emphasize pedestrian and bicycle travel. A network of greenways would be located throughout the reuse area. This is consistent with the General Plan principles and the associated goals that promote:

- achieving a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit; and
- providing a balance between development and open space on the former NWS Concord site.

In addition, proposed land uses along the periphery of the installation would be compatible with General Plan land use designations and zoning designations on the property adjacent to the installation.

City of Pittsburg. Implementation of Alternative 1 is consistent with the applicable goals of the General Plan. The development pattern under Alternative 1 would be similar to the desired development patterns in the City of Pittsburg. Higher-density development would be located near the North Concord/Martinez BART Station, with the hillsides of the Los Medanos Hills preserved as open space. In addition, the character of the Los Medanos Hills would be preserved, and low-density residential neighborhoods would be provided within the development. The removal of the restrictive easement that extends beyond the perimeter of the installation may allow development in the City of Pittsburg east of the installation. This is consistent with the City of Pittsburg's General Plan land use policies and goals that promote the maintenance of the general character of the hill forms; development of higher-end, low-density residential neighborhoods; and development in the Concord Naval Weapons Station Restricted Federal Easement being allowed when the easement is abandoned.

Proposed land uses along the periphery of the installation would be compatible with General Plan land use designations and zoning designations on property adjacent to the installation.

4.2.1.5 Summary

Implementation of Alternative 1 would impact the existing land use conditions within the boundaries of NWS Concord. These impacts would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use TOD district. Implementation of Alternative 1 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact.

Implementation of Alternative 1 would not impact regional land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord because the proposed action would not negatively impact the region's housing and commercial markets. Reuse of the site under Alternative 1 could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland in eastern Contra Costa County, because future demands for housing and commercial space could be met by reuse of the installation.

Proposed land uses along the periphery of the installation would be compatible with existing land uses adjacent to the installation. As described in Section 4.1, specific development proposals throughout the build-out period will need to follow a design review and permitting process by the City of Concord. During this review and permitting process, a site-specific environmental review under CEQA will also need to be completed.

The City of Concord has prepared design standards that are included in its Area Plan. These standards incorporate measures to transition and integrate new development with adjacent land uses. Any developer will be required to incorporate such measures into development plans during the implementation of Alternative 1. The City of Concord will also notify adjacent property owners in the Sun Terrace and Holbrook neighborhoods and the Coast Guard housing complex to review specific plans or proposals for development adjacent to the North Concord/Martinez BART Station (City of Concord February 2010).

The development approach of Alternative 1 is consistent with applicable principles, policies, goals, and strategies outlined in regional and local plans.

4.2.2 Alternative 2

Alternative 2 represents a higher intensity of use overall, with development and conservation designated in largely the same locations, a similar development program, and the same sitewide development principles and standards as Alternative 1. The higher intensity use in Alternative 2 results from a slightly different land use pattern and increased residential development. Land use impacts resulting from the implementation of Alternative 2 are discussed in the sections below. The impact discussion focuses on the primary differences between Alternative 1 and Alternative 2: a modified land use pattern and increased residential development on the site of the former NWS Concord property.

4.2.2.1 Onsite Land Use

Similar to Alternative 1, existing structures would be demolished under Alternative 2. The site would be redeveloped in accordance with the Alternative 2 (Intensified Reuse) development program (see Table 4-2.1, Summary Comparison of Proposed Alternatives). The western side of the former NWS Concord would be developed into seven different development districts as described in Chapter 2 to form a mixed-

use, TOD community. The development program for Alternative 2 differs from Alternative 1 in the following ways (see Chapter 2 for further detail):

- Alternative 2 does not include the First Responder Training Center district.
- In Alternative 2, the Campus district is located in the area occupied by the First Responder Training Center district in Alternative 1 (north of SR 4).
- An additional Village Neighborhood and Village Center are located in the area occupied in Alternative 1 by the Campus district.
- The TOD Core, TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2.
- The total number (and corresponding area) of Village Centers is smaller in Alternative 2.
- The overall number of residential units in Alternative 2 (15,872) is greater than in Alternative 1 (12,272). Most of this increase is planned within the North Concord TOD Core, North Concord TOD Neighborhood, and Central Neighborhood districts rather than the Village Neighborhood districts.
- The area occupied in Alternative 1 with the Village Neighborhood district south of the proposed Los Medanos Boulevard and west of Willow Pass Road and a portion of one of the two Central Neighborhood districts would be developed as an additional citywide park under Alternative 2.

Once full build-out is complete, approximately 2,221 acres of land would be developed and integrated into the City of Concord. Similar to Alternative 1, the most intense development would occur near the North Concord/Martinez BART Station, where three- to six-story office and residential buildings would be located (see Figure 2-2). As mentioned above, the TOD Core, TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2. Approximately 2,825 acres along the eastern side of the former NWS Concord would be managed by the EBRPD as conservation open space.

As with Alternative 1, Alternative 2 would impact the existing land use conditions within the boundaries of the former NWS Concord. These impacts are similar to those of Alternative 1 and would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use, TOD district with commercial, recreation, and open-space land uses. Implementation of Alternative 2 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact.

4.2.2.2 Regional Land Use

Section 3.2 and 4.2.1.2 above provide an overview of land use in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord. As discussed in Section 4.3, Socioeconomics and Environmental Justice, development of 15,872 housing units under Alternative 2 is not anticipated to negatively impact the local housing market, primarily because of the expected increase of population in the region, the limited supply of vacant housing currently available, and the length of the build-out period (25 years), which will allow the 15,872 proposed housing units to be more gradually absorbed into the market. The total area of commercial uses would be the same for Alternative 2 as Alternative 1; therefore, as described in greater detail in Section 4.2.1.2 for Alternative 1, the accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. As with Alternative 1, Alternative 2 is not

anticipated to negatively impact the region's housing and commercial markets, and it is also not anticipated to negatively impact land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord.

As described in greater detail in Section 4.2.1.2 for Alternative 1, reuse of the former NWS Concord site could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland in eastern Contra Costa County, as future demands for housing and commercial space could be met by development of the installation. This is also true for the development of the site under Alternative 2.

4.2.2.3 Adjacent Land Use

Similar to Alternative 1, proposed land uses along the periphery of the former installation property would be compatible with existing land uses adjacent to the installation on the eastern and southern boundaries. The proposed land uses in Alternative 2 are the same as Alternative 1 in these locations (see Section 4.2.1.3 for a full description of Alternative 1 adjacent land use compatibility). The following description provides a discussion of land use compatibility for properties adjacent to the northern and western boundaries of the former NWS Concord, where the Alternative 2 land use pattern differs in these locations from Alternative 1.

North

As described in greater detail in Section 4.2.1.3 for Alternative 1, existing land uses north of the installation include office, light industrial, recreational, agricultural, and military designations. The Campus district would be located in the area occupied by the First Responder Training Center district in Alternative 1 and would be adjacent to the Diablo Creek Golf Course. The Campus district would be a campus environment that could accommodate a range of uses such as educational, research and development, cultural, and health care, and may include a university. Based on the range of uses that would be part of the campus environment and the recreational activities that would occur at the golf course, the proposed Campus district and the Diablo Creek Golf Course would be compatible with the existing office, industrial, recreational, agricultural, and military land uses located north and northwest of the site.

West

As described in greater detail in Section 4.2.1.3 for Alternative 1, existing land uses along the western boundary of the installation are primarily low-density residential, with a mix of education and parks and recreation land uses interspersed throughout. The housing density of the Village Neighborhood districts that would be developed as part of Alternative 2 would be similar to Alternative 1 and would gradually decrease at the edge of the site to provide a gentle transition to adjacent neighborhoods. In addition, greenways and citywide parks would provide a buffer between existing neighborhoods and Alternative 2 proposed land uses.

Existing land uses around and near the North Concord/Martinez BART Station include four moderate-density residential neighborhoods known as Victory Village, Quinault Village, Sun Terrace, and Holbrook. The proposed Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be located adjacent to these existing neighborhoods. A comprehensive description of existing and proposed adjacent land uses is provided in Section 4.2.1.3 for Alternative 1. Alternative 2 differs from Alternative 1 in that the North Concord TOD Core, North Concord TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2, and there is an increase in the number of residential units, which could result in building heights that are in the upper range of what is described in Section 4.2.1.3 for Alternative 1. Similar to Alternative 1, the intensity and density of development would progressively decrease toward the installation boundaries, where building height and density would be

reduced. The Neighborhood Frame greenway would provide a sensitive transition between the North Concord TOD Core, North Concord TOD Neighborhood, Central Neighborhood, and the Holbrook and Sun Terrace neighborhoods. In addition, the area occupied in Alternative 1 with the Village Neighborhood district south of the proposed Los Medanos Boulevard and west of Willow Pass Road and a portion of one of the two Central Neighborhood districts would be developed as an additional citywide park under Alternative 2. This citywide park would also provide a sensitive transition between the Central Neighborhood and the Holbrook and Victory Village neighborhoods.

Therefore, similar to Alternative 1, proposed land uses in the Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be compatible with existing land uses in the surrounding neighborhoods. Compared to Alternative 1, the citywide park in Alternative 2 also provides an additional buffer between existing land uses and new development. Therefore, the implementation of Alternative 2 is compatible with the existing land uses west of the former NWS Concord.

4.2.2.4 Consistency with Land Use Plans and Zoning

Compared to Alternative 1, Alternative 2 has a similar development program and the same sitewide development principles and standards as Alternative 1. Therefore, the overall development approach of Alternative 2 is similarly consistent with applicable principles, policies, goals, and strategies outlined in regional and local plans (see Section 4.2.1.4 for a detailed description of Alternative 1 land use plan consistency). While the overall development approach is consistent with regional and local plans, it should be noted that the total number of dwelling units proposed in Alternative 2 would exceed the maximum planning-area-wide Total (see Table 4-2.1, Summary Comparison of Proposed Alternatives) and require an amendment to the City of Concord's General Plan. In addition, the projected population and VMTs would not be consistent with the City's Climate Action Plan, as discussed further in Section 4.4.2.

4.2.2.5 Summary

While Alternative 2 represents a modified land use pattern and increased residential development on the site of the former NWS Concord property, the overall development approach is similar to Alternative 1. The same site-wide development principles and standards are also applied to Alternative 2. Mitigation measures that are planned by the City of Concord are assumed to also apply to Alternative 2. However, an amendment to the City of Concord's General Plan would be required because Alternative 2 would exceed the maximum planning-area-wide total, and the city's Climate Action Plan would need to be revised as the projected number of VMTs would not be achieved under Alternative 2. Therefore, implementation of Alternative 2 would result in a moderate adverse impact to land use.

4.2.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The No Action Alternative would be compatible with adjacent land uses; however, it would be inconsistent with the City of Concord General Plan, which encourages the development of the installation into a mixed-use TOD area. The No Action Alternative would also not fulfill the applicable goals and policies of the various plans prepared by BART, ABAG, the Bay Area Joint Policy Committee, Contra Costa County, the City of Concord, and the City of Pittsburg. Therefore, implementation of the No Action Alternative would result in a significant impact on land use.

4.3 Socioeconomics and Environmental Justice

This section provides a discussion of the potential direct and indirect impacts on socioeconomic conditions in the City of Concord and, where applicable, Contra Costa County and the MSA resulting

from disposal and reuse of the former NWS Concord under Alternative 1, Alternative 2, and the No Action Alternative. Socioeconomic conditions evaluated include: economy, employment, and income; population; housing and commercial property; and taxes and revenues. In addition, this section analyzes the potential for disproportionate impacts from the reuse of NWS Concord on low-income populations, minority populations, and/or children, consistent with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and EO 13045, Environmental Health Risks and Safety Risks to Children.

4.3.1 Alternative 1

4.3.1.1 Economy, Employment, and Income

Implementation of Alternative 1 would have significant beneficial impacts on the local and regional economies, both immediately when construction begins and in the long term once the plan has been implemented. The beneficial economic impacts associated with the construction expenditures would occur during the 25-year build-out period. Once construction is completed at the end of the build-out period, these impacts would cease. In contrast, the beneficial economic impacts associated with implementation of the plan would continue long after the construction is finished.

Total construction expenditures are estimated to be approximately \$6.28 billion (expressed in 2013 dollars) for the full build-out under Alternative 1. Approximately \$1.88 billion of the total construction expenditures would be associated with horizontal construction, including general site costs (i.e., demolition of existing structures; grading; construction of roadways and transit facilities; bus rapid transit; storm drainage; and provision of potable water, gas, electricity, telecommunications, sewer, and fire protection); and tract costs (i.e., the costs to provide infrastructure for each parcel of land as it develops). The remaining \$4.4 billion would be associated with the vertical construction, which includes the costs to construct the residential and non-residential development (Mathison 2013).

These construction expenditures would increase output, earnings, and employment in the City of Concord, Contra Costa County, and the MSA as a whole and generate significant beneficial direct, indirect, and induced economic impacts. Beneficial direct economic impacts would occur when local workers and firms are hired to complete the implementation of Alternative 1. Beneficial indirect economic impacts would occur when local suppliers provide materials for the construction and thus increase their sales and revenues. Beneficial induced economic impacts would occur when the additional workers spend a portion of their income in the regional economy, thereby increasing the output, earnings, and employment at other local businesses.

In an effort to quantify the direct, indirect, and induced impacts on Contra Costa County associated with the construction of Alternative 1, an economic model developed by the U.S. Bureau of Economic Analysis, known as the Regional Input-Output Modeling System (RIMS II), was utilized. Using Type II, change in final demand multipliers, from the RIMS II model, the estimated \$6.28 billion in construction expenditures is expected to support approximately 22,714 total (direct, indirect, and induced) jobs, increase total regional output by \$4.5 billion, and generate \$1.15 billion of total employee earnings in Contra Costa County (see Table 4.3-1).

For the purposes of analysis, total construction expenditures have been analyzed as a lump sum that would be spent all at one time. However, in actuality, construction is likely to be spread over the entire 25-year timeframe. If construction expenditures were evenly divided through the 25-year period, the annual economic impacts of the construction expenditures under Alternative 1 would be an increase of \$180.0 million in the county's output, an addition of 909 jobs, and an increase of \$46.0 million in employee earnings (see Table 4.3-1). The number of jobs created from construction assumes that a new employee would be hired for each construction project. In reality, construction workers may complete one

construction project and then be hired for a second project. The second project would not create new construction jobs but instead continue to utilize already hired personnel.

Table 4.3-1 Summary of Estimated Total Impacts (Direct, Indirect, and Induced) in Contra Costa County from Construction Expenditures under Alternative 1 (expressed in millions)^{1,2}

	Total Change	Annual Change ³
Total Construction Expenditures	\$6,280	\$251
Output	\$4,500	\$180
Employment (in jobs)	22,714	909
Employee Earnings	\$1,150	\$46

Sources: U.S. Bureau of Economic Analysis 2013.

Note:

¹ All figures are expressed in constant 2013 dollars.

² Assumes 40 percent of total construction expenditures are made directly to companies and individuals located in Contra Costa County.

³ Assumes that the construction expenditures would be spread evenly over a 25-year timeframe.

As stated in the Area Plan, the City of Concord has set a “good faith goal” that 40 percent of the total workforce should be local, with priority given to firms/workers from the City of Concord. If firms/workers are not available in the city, then construction would be awarded to local firms/workers within Contra Costa County (City of Concord January 2012b). The figures shown on Table 4.3-2 assume that the city meets this “good faith goal” and that 40 percent of the total construction expenditures would be spent within Contra Costa County.

Table 4.3-2 Total Direct Employment at Full Build-Out by Development District¹ under Alternative 1

Development District ¹	Land Uses ²	Planned Commercial Square Footage (in 1,000s)	Average Employees per 1,000 square feet	Total Direct Employment at Full Build-Out
North Concord TOD Core	Commercial Office (Class A)	2,550	3.26	8,313
	Commercial Retail (Town Center)	50	1.50	75
	Commercial Hotel (Mid-Rise)	400	0.64	256
Subtotal North Concord TOD Core		3,000	N/A	8,644
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	150	1.50	225
Subtotal North Concord TOD Neighborhoods		150	N/A	225
Central Neighborhoods	Commercial Retail Central Neighborhoods	100	1.50	150
Subtotal Central Neighborhoods		100	N/A	150
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	350	1.50	525
Subtotal Village Centers		350	N/A	525

Table 4.3-2 Total Direct Employment at Full Build-Out by Development District¹ under Alternative 1

Development District ¹	Land Uses ²	Planned Commercial Square Footage (in 1,000s)	Average Employees per 1,000 square feet	Total Direct Employment at Full Build-Out
Commercial Flex	Commercial Office (Office Park/R&D)	730	3.26	2,380
	Commercial Retail (Regional Retail)	850	1.50	1,275
	Commercial Hotel (Business/Ltd Hotel)	120	0.64	77
Subtotal Commercial Flex		1,700	N/A	3,732
Campus	Commercial Office (Campus Cluster)	800	0.96	768
Subtotal Campus		800	N/A	768
Grand Total		6,100	N/A	14,044

Source: Institute for Public Administration 2009.

¹ This table only includes development districts in which commercial property is planned; therefore, the Village Neighborhoods development district, the First Responder Center, the Neighborhood Parks, Greenways, and Citywide Parks development district, and the Conservation and Open Space development district are not included on this table.

The beneficial economic impacts associated with the construction expenditures would continue over the full 25-year build-out period. Once construction is complete, and the expenditures leave the regional economy through such outlays as savings, taxes, or purchases of goods and services from outside the region, these beneficial economic effects would no longer occur.

In contrast, the beneficial economic impacts that would occur as a result of implementation of Alternative 1 would have a long-term impact on the economies of the City of Concord, Contra Costa County, and the MSA and would continue beyond the 25-year build-out timeframe. Assuming that the full build-out potential is met, that 6.1 million square feet of additional commercial space is constructed, and that the additional property would be used by business enterprises new to the county, the reuse under Alternative 1 would directly generate up to 14,044 new jobs in Contra Costa County. The estimated number of new jobs was calculated using standard demographic multipliers collected by the Institute for Public Administration at the University of Delaware (Institute for Public Administration 2009), which show the relationship between the average number of employees by area of work space for different nonresidential uses. These demographic multipliers were then applied to the estimated square footage of the type of development expected to occur under Alternative 1 to project the total direct employment at full build-out.

Table 4.3-2 shows estimates of the direct employment expected to be generated by use of the planned commercial buildings in each development district. The Village Neighborhood development district, which does not include plans for any commercial buildings; the First Responder Training Center; and the parks and open space/conservation areas, which is not expected to generate any additional employment, are not included on the table. As shown on the table, commercial office space typically supports 3.26 workers per 1,000 square feet of space, retail space typically supports 1.50 workers per 1,000 square feet of space, hotel and lodging facilities on average support 0.64 worker per 1,000 square feet of space, while educational/research and development facilities typically support 0.96 worker per 1,000 square feet of space. Utilizing these nonresidential demographic multipliers, full implementation of Alternative 1 would generate approximately 10,693 office jobs; 2,250 retail jobs; 333 jobs in the lodging industry; and 768 educational/research and development jobs (see Table 4.3-2).

In addition to the direct jobs expected to be generated by the proposed reuse under Alternative 1, indirect and induced employment impacts are expected to occur as the increased employment and business activity at the former NWS Concord stimulates the regional economy. As the tenants in the newly constructed commercial buildings begin operations, they will purchase goods and services from local suppliers. Additionally, the new commercial workers would spend a portion of their new income in the local economy, thereby increasing the overall demand for goods and services in the area. In response, merchants and suppliers may increase employment at their operations and/or purchase more goods and services from their providers. These providers may, in turn, increase employment in their establishments and/or spend a portion of their income in the region, thus “multiplying” the positive economic impacts of the original increase in spending. These “multiplier” effects would continue until all of the original funds have left the local economy through either taxes, savings, or purchases from outside the area.

As shown on Table 4.3-3, an additional 10,550 indirect and induced jobs are expected to be generated by implementation of Alternative 1. In total, 24,594 direct, indirect, and induced jobs are expected to be created under this alternative. The indirect and induced job estimates were developed using the U.S. Bureau of Economic Analysis’ modeling system RIMS II (U.S. Bureau of Economic Analysis 2013).

Table 4.3-3 Total Direct, Indirect, and Induced Employment Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses	Direct Employment (number of jobs)	Employment Multiplier ¹	Indirect and Induced Employment (number of jobs)	Total Direct, Indirect, and Induced Employment (number of jobs)
North Concord TOD Core	Commercial Office (Class A)	8,313	1.8570	7,124	15,437
	Commercial Retail (Town Center)	75	1.3804	29	104
	Commercial Hotel (Mid-Rise)	256	1.6969	178	434
Subtotal North Concord TOD Core		8,644	N/A	7,331	15,975
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	225	1.3804	86	311
Subtotal North Concord TOD Neighborhoods		225	N/A	86	311
Central Neighborhoods	Commercial Retail Central Neighborhoods	150	1.3804	57	207
Subtotal Central Neighborhoods		150	N/A	57	207
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	525	1.3804	200	725
Subtotal Village Centers		525	N/A	200	725
Commercial Flex	Commercial Office (Office Park/R&D)	2,380	1.8570	2,039	4,419
	Commercial Retail (Regional Retail)	1,275	1.3804	485	1,760
	Commercial Hotel (Business/Ltd Hotel)	77	1.6969	54	130

Table 4.3-3 Total Direct, Indirect, and Induced Employment Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses	Direct Employment (number of jobs)	Employment Multiplier ¹	Indirect and Induced Employment (number of jobs)	Total Direct, Indirect, and Induced Employment (number of jobs)
Subtotal Commercial Flex		3,732	N/A	2,578	6,309
Campus	Commercial Office (Campus Cluster)	768	1.3890	299	1,067
Subtotal Campus		768	N/A	299	1,067
Grand Total²		14,044	N/A	10,550	24,594

Source: U.S Bureau of Economic Analysis 2013

Note: Totals may not add up due to rounding.

¹ 2010 Type II direct effect employment multipliers for Contra Costa County for the Professional, Scientific, and Technical Services Sector; the Retail Trade Sector; the Accommodations Sector; and the Educational Sector from the U.S. Bureau of Economic Analysis' RIMS II model were utilized to determine the indirect and induced employment impacts.

² It has been assumed for modeling purposes that no additional job growth would result from the use of land set aside for the first responder center or from the use of land set aside for neighborhood parks, greenways, or citywide parks or from open space/conservation areas.

Using data from the U.S. Bureau of Labor Statistics on annual mean wage-rates by industry, it is estimated that at full build-out, implementation of Alternative 1 would directly generate approximately \$893 million in employee earnings each year (see Table 4.3-4). As with direct employment, this increase in economic activity would stimulate the local economy as this additional income is cycled through it. Table 4.3-4 provides estimates of the direct, indirect, and induced impacts on employee earnings resulting from implementation of Alternative 1 at full build-out. As shown on the table, the direct increase of \$893 million is anticipated to generate approximately \$443 million in indirect and induced employee earnings each year, for a total annual increase of \$1.3 billion in employee earnings as a result of implementation of Alternative 1 (see Table 4.3-4).

Table 4.3-4 Annual Direct, Indirect, and Induced Employee Earnings Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses ²	Direct Annual Employee Earnings (in \$ millions)	Direct Effect Earnings Multiplier ¹	Annual Indirect and Induced Employee Earnings (in \$ millions)	Total Direct, Indirect, and Induced Employee Earnings (in \$ millions)
North Concord TOD Core	Commercial Office (Class A)	\$ 606.2	1.4921	\$298.3	\$ 904.5
	Commercial Retail (Town Center)	\$ 2.2	1.5300	\$1.2	\$ 3.4
	Commercial Hotel (Mid-Rise)	\$ 5.8	1.8918	\$ 5.2	\$ 11.0
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	\$ 6.7	1.5300	\$ 3.5	\$ 10.2
Central Neighborhoods	Commercial Retail Central Neighborhoods	\$ 4.5	1.5300	\$ 2.4	\$ 6.9

Table 4.3-4 Annual Direct, Indirect, and Induced Employee Earnings Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses ²	Direct Annual Employee Earnings (in \$ millions)	Direct Effect Earnings Multiplier ¹	Annual Indirect and Induced Employee Earnings (in \$ millions)	Total Direct, Indirect, and Induced Employee Earnings (in \$ millions)
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	\$ 15.6	1.5300	\$ 8.3	\$ 23.9
Commercial Flex	Commercial Office (Office Park/R&D)	\$ 173.6	1.4921	\$ 85.4	\$ 259.0
	Commercial Retail (Regional Retail)	\$ 37.9	1.5300	\$ 20.1	\$ 58.0
	Commercial Hotel (Business/Ltd Hotel)	\$ 1.8	1.8918	\$ 1.6	\$ 3.4
Campus	Commercial Office (Campus Cluster)	\$ 38.6	1.4430	\$ 17.1	\$ 55.7
Grand Total²		\$ 892.9	N/A	\$ 443.1	\$ 1,336.0

Sources: U.S. Bureau of Economic Analysis 2013; U.S Bureau of Labor Statistics 2012a-d.

Note: Totals may not add due to rounding.

¹ 2010 Type II direct effect earnings multipliers for Contra Costa County for the Professional, Scientific, and Technical Services Sector; the Retail Trade Sector; the Accommodations Sector; and the Educational Sector from the U.S. Bureau of Economic Analysis' RIMS II model were utilized to determine the indirect and induced employee earnings impacts.

² It has been assumed for modeling purposes that no additional job growth would result from the use of land set aside for the First Responder Center or from the use of land set aside for neighborhood parks, greenways, or citywide parks or from open space/conservation areas.

Labor Force Availability

While implementation of Alternative 1 is anticipated to generate a significant beneficial increase in economic activity and create a significant amount of new employment, it is not expected to cause significant adverse impacts on the local and regional labor market by creating labor shortages. Sufficient unemployed and underemployed workers exist in the area to accommodate much of the increased demand for workers anticipated by implementation of Alternative 1. In 2012, approximately 48,220 persons were unemployed in Contra Costa County, 6,935 of whom were residents of the City of Concord (U.S. Bureau of Labor Statistics 2013). As stated above, the proposed construction of Alternative 1 is expected to generate approximately 909 direct, indirect, and induced jobs in Contra Costa County, assuming construction takes place at an even pace over a 25-year timeframe. Given the high level of unemployment in the area, the addition of 909 jobs from construction is not expected to have an adverse impact on the local labor market.

In addition, approximately 24,600 direct, indirect, and induced jobs are expected to be created once the proposed commercial and retail space in Alternative 1 is developed and utilized. However, these jobs are also expected to be added to the local economy over time. If the proposed commercial and retail development occurs evenly over the 25-year build-out period, then fewer than 985 new jobs would be added each year. It is likely that many of these new positions would be filled by existing unemployed or underemployed residents of the city and county. Additionally, the commercial and retail developments are expected to be built in tandem with the residential units. The local population and, thus, the local labor force are expected to grow at a pace similar to that of the proposed commercial/retail development.

Therefore, the jobs expected to be generated by the proposed commercial and retail developments are not anticipated to have an adverse impact on the local labor market because sufficient labor is expected to be available to fill the newly created jobs.

4.3.1.2 Population

Implementation of the proposed reuse plan under Alternative 1 would have an impact on the population and demographic characteristics of the City of Concord. Proposed new residential construction within the development districts would likely result in an influx of new residents to the city by increasing the number of available housing units. The proposed construction of 12,200 residential units at the former installation is estimated to increase the population in the city by 32,387 residents (see Table 4.3-5). This figure was derived by assuming that each new housing unit would represent one additional household moving into the City of Concord from outside the city limits. Data from the U.S. Bureau of the Census's 2012 *American Community Survey* on total population by type of housing and the number of housing units in a structure for the City of Concord were utilized to estimate the expected change in population. According to the U.S. Bureau of the Census, in 2012 an average of 2.897 persons lived in each single-family attached or detached housing unit in the City of Concord. Additionally, in 2012 an average of 2.518 persons lived in each multi-unit housing unit in the city (U.S. Census Bureau n.d a-c). Assuming that the new residents to the city would have similar demographic characteristics as the existing population, these current household sizes by type of housing unit were then applied to the expected mix of residential units proposed under Alternative 1 (see Table 4.3-5).

Table 4.3-5 Summary of Estimated Population Impacts at Full Build-Out of Alternative 1

District	Number of Units	Estimated Population Impact
North Concord TOD Core	700	1,763
North Concord TOD Neighborhoods	2,200	5,540
Central Neighborhoods	2,600	6,645
Village Centers	500	1,259
Village Neighborhoods	6,200	17,180
Total	12,200	32,387

An increase of 32,387 residents would equate to 26.5 percent of the city's 2010 total population. While construction and occupation of the proposed 12,200 housing units at the former NWS Concord would lead to a substantial increase in population in the City of Concord and Contra Costa County as a whole, it would not be the underlying cause of this population growth. Between 2010 and 2035, ABAG projects that more than 1.7 million additional people will reside in the Bay Area. An additional 1.6 million jobs are expected to be created in this time period, resulting in more than 850,000 residents moving to the region for the economic opportunities. The remaining population growth is expected to occur because birth rates are expected to outpace death rates. ABAG further estimates that 600,000 additional housing units would be needed to be built in the Bay Area to accommodate the expected influx of population to the region (ABAG n.d.).

Due to this projected regional population growth and the corresponding development pressure that would occur, population in the City of Concord and Contra Costa County is likely to experience a substantial increase by 2035, with or without reuse of the former NWS Concord. If no residential development were to occur at the former NWS Concord property, it is likely that this development would occur elsewhere within the city or county. Therefore, while implementation of Alternative 1 would result in the construction of 12,200 new housing units and the relocation of an estimated 32,387 residents to the former NWS Concord property, Alternative 1 implementation, by itself, is not expected to cause a significant adverse population impact to the city.

Likewise, the increased employment opportunities associated with implementing Alternative 1 described in Section 4.3.1.1 would have the potential to increase the desirability of the City of Concord as a place of residence; however, these impacts are not expected to be significant. Given the phased approach planned for construction of the residential and commercial properties and the fact that these properties would be developed in tandem; the accessibility of the new development to the greater San Francisco Bay region; and high unemployment rates in the region, most of these additional jobs are expected to be filled by existing residents in the region. Therefore, the increased employment opportunities are not expected generate much additional in-migration to the City of Concord.

4.3.1.3 Housing and Commercial Property

The implementation of Alternative 1 provides for the construction of 12,200 new residential units in the City of Concord, which would result in a minor beneficial impact. Table 4.3-6 provides a breakdown of the type and number of proposed units by development district. As shown on the table, this alternative would include 1,100 high-density, multi-unit housing units; 1,000 moderate- to high-density, multi-unit housing units; 4,700 moderate-density townhomes; 1,000 mixed-use, multi-unit housing units; 3,300 moderate- to low-density, single-family attached units; and 1,100 low-density, single-family detached units (see Table 4.3-6). These 12,200 new units would represent an increase of 25.4 percent over the city’s 2010 total housing stock.

Despite this large growth in the city’s total housing stock that would occur as a result of implementation of Alternative 1, impacts to the residential housing market are expected to be minor. As described previously in Sections 3.3 and 4.3.1.2, the City of Concord, Contra Costa County, and the entire MSA are expected to experience significant population growth over the next 25 years. Total population is expected to grow to 153,000 in the city; 1.3 million in the county, and 5.4 million in the MSA by 2035 (see Table 3.2-7). According to projections made by ABAG, an estimated 600,000 additional housing units would be needed by 2035 in the Bay Area to accommodate the expected population growth in the region (ABAG n.d.).

In addition, the current demand for housing in the city and region outstrips the available supply. As described in Section 3.3, homeowner vacancy rates in 2011 were only 1.9 percent in the City of Concord and in the MSA as a whole and only 2.7 percent in Contra Costa County. Likewise, rental vacancy rates were very low. In 2011, the rental vacancy rate was 5.7 percent in the City of Concord, 5.9 percent in Contra Costa County, and 4.9 percent in the MSA as a whole (see Table 3.2-9).

Table 4.3-6 Housing and Commercial Property by Development District and Housing Unit Type under Full Build-Out of Alternative 1

Development District	Land Uses	Approximate Housing Units	Approximate Commercial Square Footage
North Concord TOD Core	Commercial Office (Class A)	--	2,550,000
	Commercial Retail (Town Center)	--	50,000
	Commercial Hotel (Mid-Rise)	--	400,000
	Residential - High-Density Multi-Unit Housing	700	--
	Subtotal	700	3,000,000

Table 4.3-6 Housing and Commercial Property by Development District and Housing Unit Type under Full Build-Out of Alternative 1

Development District	Land Uses	Approximate Housing Units	Approximate Commercial Square Footage
North Concord TOD Neighborhoods	Residential – Moderate-Density Townhomes	490	--
	Residential – Moderate- to High-Density Multi-Unit Housing	860	--
	Residential – Mixed-Use Multi-Unit Housing	450	--
	Residential – High-Density Multi-Unit Housing	400	--
	Commercial Retail (Town Center)	--	150,000
	Subtotal	2,200	150,000
Central Neighborhoods	Residential – Moderate- to Low-Density Single-Family Attached Housing	260	--
	Residential – Moderate-Density Townhomes	1,950	--
	Residential – Moderate- to High-Density Multi-Unit Housing	140	--
	Residential – Mixed-Use Multi-Unit Housing	250	--
	Commercial Retail (Town Center)	--	100,000
	Subtotal	2,600	100,000
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	--	350,000
	Residential – Moderate-Density Townhomes	200	--
	Residential – Mixed-Use Multi-Unit Housing	300	--
	Subtotal	500	350,000
Village Neighborhoods	Residential –Low-Density Single-Family Detached Housing	1,100	--
	Residential – Moderate- to Low-Density Single-Family Attached Housing	3,040	--
	Residential – Moderate-Density Townhomes	2,060	--
	Subtotal	6,200	--
Commercial Flex	Commercial Office (Office Park/R&D)	--	730,000
	Commercial Retail (Regional Retail)	--	850,000
	Commercial Hotel (Business/Ltd Hotel)	--	120,000
	Subtotal	--	1,700,000
Campus	Commercial Office (Campus Cluster)	--	800,000
	Subtotal	--	800,000
Total		12,200	6,100,000

Source: City of Concord January 2012b

Finally, the geographic location of the City of Concord and its integration with the greater San Francisco Bay area would ensure that the demand for housing would remain strong. As a result of the expected increase in population that will lead to an increase in demand for housing in the region and the limited supply of housing currently available, the construction of the 12,200 proposed housing units over a 25-year period is not expected to significantly affect the residential housing market. The new units, which would equate to approximately 490 units constructed each year for 25 years, would likely be easily absorbed into the existing housing market without causing any adverse impacts on existing home prices and without causing an excess supply of available units.

As part of the federal land conveyance process defined by the Federal Property and Administrative Services Act of 1949 and amended by the BRAC Act of 1990, a Homeless Assistance Plan, which includes legally binding agreements with the U.S. Department of Housing and Urban Development (HUD), was developed and agreed upon by the City of Concord. This Homeless Assistance Plan has been incorporated into the planned reuse of the former NWS Concord. The Homeless Assistance Plan requires that no fewer than five parcels of land containing approximately 26 acres (a minimum of 16 developable acres) be conveyed to the City of Concord by the Navy at no cost for the development of up to 260 but no fewer than 130 units of multi-family transitional housing units, a food bank, and an employment training center. The city, in turn, must transfer each of these parcels to homeless providers to provide housing and support for the homeless population and to the Food Bank of Contra Costa and Solano to construct a 120,000-square-foot food bank warehouse and an employment training center. The transitional units are to include an assortment of sizes reflective of the household/family sizes of homeless persons in the community. The specific location of these parcels has not yet been determined (City of Concord February 2012, City of Concord May 2012).

Also, Alternative 1 would ensure that at least 25 percent of the new total housing units (3,020 units) would be earmarked as affordable housing units for lower-income households. The remainder of the housing units constructed could be market-rate units. At least 30 percent of the total affordable housing units would be prioritized for low-income seniors, veterans, and teachers. These affordable housing units would be integrated throughout the development districts (City of Concord January 2012b).

Implementation of Alternative 1 would increase the amount of commercial property available in the City of Concord, resulting in a minor beneficial impact. Table 4.3-6 identifies the total commercial property proposed to be built under Alternative 1 under full build-out by development district. As shown on the table, at full build-out, the following additional space will be available for lease or purchase in the City of Concord: 1.5 million square feet of retail space; 800,000 square feet of Campus land use; 520,000 square feet of hotel space; and 3.28 million square feet of commercial office space. As of July 2013, approximately 1.2 million square feet of existing office space and 177,000 square feet of existing retail space was available in the City of Concord (City of Concord Economic Development Department 2013).

The additional supply of retail and office space in the City of Concord that would result from full build-out of Alternative 1 could have a slight impact on the commercial property market by creating a downward pressure on prices for existing space. However, as mentioned previously, the accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. According to estimates made by ABAG, an additional 1.6 million jobs are expected to be added to the regional economy by 2035 (ABAG n.d.). This rapid economic growth would require the construction of additional commercial properties to service these new employees. Additionally, new construction of retail and office space is not likely to occur until there is a demand for it. As described in Section 4.3.1.1, the proposed commercial/retail space is expected to be built in tandem with the residential development. Therefore, a larger population base would be in place to support this additional commercial/retail development.

4.3.1.4 Taxes and Revenues

Implementation of the proposed reuse plan under Alternative 1 would increase tax revenue to the City of Concord, Contra Costa County, and other tax-levying authorities in the area. Construction of residential units and commercial space would increase the volume of taxable real estate in the City of Concord. In addition, the projected increase in population would increase sales tax revenue in the city, as new local residents purchase goods and supplies. Table 4.3-7 shows the estimated increase in the property tax receipts in the City of Concord upon full build-out of Alternative 1 by property tax type. Table 4.3-8 shows the estimated increase in sales tax receipts in the City of Concord upon full build-out. Property taxes from new development were estimated by multiplying the new construction's assessed property

values by the applicable property tax rates. Because new construction within the State of California is assessed at its full market value (California State Board of Equalization 2013) and since the value of new construction is estimated at \$6.28 billion for full build-out under Alternative 1, it can be assumed that the assessed value of these new properties will be at least \$6.28 billion. Because federal property is exempt from state and local taxes, any tax collected on private property at the former NWS Concord installation would represent a net gain for the City of Concord. Reuse of the former NWS Concord installation property is estimated to bring an additional \$68 million in revenue annually upon full build-out of Alternative 1.

Table 4.3-7 Estimated Annual Property Tax Revenue by Property Tax Type upon Full Build-Out of Alternative 1

Property Tax Type	Property Tax Rate (%)	Projected Revenue Increase
City and County Direct Rate	1.0000	\$ 62,800,000
Bay Area Rapid Transit Rate	0.0041	\$ 257,480
East Bay Regional Park District Rate	0.0071	\$ 445,880
Mount Diablo Unified School District & Community College	0.0756	\$ 4,747,680
Total	1.0868	\$ 68,251,040

Sales and use tax revenue for the City of Concord from full build-out of Alternative 1 was estimated by first determining the current per capita sales and use tax paid by city residents and then multiplying this current rate by the estimated population increase upon full build-out of Alternative 1. Table 4.3-8 shows the estimated change in sales and use tax revenue from implementation of Alternative 1. Reuse of the former NWS Concord installation property is estimated to increase the population of the City of Concord by 32,387 persons upon full build-out. Assuming sales and use tax receipts per resident remain constant, it is estimated that, on average, an additional \$19.9 million of sales and use taxes would be generated in the City of Concord annually.

Table 4.3-8 Estimated Change in Sales and Use Tax upon Full Build-Out of Alternative 1

City of Concord	Amount
Sales and Use Tax Revenue (2012)	\$ 74,875,000
Per Capita Sales and Use Tax Revenue	\$613.39
Projected Population upon full build-out of Alternative 1	32,387
Estimated Change in Sales and Use Tax	\$19,866,000

Summary

Implementation of Alternative 1 would have short-term and long-term beneficial impacts, some of which would be significant, on the economies of the City of Concord, Contra Costa County, and the MSA as a whole. Beneficial economic impacts would occur during the construction phase as well as the implementation phase of this alternative. Local economic output and local value added would increase, additional job opportunities would be generated, and employee earnings would expand. No adverse impacts are expected to occur to the local labor market because labor shortages are unlikely to occur. The local population in the City of Concord would expand by approximately 32,387 residents, and the city's housing stock would be increased by 12,200 units. Existing housing demand and prices for existing housing are not expected to be significantly impacted by implementation of Alternative 1. The commercial real estate market would experience an increase of 6.1 million square feet of commercial space. Some downward price pressure may occur as a result of this additional construction; however, the projected growth of the regional economy would adsorb much of this increased commercial space. Ad

valorem property tax revenues would increase as previously tax-exempt property would become taxable private property. Finally, sales and use tax receipts would increase because the additional population would increase the amount of purchases made within the local economy.

4.3.1.5 Environmental Justice and Protection of Children

This analysis focuses on the potential for disposal and reuse of the former NWS Concord under Alternative 1 to result in disproportionately high and adverse effects on minority and low-income populations or to cause environmental health risks and safety risks that may disproportionately affect children (people younger than 18 years old). Minority populations are considered to be present when either the minority population is more than 50 percent of the census tract or the minority population percentage is meaningfully greater than the minority population percentage of a larger geographic area of comparison (CEQ 1997a, b). The same thresholds are used to determine low-income populations and populations younger than 18 years old.

Table 4.3-9 provides the demographic information for all census block groups potentially impacted by the proposed action (i.e., in the census block groups surrounding the boundary of the former NWS Concord). Table 4.3-10 provides the economic information for all census tracts potentially impacted by the proposed action (i.e., the census tracts surrounding the boundary of the former NWS Concord), under Alternative 1. These demographic and economic data were compared with similar demographic and economic data for the City of Concord as the area of comparison.

Table 4.3-9 Environmental Justice Demographic Data by Census Block Group (Alternative 1)

Census Block Group	Total Persons	Percent Hispanic or Latino	Percent Minority (Not Hispanic or Latino)	Percent Aged <18 Years
3132042	1,622	25.5	50.9	22.1
3150001	832	13.7	23.6	20.7
3290002	1,670	33.4	32.4	22.3
3300003	992	25.1	28.7	20.9
3320002	863	16.6	15.1	19.1
3331011	929	16.4	12.7	20.2
3331021	1,286	15.9	19.9	19.1
3332001	756	14.3	21.0	20.6
3552001	1,356	21.9	64.1	29.2
City of Concord	122,067	30.6	35.4	22.9

Source: U.S Census Bureau 2010 a-d

Note: Shaded areas show census block groups where an environmental justice community may exist due to higher populations of Hispanic/Latino persons, minorities, or children under 18 years of age than the City of Concord (geographic area or comparison).

Census block groups 3132042 and 3552001 include minority populations that are greater than 50 percent. While the percentage of the population in census block group 329002 that is Hispanic or Latino is higher than the percentage of Hispanic or Latino population in the City of Concord, it is not considered meaningfully greater than the percentage in the geographic area of comparison. Census tract 315000 includes a low-income population because the percentage of the population that is low income is meaningfully greater (i.e., more than double) that of the geographic area of comparison. (Note: Income data through the U.S. Census Bureau’s American Community Survey can be found only at the census-tract level. Thus, while race and age data are presented at the census-block-group level, low-income population data are presented at the census-tract level).

Table 4.3-10 Percent of Population Considered Low Income in Census Tracts Affected by the Proposed Reuse Plan under Alternative 1

Census Tract	Percent Low Income
313204	3.9
315000	28.8
329000	7.3
330000	5.6
332000	7.2
333101	2.3
333102	8.7
333200	6.4
355200	6.8
City of Concord	11.2

Source: U.S. Census Bureau 2011c.

Note: Shaded areas show census tracts where an environmental justice community may exist due to higher populations of Hispanic/Latino persons, minorities, or children under 18 years of age than the City of Concord (geographic area or comparison).

However, implementation of Alternative 1 would not have disproportionately high or adverse health and safety or environmental impacts on minority, Hispanic/Latino, or low-income populations, or populations aged less than 18 years because no significant unmitigated environmental, human health, or safety impacts are expected to occur in the surrounding communities as a result of Alternative 1. The properties would be fenced during construction, and access would be permitted only to construction personnel. Removal and disposal of hazardous materials, including LBP and ACM, would comply with all applicable federal laws and regulations. Additionally, no unique environmental health or safety issues would impact children in the affected communities.

4.3.2 Alternative 2

4.3.2.1 Economy, Employment, and Income

Implementation of Alternative 2 would have similar beneficial impacts on the local and regional economy as described for Alternative 1. Output, employment, and earnings would increase as a result of the construction and implementation phases of Alternative 2. The construction costs would be slightly greater under Alternative 2 than under Alternative 1 because an additional 3,673 housing units would be built under this alternative. An identical amount of commercial space is proposed under each alternative. The additional construction costs would slightly increase construction employment and earnings over Alternative 1 levels and would, therefore, result in slightly greater beneficial positive indirect and induced impacts on the local and regional economy. The expected economic impacts associated with the implementation phase of Alternative 2 would be identical to those described for Alternative 1. Similarly to Alternative 1, implementation of Alternative 2 is not expected to affect labor force availability or cause labor shortages.

4.3.2.2 Population

Utilizing the same methodology discussed in Alternative 1, construction of the 15,873 housing units proposed under Alternative 2 is expected to increase the total population of the City of Concord by 41,672 residents, or 34.1 percent of the city's 2010 total population (Table 4.3-11).

Table 4.3-11 Summary of Estimated Population Impacts at Full Build-out of Alternative 2

District	Number of Housing Units	Estimated Population Impact
North Concord TOD Core	4,000	10,072
North Concord TOD Neighborhoods	2,322	5,847
Central Neighborhoods	2,908	7,449
Village Centers	500	1,259
Village Neighborhoods	6,143	17,015
Total	15,873	41,642

However, as described in greater detail in Section 4.3.1.2 for Alternative 1, as a result of the projected regional population growth and the corresponding development pressure that would occur, the City of Concord and Contra Costa County would likely experience substantial population growth with or without reuse of the former NWS Concord property for housing. Therefore, implementation of Alternative 2 by itself is not expected to cause a significant adverse population impact to the city.

4.3.2.3 Housing

Implementation of Alternative 2 would provide for the construction of 15,873 new residential units in the City of Concord. Table 4.3-12 provides a breakdown of the type and number of these proposed units. These 15,873 new units would represent an increase of 33.1 percent over the City of Concord’s 2011 total housing stock. The proposed commercial property constructed under Alternative 2 would be identical to that proposed for Alternative 1.

Table 4.3-12 Housing by Development District and Type under Full Build-Out of Alternative 2

Development District	Land Uses	Approximate Housing Units
North Concord TOD Core	Residential - High-Density Multi-Unit Housing	4,000
	Subtotal	4,000
North Concord TOD Neighborhoods	Residential – Moderate-Density Townhomes	0
	Residential – Moderate- to High-Density Multi-Unit Housing	100
	Residential – Mixed-Use Multi-Unit Housing	109
	Residential – High-Density Multi-Unit Housing	2,113
	Subtotal	2,322
Central Neighborhoods	Residential – Moderate- to Low-Density Single-Family Attached Housing	333
	Residential – Moderate-Density Townhomes	2,000
	Residential – Moderate- to High-Density Multi-Unit Housing	150
	Residential – Mixed-Use Multi-Unit Housing	425
	Subtotal	2,908
Village Centers	Residential – Moderate-Density Townhomes	100
	Residential – Mixed-Use Multi-Unit Housing	400
	Subtotal	500
Village Neighborhoods	Residential – Low-Density Single-Family Detached Housing	1,043
	Residential – Moderate- to Low-Density Single-Family Attached Housing	3,040
	Residential – Moderate-Density Townhomes	2,060
	Subtotal	6,143
Total		15,873

Impacts on the residential housing market from Alternative 2 would be the same as those described for Alternative 1 and are expected to be minor and beneficial. As described in detail in Section 4.3.1.3, the existing and projected demand for housing and the limited supply of housing units in the City of Concord and Contra Costa County would ensure that new housing would be absorbed into the residential housing market without causing any negative effects on existing home prices and without causing an excess supply of available units. Impacts to the commercial real estate market caused by implementation of Alternative 2 would be identical to those described for Alternative 1.

4.3.2.4 Taxes and Revenues

Alternative 2 would have a similar fiscal impact as Alternative 1, though slightly more property tax receipts and sales tax receipts would be generated under Alternative 2. As described for Alternative 1, the construction at the former NWS Concord property under Alternative 2 would also increase the City of Concord's property tax base and thus the city's total property tax revenues. Since total construction costs are expected to be slightly greater under Alternative 2, the total ad valorem property tax receipts are also expected to be slightly greater under this alternative than under Alternative 1. In addition, implementation of Alternative 2 is expected to increase total sales tax receipts in the city. Utilizing the same methodology described in Section 4.3.1.4, total sales and use tax receipts that would result from Alternative 2 are estimated to be approximately \$25.5 million annually.

4.3.2.5 Environmental Justice and Protection of Children

Implementation of Alternative 2 would not have disproportionately high or adverse health and safety or environmental impacts on minority, Hispanic/Latino, or low-income populations, or populations aged less than 18 years because no significant unmitigated environmental, human health, or safety impacts are expected to occur in the surrounding communities as a result of Alternative 2.

4.3.3 No Action Alternative

Under the No Action Alternative, no reuse plan would be implemented, and ownership of the property would be retained by the Navy. The former NWS Concord would not be developed and would remain in a caretaker status. No new economic activity would be generated, and no increased employment opportunities would occur. Regional population and the regional housing market would not be impacted, and there would not be any impact on the regional commercial property market. Local government tax receipts would not increase because the former NWS Concord would retain its current tax-exempt status. The property would remain fenced, and the Navy would maintain the buildings and fence line to prevent unauthorized access. The No Action Alternative would not have disproportionate or adverse human health and safety impacts or environmental impacts on minority, Hispanic/Latino, or low-income populations, or populations younger than 21 years old.

4.4 Air Quality

This section describes the potential impacts to air quality resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. Included in this section are discussions of the air pollutant emissions estimated to occur during construction and operation of the proposed land uses and the thresholds used by the BAAQMD to determine the significance of these emissions in affecting local and regional air quality and GHG levels.

The requirement to prepare a conformity applicability analysis or determination does not apply to a federal action if the action fits within one or more of the exemption categories at 40 CFR 93.153(c)(2). The exemption (xiv), transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of transfer, applies to the action under either Alternative 1 or 2. Therefore, the implementation of this action is exempt from the General Conformity Rule, and

therefore a conformity applicability analysis or determination is not required. A RONA of the CAA General Conformity Rule is included in Appendix G.

While the General Conformity Rule does not apply, Navy guidance states that analysis of a Navy action under NEPA must identify and evaluate any federal, state, or local requirements that apply (Navy July 2013). The BAAQMD is responsible for management of air quality in the SFBAAB and has developed the Clean Air Plan for the region (BAAQMD 2010). The BAAQMD has also developed thresholds for use by lead agencies in California to evaluate air quality impacts from projects and plans proposed in the SFBAAB under CEQA (BAAQMD 1999). The BAAQMD issued updated CEQA guidelines in 2011 with revised thresholds of significance for determining the significance of impacts from proposed projects. However, on March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted significance thresholds in the updated CEQA guidelines. BAAQMD has advised agencies that they cannot recommend use of significance thresholds in the updated CEQA guidelines. BAAQMD has also advised agencies that they may continue to rely on the thresholds of significance in the 1999 CEQA guidelines and make determinations regarding the significance of an individual project's air quality impacts based on substantial evidence as presented in environmental assessment documentation (BAAQMD 2012). While the BAAQMD's thresholds of significance from the BAAQMD 1999 CEQA guidelines are not specifically applicable to NEPA review, they are used in this analysis to assess the significance of impacts on air quality and the implementation of state and local air quality management from the disposal and reuse of the former NWS Concord. Where thresholds are not available, the Area Plan documentation of compliance with state and local requirements has been reviewed. This analysis examines whether the Area Plan (and Alternative 2) would be consistent with the BAAQMD's Clean Air Plan and, therefore, would not have a significant adverse effect on air quality because it would not interfere with the ability of the state to meet the federal air quality standards.

The following analysis presents the potential impacts on air quality as a result of population changes, changes in VMTs, criteria air pollutants, hazardous air pollutants, nuisance odors, and GHGs.

Sources of potential emissions associated with the proposed action fall into two categories: construction and operational. Temporary emissions from construction would start at the beginning of action on the project and would cease at the completion of full implementation. Air emissions would result from demolition, material removal, site preparation, building and road construction, and worker commutes and material deliveries. Construction materials and equipment would be transported to and from the site by truck.

Operational emissions would occur after construction is completed on the early stages on the project and occupancy of the new facilities, buildings, and residential units occurs. It is anticipated that operational emissions would increase as more development occurs through the construction period. However, it is not possible to estimate the schedule and overlap of construction and operational activities at this time. Therefore, the total emission increases associated with the operation of all new facilities, buildings, and residential units as well as area sources and vehicle usage on roadways before and after full project implementation (build-out) have been evaluated.

As discussed in Chapter 1, Alternative 1 is consistent with the Area Plan, as adopted by the City of Concord in 2012 (Figure 2-1). Alternative 2 has a slightly smaller development footprint than the Area Plan but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2). The Area Plan is the result of an extensive reuse planning process performed by the City of Concord. During the planning effort that resulted in the development of the Area Plan, the City made a concerted effort at all stages of the planning and environmental analysis to design and refine the Area Plan to avoid or minimize the potential effects of the

project on air quality and to reduce GHG emissions. This effort is evaluated and documented in Book 3 of the Area Plan, the Area Plan Climate Action Plan (Area Plan CAP).

As appropriate, assumptions and mitigations identified in the Area Plan CAP have been included in this evaluation for both Alternative 1 and Alternative 2. The objective of the Area Plan CAP is to reduce GHG emissions from the project's potential emission sources, including transportation, building and site energy use, water use, and waste disposal. Examples of the GHG-reduction principles and polices include pedestrian-oriented design, parking management, ride-sharing incentives, onsite renewable energy systems (e.g., solar panels), drought-tolerant landscaping, and maximizing recycling. Appendix C includes a discussion of the incorporation of mitigations to the extent feasible in this analysis.

The CalEEMod emissions model was used to estimate criteria air pollutant emissions and GHG emissions. In addition, the potential for localized air quality impacts at intersections has been modeled. The CALINE-4 emission model has been used to evaluate potential CO hot spots. See Appendix C for a summary of modeling assumptions and results.

4.4.1 Alternative 1

Alternative 1 is the disposal and reuse of surplus property at the former NWS Concord in a manner consistent with the Area Plan. Under Alternative 1, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would involve up to a maximum of 12,200 housing units and 6.1 million square feet of commercial space, developed as a series of mixed-use development districts, with a higher concentration of development at the north end, near SR 4 and the North Concord/Martinez BART Station.

4.4.1.1 Planning Thresholds

The BAAQMD uses two planning thresholds to determine the potential for air quality impacts to be significant: projected population and estimated VMTs. These are briefly discussed below for the build-out of Alternative 1.

The project would be inconsistent with the applicable clean air plan if it would “result in population growth that would exceed the values included in the current air quality portion of the applicable General Plan” (BAAQMD 1999). Population growth beyond that considered in the General Plan would not be considered in development of air quality controls and management, and could therefore conflict or obstruct implementation of the city's air quality plan.

During the preparation of the City of Concord's FEIR, the existing population (2006) was estimated to be 124,400, and the 2030 projected population without the project was estimated to be 142,200 (City of Concord 2010). The FEIR concluded that because the 2030 projected population for the City of Concord did not include the reuse of the former NWS Concord, that “prior to approving development at the site, the City of Concord [would] request updated population projections from ABAG and the BAAQMD, and the City [would] coordinate with these agencies to update the applicable clean air plans so that the projections of Concord's 2030 population are updated (increased) by the ABAG to reflect the size and scope of the [Area Plan]” (City of Concord 2010). The City of Concord adopted the Area Plan into the Concord 2030 General Plan, thereby revising the General Plan to incorporate the development program established for the Area Plan. Thus, the 2030 projected population was revised to be 171,000, which included a population estimate of 28,800 associated with the development under the Area Plan. Therefore, the city's current General Plan is based on a final population of 171,000 after full implementation.

In this EIS, the build-out of the Area Plan is estimated to support a population of 32,387 based on the number of housing units and the demographic multiplier discussed in Section 4.3. While the number is higher than the city has estimated in its FEIR and subsequently incorporated into the 2030 General Plan, the citywide population projection was reduced in the 2035 population projection by ABAG to 153,000, with an estimate for the development under the Area Plan of 21,226 (ABAG n.d.). Using the 2035 citywide population projection, and substituting a population of 32,387 developed in this EIS for the 21,226 estimated by ABAG, results in a 2035 population projection citywide of 164,161. The project would not be inconsistent with the applicable clean air plan because it would result in a final population (i.e., 164,161) that would be less than the value included in the current air quality portion of the applicable General Plan (i.e., 171,000). Table 4.4-1 provides the population projections for Alternative 1 as well as the population projections incorporated in the General Plan.

Table 4.4-1 Population Projections, Alternative 1

Plan/Alternative	Total Population (City of Concord)	Projected Increase (from Area Plan)
2030 General Plan (2012) (as revised to include Area Plan)	171,000	28,800
Alternative 1 (using 2035 population projections)	164,161	32,387

BAAQMD CEQA guidelines also indicate that a project could be inconsistent with the applicable clean air plan if it would result in a rate of increase in VMTs that is higher than the rate of increase in population. The increase in VMTs above the increase in population could therefore conflict or obstruct implementation of the city’s air quality plan.

The rate of change in VMTs relative to population under Alternative 1 is determined based on a comparison of the daily VMTs per capita for the 2013 baseline and the daily VMTs per capita estimated after full implementation. The CCTA Traffic Demand Model used in a transportation impact study estimated total daily VMTs for the City of Concord after full implementation of Alternative 1 (Kittelson & Associates, Inc. 2014). When comparing the change in VMTs to the change in population, both residential and worker populations are considered. Table 4.4-2 provides a summary of the transportation impact study data and comparison of the daily VMTs per capita values.

Table 4.4-2 Daily VMTs and Population Projections, Based on Transportation Analysis, Alternative 1

Alternative	Service Population	Daily VMTs	Daily VMTs per Capita
Baseline (2013)	185,300	4,499,149	24
Alternative 1	250,692	6,138,107	24

As shown, daily VMTs per capita is the same under Alternative 1 as the baseline, when using the data from the transportation study.

However, the transportation study conservatively estimated VMTs for implementation of Alternative 1. Many of the mitigation strategies defined in the Area Plan were not considered in the transportation study. CalEEMod was used to quantify the impacts of transportation mitigations on air emissions and VMT estimates. Refer to Appendix C for a full list and description of mitigation measures incorporated into the CalEEMod modeling analysis. Table 4.4-3 summarizes the calculation of annual VMTs per capita using the baseline from the transportation study but also using residential and worker population estimates from Section 4.3 and the estimates of annual VMTs calculated using CalEEMod, which are added to the 2013 CCTA baseline. Since the annual VMTs per capita is lower under Alternative 1 compared to the baseline, these data demonstrate that the increase in VMTs is lower than the increase in population. Therefore, the

project's rate of VMT increase would not be inconsistent with the applicable clean air plan, and it does not indicate a significant adverse impact.

Table 4.4-3 Annual VMTs and Population Projections, Based on CalEEMod Modeling, Alternative 1

Alternative	Service Population	Annual VMTs	Annual VMTs per Capita
Baseline (2013)	185,300	1,642,189,385	8,862
Alternative 1	252,281	1,933,232,207	7,663

4.4.1.2 Criteria Air Pollutants

Construction Emissions

Construction activities generate fugitive dust emissions from earthmoving and roads, and exhaust emissions from on-road equipment and non-road vehicles. Construction emissions were calculated using CalEEMod. Data inputs included building types and space volumes as described in Chapter 2. Therefore, fugitive dust PM₁₀ and PM_{2.5} emissions were calculated, assuming the application of water twice daily to active construction sites as a fugitive dust mitigation measure. Other mitigation measures would be used to reduce fugitive dust emissions during construction. The construction emission estimates do not incorporate all potential mitigation measures because the exact quantification of emission reductions associated with these measures cannot be accurately predicted without further knowledge of specific construction activities. Thus, because all potential mitigation measures are not incorporated in the construction emissions estimates presented in this section, these estimates are considered conservative.

Similarly, exhaust emission estimates from construction vehicles do not incorporate potential mitigation measures in the MMRP because the exact quantification of exhaust emission reductions associated with these measures cannot be accurately predicted without further knowledge of specific construction activities. Thus, because potential mitigation measures are not incorporated in the emissions estimates for construction vehicles, the estimates provided below are considered conservative. Table 4.4-4 provides a summary of estimated maximum daily criteria pollutant exhaust emissions from construction vehicles for years 2016 through 2035. Daily VOC and NO_x PM₁₀, and PM_{2.5} exhaust emissions from construction vehicles were compared to BAAQMD significance thresholds of 80 pounds per day for each of these criteria pollutants, and CO emissions were compared to a threshold of 550 pounds per day. Daily VOC and NO_x are estimated to exceed the daily significance thresholds for criteria pollutants in most years. The BAAQMD CO daily threshold is intended to determine the need for additional investigation and does not necessarily indicate a significant impact. The threshold is also only applicable to transportation emissions, not construction emissions. However, since CO emissions from construction activities are below this threshold, CO from construction would not have a significant adverse impact to air quality. There are no BAAQMD thresholds for SO₂ emissions; however, these SO₂ emissions are minor and also would not have an adverse impact on air quality.

Table 4.4-5 provides a summary of CalEEMod estimated annual criteria pollutant exhaust emissions from construction for years 2016 through 2035. Based on CalEEMod estimates, annual VOC and NO_x emissions from construction would exceed the annual thresholds for criteria pollutants in some years, resulting in significant adverse impacts to air quality during construction. However, given the 25-year build-out period, emissions estimates may vary considerably from these estimates for the construction phase. Construction emissions are temporary, and would occur only during the construction period.

Table 4.4-4 Maximum Daily Criteria Pollutant Emissions from Construction, 2016 to 2035

Year	Pollutant, lbs/day					
	VOCs (ROG)	NO _x	PM ₁₀	PM _{2.5}	CO	SO ₂
Significance Threshold:	80	80	80	80	550	N/A
2016	124.34	398.63	21.21	19.72	313.81	0.44
2017	121.22	369.78	19.44	18.06	299.20	0.44
2018	116.17	321.20	16.41	15.25	277.52	0.44
2019	113.12	291.54	14.52	13.49	265.85	0.44
2020	110.65	265.05	12.91	12.00	255.18	0.44
2021	108.24	238.27	11.33	10.53	245.31	0.44
2022	103.21	184.97	8.57	7.96	209.12	0.40
2023	101.83	168.85	7.61	7.07	204.11	0.40
2024	100.80	156.99	6.86	6.37	199.75	0.40
2025	99.29	138.96	5.83	5.41	192.13	0.40
2026	99.21	138.78	5.83	5.41	190.98	0.40
2027	99.15	138.66	5.83	5.41	190.17	0.40
2028	99.09	138.56	5.83	5.41	189.46	0.40
2029	99.02	138.46	5.83	5.41	188.58	0.40
2030	99.69	82.83	2.40	2.39	172.20	0.44
2031	99.65	82.75	2.40	2.39	171.68	0.44
2032	99.61	82.68	2.40	2.39	171.22	0.44
2033	99.55	82.61	2.40	2.39	170.81	0.44
2034	99.51	82.56	2.40	2.39	170.44	0.44
2035	97.92	66.41	1.57	1.55	168.32	0.44

Key:

- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM = particulate matter
- ROG = Reactive organic gases
- VOCs = Volatile Organic Compounds

Table 4.4-5 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NO _x	PM ₁₀	PM _{2.5}	CO	SO ₂
Significance Threshold:	15	15	15	15	N/A	N/A
2016	16.18	51.95	2.77	2.57	40.16	0.06
2017	15.71	48.01	2.53	2.35	38.16	0.06
2018	15.12	41.86	2.14	1.99	35.52	0.06
2019	14.73	37.99	1.89	1.76	34.03	0.06
2020	14.47	34.67	1.69	1.57	32.79	0.06
2021	14.10	31.05	1.48	1.37	31.40	0.06
2022	13.39	24.01	1.11	1.03	26.61	0.05
2023	13.22	21.92	0.99	0.92	25.98	0.05
2024	13.18	20.53	0.90	0.83	25.63	0.05
2025	12.94	18.10	0.76	0.71	24.55	0.05
2026	12.93	18.08	0.76	0.71	24.42	0.05
2027	12.92	18.07	0.76	0.71	24.32	0.05
2028	12.86	17.98	0.76	0.70	24.14	0.05
2029	12.91	18.04	0.76	0.71	24.14	0.05
2030	12.99	10.78	0.31	0.31	22.01	0.06
2031	12.99	10.77	0.31	0.31	21.94	0.06

Table 4.4-5 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NOx	PM ₁₀	PM _{2.5}	CO	SO ₂
2032	13.03	10.81	0.31	0.31	21.97	0.06
2033	12.93	10.72	0.31	0.31	21.75	0.06
2034	12.92	10.71	0.31	0.31	21.70	0.06
2035	12.76	8.64	0.20	0.20	21.51	0.06

Key:

- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM = particulate matter
- ROG = Reactive organic gases
- VOCs = Volatile Organic Compounds

Operational Emissions

Operational emissions were calculated using CalEEMod. Data inputs included building types and space volumes as described in Chapter 2. Assumptions and mitigation measures defined in the Area Plan and used in the development of the Area Plan CAP analysis were included with revised assumptions of the EIS analysis. A summary of the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-6 provides a summary of estimated daily and annual criteria pollutant emissions from operations after full build-out of the Area Plan. Daily emissions were estimated for winter and summer conditions, and the table provides the maximum daily value estimated. Based on CalEEMod estimates, VOC, NO_x, PM₁₀ and PM_{2.5} emissions would exceed the daily and annual thresholds, resulting in significant adverse impacts to air quality. The exceedance of the CO daily threshold indicated that a further evaluation of potential CO hotspots was warranted, and this was completed (see discussion below). SO₂ emissions are minor and would not have an adverse impact to air quality.

Table 4.4-6 Maximum Daily and Annual Criteria Pollutant Emissions from Operations

Pollutant	Daily Emissions (lbs/day)	Daily Significance Threshold (lbs/day)	Annual Emissions (tons/year)	Annual Significance Threshold (tons/year)
VOCs (ROG)	1,553.43	80	261.39	15
NO _x	713.19	80	107.71	15
PM ₁₀	753.42	80	112.12	15
PM _{2.5}	219.00	80	32.64	15
CO (Total)	5,272.12	N/A	657.85	N/A
CO (Transportation)	4,208.28	550	556.63	N/A
SO ₂	11.74	N/A	1.71	N/A

Key:

- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM = particulate matter
- ROG = Reactive organic gases
- VOCs = Volatile Organic Compounds

The City of Concord will adhere to measures included in its Area Plan and citywide CAP to reduce automobile dependence and potential vehicle emissions. These measures include development of the “complete streets concept,” to accommodate mass transit, vehicles, bicycles, and pedestrians, balanced on the physical transportation network; mixed-use development with community services and retail to support residential units; and high-density development near the North Concord/Martinez BART Station. To further reduce PM emissions, wood-burning fireplaces will be prohibited or required to employ best available control technologies. A discussion and report of all mitigations considered in the analysis is included in Appendix C.

The BAAQMD CEQA guidelines indicate that a project’s contribution to cumulative impacts should be considered significant if the project individually causes significant impacts by exceeding the BAAQMD quantitative thresholds. Since the project’s individual air quality impacts would be significant and adverse, the project’s contribution to any cumulative impact could be considered significant. The potential for cumulative impact to air quality is discussed in Chapter 5.

Carbon Monoxide “Hot Spots”

Emissions and ambient concentrations of CO have decreased dramatically in the SFBAAB with the introduction of the catalytic converter in 1975. SFBAAB is currently designated as an attainment area for the CAAQS and NAAQS for CO. However, occurrences of localized CO concentrations, known as “hot spots,” can be associated with heavy traffic congestion, which most frequently occurs at signalized intersections of high-volume roadways. If the project is contributing to CO concentrations exceeding the state ambient air quality standards (9 ppm [8-hour average] and 20 ppm [1-hour average]), it may be considered to have a significant impact.

A CO hot spot modeling analysis was conducted at the 28 intersections considered in the transportation impact study (Kittelson and Associates, Inc. 2014). CO ambient concentrations were estimated at receptors along each intersection using the CALINE4 traffic emission dispersion model. The modeling inputs incorporated traffic data with modeling guidance from the BAAQMD and CalTrans. Based on this analysis, CO concentrations near the 28 intersections would be well below the CAAQS for CO of 9 ppm (8-hour average) and 20 ppm (1-hour average) following full build-out under Alternative 1, and no significant adverse impact would result. The CO hot spot modeling analysis is included in Appendix C.

4.4.1.3 Hazardous Air Pollutants: Protection of Sensitive Receptors

Impacts from HAPs could result from the location of sensitive receptors near the two existing sources of HAPs near or within the project site: SR 4 and the Tesoro Golden Eagle Refinery. According to the CARB’s Air Quality and Land Use Handbook (CARB 2005) and California Air Pollution Control Officers’ Association’s (CAPCOA) “Health Risk Assessments for Proposed Land Use Projects” (CAPCOA 2009), urban roadways carrying over 100,000 vehicles per day, with typical diesel truck traffic of over 10,000 trucks per day, have been shown in numerous studies to cause an increase in respiratory health effects and increased cancer risks to sensitive receptors near the highways (i.e., within 300 to 500 feet).

The project could have significant impacts if sensitive receptors are within 500 feet of highways and refineries. Figure 4.4-1 shows the location of a 500-foot buffer around SR 4 in relation to the development districts under Alternative 1. Portions of the Commercial Flex, TOD Neighborhood, and Conservation Open Space development districts would be located within the buffer on the southern side of the highway, while the First Responder Training Center and the Diablo Golf Course are planned for the northern side. The City of Concord has committed in the MMRP to prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4; therefore, no significant adverse impact from project-related HAP emissions would result.

4.4.1.4 Nuisance Odors

Construction activities under Alternative 1 could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Proper maintenance of equipment would reduce or prevent odors. There would be no significant construction-related impacts from odors.

Odors generated during operations after full implementation would depend primarily on the types of businesses and activities conducted in the new communities. The land uses proposed in the Area Plan under Alternative 1 are not land uses that would typically generate substantial concentrations of odors. As discussed in the FEIR, existing potential sources of odors include SR 4 and the Tesoro Golden Eagle Refinery, which is located within 2 miles to the northwest of the site. The established 500-foot buffer of SR 4 would prevent the location of sensitive receptors near the highway, and the distance from the Tesoro refinery would likely prevent odors from this source. Therefore, it is unlikely that the operation of Alternative 1 would expose receptors to substantial odor concentrations. The operational impact of Alternative 1 related to odor exposure would not be significant.

4.4.1.5 Greenhouse Gases

The State of California has recognized the importance of reducing GHG emissions through state-level legislation and executive action. The GHG-specific executive action and other pertinent state-level legislation are summarized in Section 3.4.

The project may have a significant impact if it conflicts with or obstructs implementation of the applicable air quality plan. There are no applicable significance thresholds for total GHG emissions from an action. BAAQMD 1999 Guidelines do not provide guidance for GHG emissions, and BAAQMD's 2011 updated CEQA guidelines cannot be used as significance thresholds in the updated CEQA guidelines. In the absence of concrete guidance in the local air quality plan, the BAAQMD recommends that lead agencies make determinations regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record for that project.

The Area Plan adopted by the City of Concord includes a GHG-reduction plan. The Area Plan responds both to the requirements of state law and to mitigation measures specified in the FEIR for the Concord Naval Weapons Station Reuse Plan. To document this compliance, the Area Plan CAP established a threshold of significance for the Area Plan in 2030 of 2.8 metric tons CO_{2e} per capita, considering BAAQMD guidance and statewide emission targets for 2020 and 2030 set by EO S-3-05. The Area Plan CAP presented evidence that the Area Plan would provide adequate mitigation measures to reduce per-capita GHG emissions to meet state and local air quality goals. If the project results in an average annual emission rate less than 2.8 metric tons CO_{2e} per capita (based on a service population, which includes residential and working populations), as demonstrated in the Area Plan CAP, then the project's GHG emissions would not interfere with state and local GHG goals and therefore would not result in a significant adverse impact.

Project-related annual operational emissions of GHGs for Alternative 1 were estimated using CalEEMod. Data inputs included building types and space volumes as described in Chapter 2. Assumptions and mitigation measures defined in the Area Plan and used in the development of the CAP analysis were included with revised assumptions of the EIS analysis. Table 4.4-7 provides a summary of all of the estimated annual GHG emissions from operations after full build-out of the Area Plan. Both mitigated and unmitigated analysis summaries are presented, demonstrating that planned mitigation will provide a significant reduction in GHG emissions. Since the estimated annual per-capita GHG emissions resulting from the implementation of the Area Plan with planned mitigations will not exceed the threshold, the

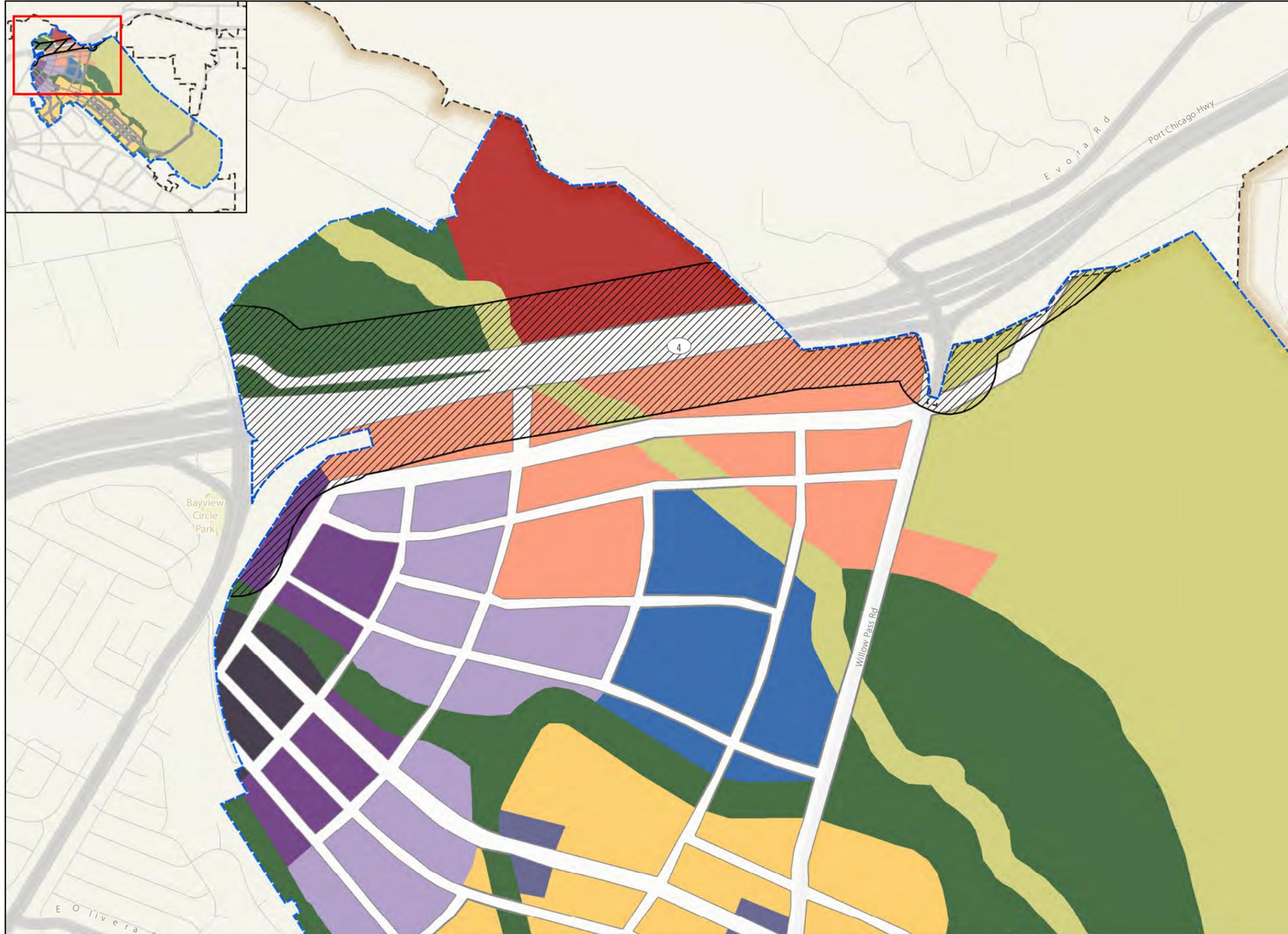


Figure 4.4-1
Alternative 1,
Sensitive Receptor Buffer for
Air Quality Concerns
 Former NWS Concord
 Concord, California

Legend

- Major Highway
- Local Road
- ▨ 500-ft Buffer of SR-4
- ▭ Former NWS Concord
- ▭ City Limits
- ▭ Waterbody
- ▭ Local Park

***Alternative 1 Development Districts**

- ▭ Campus
- ▭ Central Neighborhood
- ▭ Commercial Flex
- ▭ Conservation Open Space
- ▭ First Responder Training Center
- ▭ Greenways and Citywide Parks
- ▭ North Concord TOD Core
- ▭ North Concord TOD Neighborhood
- ▭ Roadways
- ▭ Village Center Village Neighborhood



SCALE



*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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GHG emissions associated with Alternative 1 will not result in significant adverse impacts. A summary of the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-7 Annual GHG Emissions, Alternative 1

Emission Source	Annual Emissions (MTCO _{2e} /year) Mitigated	Annual Emissions (MTCO _{2e} /year) Unmitigated
Area sources	151	151
Energy	22,599	84,785
Mobile	102,024	166,044
Waste	3,301	8,464
Water	6,671	7,906
TOTAL	134,746	267,349
per capita	2.4	4.7
Annual Significance Threshold (MTCO_{2e}/year) (based on a per capita limit of 2.8 MTCO_{2e}/year)	159,547	

MTCO_{2e} = Metric Tons Carbon Dioxide Equivalent

4.4.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than Alternative 1 but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development. Under Alternative 2, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as Alternative 1.) A higher concentration of development would occur at the north end, near SR 4 and the North Concord/Martinez BART Station. All assumptions and mitigations identified in the Area Plan would also be implemented under Alternative 2.

This section describes the analysis conducted and presents the data used to evaluate air quality impacts of Alternative 2 using the methods described in Section 4.4.1. Since the project's air quality impacts are potentially significant under Alternative 2, the project's contribution to any cumulative impact could be considered significant. The potential for the cumulative impact to air quality is discussed in Chapter 5.

4.4.2.1 Planning Thresholds

Population growth for Alternative 2 was evaluated using the same method used for Alternative 1 (See Section 4.4.1.1). Full implementation under Alternative 2 is estimated to support a population of 41,642, based on the number of housing units and the demographic multiplier as discussed in Section 4.3. This increase would result in a 2035 population projection citywide of 173,376. The project would be inconsistent with the applicable clean air plan because it would result in a final population (i.e., 173,376) that would be greater than the value included in the current air quality portion of the applicable General Plan (i.e., 171,000). Table 4.4-8 provides the population projections for Alternative 2 as well as the population projections incorporated in the General Plan.

Table 4.4-8 Population Projections, Alternative 2

Plan/Alternative	Total Population (City of Concord)	Projected Increase (from Area Plan)
2030 General Plan (2012) (as revised to include Area Plan)	171,000	28,800
Alternative 2 (using 2035 population projections)	173,376	41,642

The rate of change in VMTs relative to population under Alternative 2 is determined based on a comparison of the daily VMTs per capita for the 2013 baseline and the daily VMTs per capita estimated after full implementation of Alternative 2. Table 4.4-9 provides a summary of the transportation impact study data and comparison of the daily VMTs per-capita values.

Table 4.4-9 Daily VMTs and Population Projections Based on Transportation Analysis, Alternative 2

Alternative	Service Population (City of Concord)	Daily VMTs	Daily VMTs per Capita
Baseline (2013)	185,300	4,499,149	24
Alternative 2	261,536	6,420,293	25

As shown in Table 4.4-9, daily VMTs per capita under Alternative 2 would be higher than those of Alternative 1 or the baseline, using the daily VMTs per capita from the transportation study. Table 4.4-10 summarizes the calculation of annual VMTs per capita using the baseline from the transportation study, and the VMTs calculated using CalEEMod. With the incorporation of planned transportation mitigations, the annual VMT per capita is lower under Alternative 2 than under Alternative 1 or the baseline. Therefore, the increase in VMTs associated with Alternative 2 would not be inconsistent with the applicable clean air plan and would not indicate a significant adverse impact.

Table 4.4-10 Annual VMTs and Population Projections Based on CalEEMod Modeling, Alternative 2

Alternative	Service Population	Annual VMTs	Annual VMTs per Capita
Baseline (2013)	185,300	1,642,189,385	8,862
Alternative 2	261,536	1,951,956,938	7,463

4.4.2.2 Criteria Air Pollutants

Construction Emissions

While there would be more homes built under Alternative 2, these residences would occupy the same footprint compared to Alternative 1. Given the relatively small differences in the alternatives relative to the overall development footprint, the amount of construction activity for Alternative 2 was calculated as roughly equivalent to the construction activity for Alternative 1. The emission estimates for both alternatives are close to equal because they utilize the same non-road-construction equipment profile estimates and the same mitigation assumptions.

Table 4.4-11 provides a summary of estimated maximum daily criteria pollutant exhaust emissions from construction for years 2016 through 2035. Table 4.4-12 provides a summary of estimated annual criteria pollutant emissions from construction for years 2016 through 2035.

Table 4.4-11 Maximum Daily Criteria Pollutant Exhaust Emissions from Construction, 2016 to 2035

Year	Pollutant					
	VOCs (ROG)	NO _x	PM ₁₀	PM _{2.5}	CO	SO ₂
Significance Threshold:	80	80	80	80	550	N/A
2016	134.44	401.37	21.25	19.75	326.22	0.47
2017	131.21	372.23	19.47	18.09	310.39	0.47
2018	126.07	323.42	16.44	15.28	287.63	0.47
2019	122.95	293.57	14.55	13.52	275.14	0.47
2020	120.44	266.82	12.94	12.02	263.84	0.47
2021	118.00	239.81	11.36	10.55	253.47	0.47
2022	112.93	186.36	8.60	7.98	216.82	0.43
2023	111.53	170.08	7.63	7.09	211.41	0.43
2024	110.47	158.18	6.89	6.39	206.69	0.43
2025	108.94	140.12	5.86	5.44	198.81	0.43
2026	108.85	139.90	5.86	5.44	197.42	0.43
2027	108.77	139.77	5.86	5.44	196.41	0.43
2028	108.70	139.64	5.86	5.44	195.54	0.43
2029	108.62	139.52	5.86	5.44	194.47	0.43
2030	109.28	83.86	2.42	2.41	177.94	0.46
2031	109.23	83.77	2.42	2.41	177.29	0.46
2032	109.17	83.69	2.42	2.41	176.72	0.46
2033	109.10	83.60	2.42	2.41	176.22	0.46
2034	109.05	83.53	2.42	2.41	175.75	0.46
2035	107.45	67.38	1.59	1.58	173.55	0.46

Key:

- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM = particulate matter
- ROG = Reactive organic gases
- VOCs = Volatile Organic Compounds

Table 4.4-12 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NO _x	PM ₁₀	PM _{2.5}	CO	SO ₂
Significance Threshold:	15	15	15	15	N/A	N/A
2016	17.48	52.29	2.77	2.58	41.65	0.06
2017	17.01	48.31	2.53	2.35	39.50	0.06
2018	16.41	42.14	2.15	1.99	36.73	0.06
2019	16.01	38.25	1.90	1.76	35.14	0.06
2020	15.74	34.90	1.70	1.58	33.83	0.06
2021	15.37	31.24	1.48	1.38	32.37	0.06
2022	14.65	24.18	1.12	1.04	27.53	0.05
2023	14.47	22.07	0.99	0.92	26.85	0.05
2024	14.45	20.68	0.90	0.84	26.47	0.05
2025	14.19	18.25	0.76	0.71	25.35	0.05
2026	14.18	18.22	0.76	0.71	25.19	0.05
2027	14.17	18.20	0.76	0.71	25.07	0.05
2028	14.11	18.12	0.76	0.71	24.87	0.05

**Table 4.4-12 Annual Criteria Pollutant Exhaust Emissions from Construction
2016 to 2035**

Year	VOCs (ROG)	NO _x	PM ₁₀	PM _{2.5}	CO	SO ₂
2029	14.15	18.17	0.76	0.71	24.84	0.05
2030	14.24	10.91	0.32	0.31	22.69	0.06
2031	14.23	10.90	0.32	0.31	22.61	0.06
2032	14.28	10.93	0.32	0.32	22.62	0.06
2033	14.16	10.84	0.32	0.31	22.39	0.06
2034	14.16	10.83	0.32	0.31	22.33	0.06
2035	14.00	8.76	0.21	0.21	22.13	0.06

Key:

- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM = particulate matter
- ROG = Reactive organic gases
- VOCs = Volatile Organic Compounds

Based on CalEEMod estimates, VOC and NO_x emissions during construction under Alternative 2 would exceed the thresholds for criteria pollutants in some years, resulting in significant adverse impacts to air quality during construction. However, given the 25-year build-out period, emissions estimates may vary considerably from these estimates for the construction phase. The City of Concord has committed in its MMRP to require that all feasible construction-activity-control measures would be applied at this site prior to approving any construction. Construction emissions are temporary and would occur only during the construction period.

Operational Emissions

Operational emissions under Alternative 2 were calculated using CalEEMod, as described in Section 4.4.1.2. Table 4.4-13 provides a summary of estimated daily maximum and annual criteria pollutant emissions from operations after full build-out of Alternative 2. VOC, NO_x, PM₁₀, and PM_{2.5} emissions would exceed the daily and annual thresholds, resulting in significant adverse impacts to air quality. The exceedance of the CO daily threshold indicated that a further evaluation of potential CO hotspots was warranted, and this was completed (see discussion below).

As described in Section 4.4.1.2, the City of Concord will adhere to measures included in its Area Plan to reduce automobile dependence and potential vehicle emissions. A discussion and detailed report of mitigations considered in the analysis is included in Appendix C.

Table 4.4-13 Daily Maximum and Annual Criteria Pollutant Emissions from Operations

Pollutant	Daily Maximum Emissions (lbs/day)	Daily Significance Threshold (lbs/day)	Annual Emissions (tons/year)	Annual Significance Threshold (tons/year)
VOCs (ROG)	1,656.67	80	280.29	15
NO _x	742.06	80	113.60	15
PM ₁₀	789.26	80	119.41	15
PM _{2.5}	230.35	80	34.82	15
CO (Total)	5,700.04	N/A	713.30	N/A
CO (transportation)	4,333.22	550	584.72	N/A
SO ₂	12.27	N/A	1.81	N/A

Carbon Monoxide “Hot Spots”

As described in Section 4.4.2.1, a CO hot spot modeling analysis was conducted at the 28 intersections considered in the transportation impact study (Kittelson & Associates, Inc. 2014). CO ambient concentrations were estimated at receptors along each intersection using the CALINE4 traffic emission dispersion model. The modeling inputs incorporated traffic data with modeling guidance from the BAAQMD and CalTrans. Based on this analysis, CO concentrations near the 28 intersections would be well below the state CO ambient air quality standards of 9 ppm (8-hour average) and 20 ppm (1-hour average) following full build-out under Alternative 2, and no significant adverse impacts from CO emissions would result. The CO hot spot modeling analysis is included in Appendix C.

4.4.2.3 Hazardous Air Pollutants: Protection of Sensitive Receptors

Impacts from HAPs under Alternative 2 could result from the location of sensitive receptors near the two existing sources of HAPs near or within the project site: SR 4 and the Tesoro Golden Eagle Refinery. A 500-foot buffer from highways and refineries protects sensitive receptors. Figure 4.4-2 shows the location of the 500-foot buffer around SR 4 in relation to the development districts under Alternative 2.

Portions of the Commercial Flex, TOD Neighborhood, and Conservation Open Space development districts would be located within the buffer on the southern side of the highway, while the Campus Center and Mt. Diablo Golf Course are planned for the northern side. The City of Concord has committed in the MMRP to prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4; therefore, no significant adverse impact from project-related HAP emissions would result.

4.4.2.4 Nuisance Odors

Construction activities under Alternative 2 could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Proper maintenance of equipment would reduce or prevent odors. There would be no significant construction-related impacts from odors.

Odors generated during operations after full implementation would depend primarily on the types of businesses and activities conducted in the new communities. The land uses proposed in the Area Plan under Alternative 2 are not land uses that would typically generate substantial concentrations of odors. As discussed in the FEIR, existing potential sources of odors include SR 4 and the Tesoro Golden Eagle Refinery, which is located within 2 miles to the northwest of the site. The established 500-foot buffer of SR 4 would prevent the location of sensitive receptors near the highway, and the distance from the Tesoro refinery would likely prevent odors from this source. Therefore, it is unlikely that the operation of Alternative 2 would expose receptors to substantial odor concentrations. The operational impact of Alternative 2 related to odor exposure would not result in a significant adverse impact.

4.4.2.5 Greenhouse Gases

Project-related annual operational emissions of GHGs for Alternative 2 were estimated using the same method described in Section 4.4.1.5. Table 4.4-14 provides a summary of all of the estimated annual GHG emissions from operations after full build-out under Alternative 2. Both mitigated and unmitigated analysis summaries are presented, demonstrating that planned mitigation would provide a significant reduction in GHG emissions. While total annual GHG emissions will be higher under Alternative 2 compared to Alternative 1, the estimated annual per-capita GHG emissions resulting from the full implementation under Alternative 2 would not exceed the threshold established in the Area Plan CAP. Therefore, emissions of GHGs under Alternative 2 would not result in significant adverse impacts. A summary of the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-14 Annual GHG Emissions, Alternative 2

Emission Source	Annual Emissions (MTCO _{2e} /year) Mitigated	Annual Emissions (MTCO _{2e} /year) Unmitigated
Area sources	197	197
Energy	25,310	87,563
Mobile	108,415	175,596
Waste	3,544	9,088
Water	7,218	8,529
Total	144,684	280,973
per capita	2.5	4.9
Annual Significance Threshold (MTCO_{2e}/year) (based on a per capita limit of 2.8 MTCO_{2e}/year)	159,547	

Key:

MTCO_{2e} = Metric tons carbon dioxide equivalent

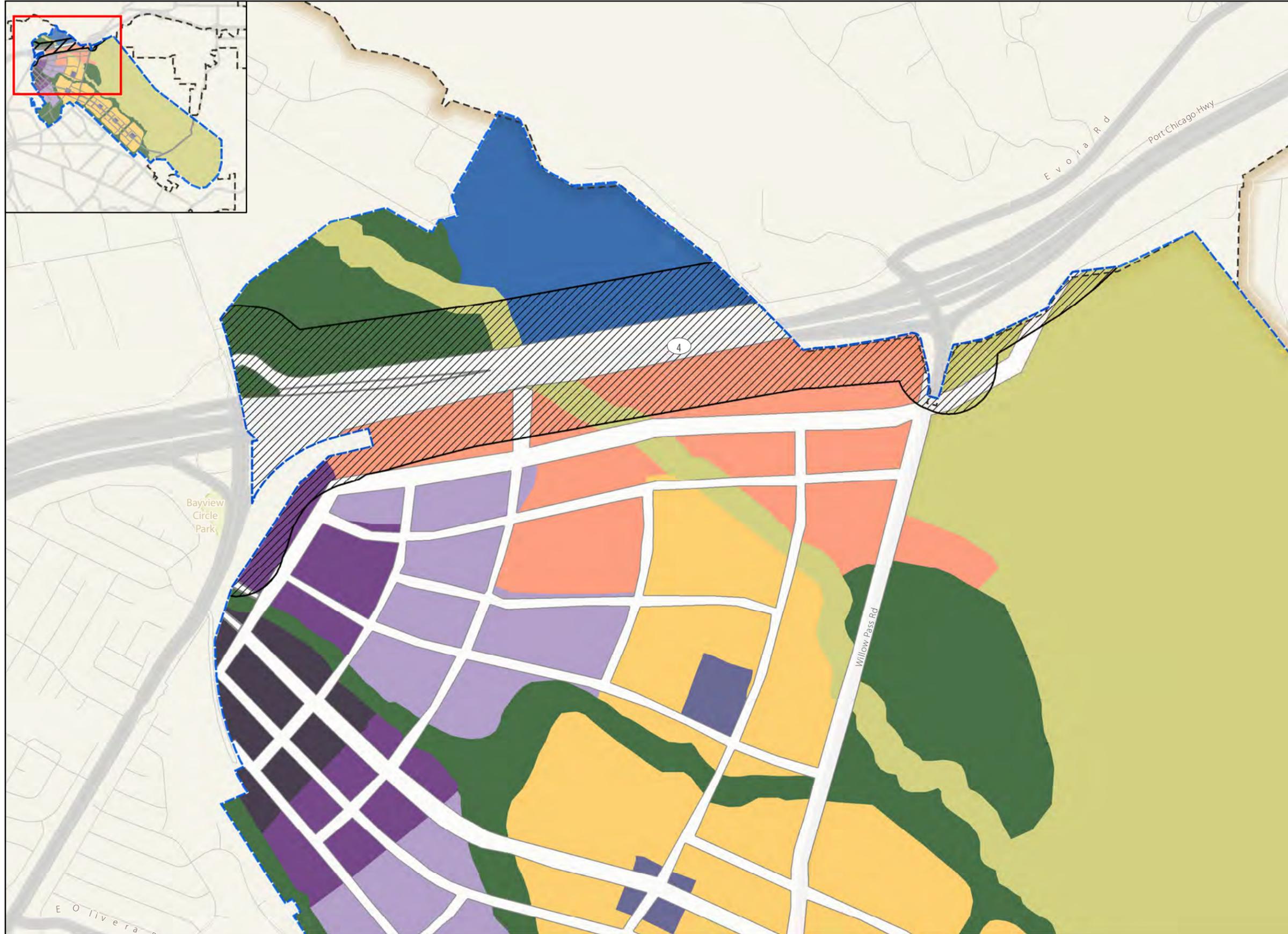
4.4.3 No Action Alternative

The No Action Alternative is the retention of surplus property at the former NWS Concord by the U.S. government in caretaker status. Under the No Action Alternative, no reuse or redevelopment would occur at the surplus property, resulting in no significant adverse impacts to air quality. While no new emissions would be generated as a result of the action, the improvements and mitigations planned for the City of Concord would not be implemented, and, given the growth of population anticipated in the region, criteria pollutants and GHG emissions would continue to increase.

4.5 Biological Resources

This section summarizes the potential impacts on biological resources from the implementation of Alternative 1, Alternative 2, and the No Action Alternative. The impact analysis considered future conditions of the vegetative communities and habitats, fish and wildlife populations, and threatened and endangered species from the disposal and future reuse of the former NWS Concord. Impacts to vegetation communities and habitats were estimated based on the Navy's GIS database developed for the installation.

Following disposal of the property by the Navy and prior to any reuse associated with Alternative 1 or Alternative 2, any future developer of the installation would be required to comply with local, state, and federal laws and regulations pertaining to biological resources. Specifically, the City of Concord applied for a base-wide master CWA Section 404 permit from the USACE and submitted a BA. Accordingly, the USACE initiated consultation with the USFWS pursuant to Section 7 of the ESA on June 12, 2013, to support permit issuance, and the Navy joined this consultation on October 2, 2013. It is anticipated that the Section 7 consultation will conclude with issuance of a Biological Opinion (BO) and Incidental Take Statement (ITS) providing guidelines for minimizing impacts on federally listed species during implementation of the Area Plan (City of Concord November 16, 2012; Hicks 2011; Navy June 2013).



**Figure 4.4-2
Alternative 2,
Sensitive Receptor Buffer for
Air Quality Concerns**
Former NWS Concord
Concord, California

Legend

- Major Highway
- Local Road
- ▨ 500-ft Buffer of SR-4
- ▭ Former NWS Concord
- ▭ City Limits
- ▭ Waterbody
- ▭ Local Park

***Alternative 2 Development Districts**

- ▭ Campus
- ▭ Central Neighborhood
- ▭ Commercial Flex
- ▭ Conservation Open Space
- ▭ Greenways and Citywide Parks
- ▭ North Concord TOD Core
- ▭ North Concord TOD Neighborhood
- ▭ Roadways
- ▭ Village Center
- ▭ Village Neighborhood



SCALE



*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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4.5.1 Alternative 1

Alternative 1 would maintain approximately 54 percent of the property as conservation and open space, and the remaining 46 percent would be redeveloped as a mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, research and development/educational land uses, and greenways, citywide parks, and recreational areas within 10 “development districts.” Figure 4.5-1 shows the Alternative 1 development districts in relation to the vegetation communities onsite. The conservation area and open space would include a 2,537-acre regional park along the east side of the property, including the ridgeline of the Los Medanos Hills area, and the Mt. Diablo Creek corridor. It is anticipated that the EBRPD would manage the open space area as a regional park in accordance with the natural resource management policies defined in the EBRPD Master Plan (EBRPD 2013a).

Reuse of the former NWS Concord would disturb up to 2,540 acres of land, based on the assumption that 5 percent of the Conservation Open Space development district would be disturbed during construction, and all land within the other development districts would be disturbed during construction. Construction activities would result in disturbance of soils, erosion, and other impacts.

4.5.1.1 Vegetation Communities and Habitats

Implementation of Alternative 1 would necessitate permanent removal of the existing vegetation communities and associated habitats within portions of the installation to accommodate the reuse per the Area Plan and supporting infrastructure. The implementation of Alternative 1 would result in the development of approximately 2,540 acres, most of which is currently California annual grassland, resulting in 1,720 acres of impacted grasslands (Table 4.5-1); California annual grassland encompasses 82 percent of the entire former NWS. Table 4.5-1 identifies the vegetation communities and types of habitat that would be impacted by implementation of Alternative 1. These habitat impact acreages are areas where the development footprint overlaps these habitat types.

Table 4.5-1 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 1)

Vegetation Communities/Habitats	Acreage of Impact
California Annual Grassland	1,720
Coyote Brush Scrub/Coastal Sage Scrub	5
Oak Woodland/Savannah	9
Riparian Woodland	5
Wetlands and Non-Wetland Waters	22
• Freshwater Marsh	1
• Seasonal Wetlands	13
• Creeks, Drainages, Canals, and Ponds	8
Orchards and Plantations	113
Recreation	89
Ruderal/Urban	5
Total	2,315

Approximately 2,723 acres (based on the Navy’s GIS data) of land at the former NWS Concord would be maintained as conservation/open space. Temporary indirect impacts on the area that would be maintained as conservation/open space from temporary disturbance could occur during construction because this area is located next to areas that would be disturbed during construction. However, any temporarily disturbed areas designated as open space will be restored to their prior condition.

California Annual Grassland

Under Alternative 1, approximately 1,720 acres of California annual grassland would be removed during development (see Table 4.5-1). Development would affect grasslands in all development districts; the two largest areas of grasslands removal would take place in the Village Neighborhoods District (487 acres) and the Greenways, Citywide Parks, and Tournament Facilities District (448 acres). Implementation of Alternative 1 would affect terrestrial wildlife and could lead to habitat fragmentation in western Contra Costa County. Common wildlife that could be displaced include species such as the California ground squirrel and western fence lizard, California vole (*Microtus californicus*), and western harvest mouse (*Reithrodontomys megalotis*); additional discussion is provided in Section 4.5.1.2.

Implementation of Alternative 1 could also result in a potentially permanent, adverse impact to remaining grasslands in the conservation area and open space through the introduction of invasive and non-native species within the action area. The grasslands and riparian woodlands of the site already support many invasive species, and the Navy has implemented an invasive-species-control and weed management project for many years. Some of these species, which are listed on the California Invasive Plant Council watch list, could spread throughout the former NWS Concord during development. These invasive species could spread into other habitats, including wetlands and riparian woodlands and impair their functions and value as habitat by displacing or outcompeting native plant species. New or existing invasive or non-native plant species could be introduced to the site through construction disturbance, or existing populations of invasive species could spread to previously uncolonized areas.

Approximately 2,405 acres of grassland habitat would remain onsite on the eastern and southern portions of the former NWS Concord. The City of Concord's General Plan (Policy POS-2.2.6) calls for the control of invasive plants within natural resource areas and general open space (City of Concord 2012). As such, future development would be required to include measures to prevent the spread of invasive plant species. Therefore, the loss of 1,720 acres of grassland and the potential for spread of invasive plant species would be addressed during future development and would not be considered a significant impact at the former NWS Concord.

Coyote Brush Scrub/Coastal Sage Scrub

Under Alternative 1, the majority (95 percent, or 4.6 acres) of the coyote brush scrub/coastal sage scrub habitat onsite would be removed; 0.2 acre would remain onsite. Most of this vegetation type (approximately 4 acres) would be removed from within the Village Neighborhood district, and approximately 0.6 acre would be removed from within the Greenways, Citywide Parks, and Tournament Facilities district. As this vegetation community is very limited on the site, it does not provide a large amount of suitable habitat for unique species, instead providing some structural habitat for species utilizing the extensive grasslands. Consequently, the loss of approximately 5 acres of this habitat would not be considered a significant impact at the former NWS Concord.

Oak Woodland/Savannah

The development of Alternative 1 would result in the permanent loss of approximately 9 acres of oak woodland/savannah (see Table 4.5-1). The majority of this loss would result from the development of the Village Neighborhood and the Greenways, Citywide Parks, and Tournament Facilities districts (which would cover 4 acres and 3 acres, respectively). This development accounts for the removal of approximately 8 percent of this vegetation community from the former NWS Concord. The remaining 92 percent (99 acres) would largely be retained in drainages downslope of the Los Medanos Hills, as well as portions of the conservation areas and open space in the southern portion of the installation (see Figure 3.5-1). The oak woodland/savannahs represent unique habitat among the extensive grasslands onsite, providing habitat for tree-cavity nesters as well as arboreal species.

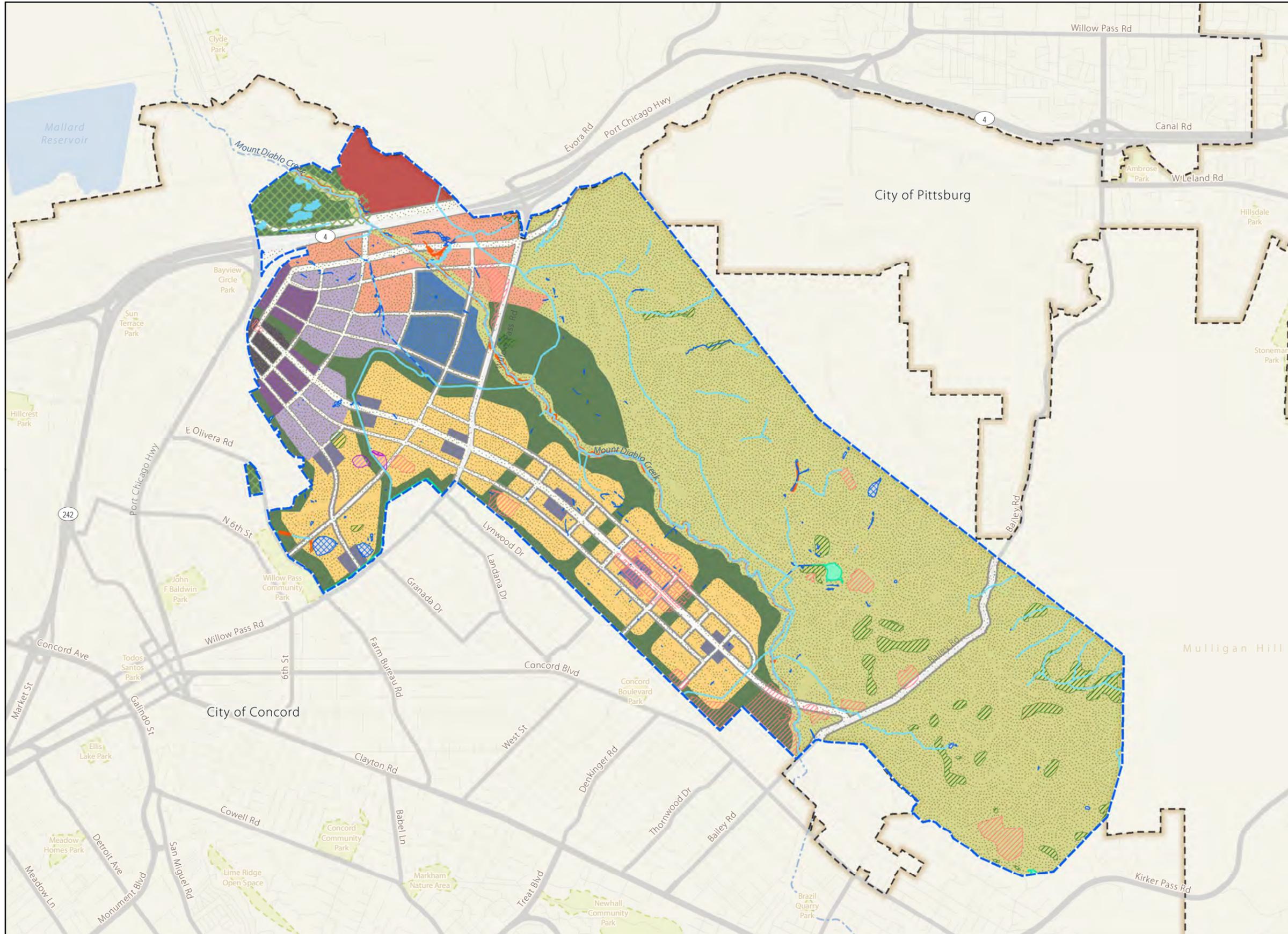


Figure 4.5-1
Alternative 1 Redevelopment
and Potential Vegetation Impacts
 Former NWS Concord
 Concord, California

Legend

- Former NWS Concord
- City Limits

Vegetation Communities

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- California Annual Grassland
- Freshwater Marsh
- Coyote Brush / Coastal Sage Scrub
- Golf Course / Recreation
- Oak Woodland / Savannah
- Orchards and Plantations
- Riparian Woodland

***Alternative 1 Development Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Roadways
- Village Center
- Village Neighborhood



0 0.5 1 Miles

SOURCE: City of Concord, 2010; H. T. Harvey & Associates, 2009.

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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In addition to providing unique habitat for wildlife, some of the mature trees in the oak woodland/savannah habitat type may meet the criteria for the City of Concord Heritage Tree Ordinance. This ordinance states that the preservation of trees is necessary for the health and welfare of the citizens of the city to preserve scenic beauty, prevent erosion of topsoil, protect against flood hazards, counteract air pollutants, and maintain the climatic and ecological balance of the area. Some of these trees could be removed, trimmed, or otherwise affected by construction-related activities (such as trenching within or adjacent to the ground immediately beneath the crown of the tree canopy) under Alternative 1. However, future development would be required to comply with policies of the City of Concord's General Plan (City of Concord 2012), including Policy POS-3.4.3 (which states, "Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation"). In addition, future development would be required to carry out the Area Plan mitigation measures, which include measures addressing compliance with the city's Heritage Tree Ordinance and the preparation of oak protection plans and tree replacement and planting plans, and require the appropriate compensatory mitigation of trees that would be removed from within this habitat..

Given that the majority of this vegetation community will remain onsite within the conservation areas and that future development would be required to comply with the General Plan (including the Area Plan), the loss of 9 acres of this habitat type at the former NWS Concord is not considered significant.

Riparian Woodlands

Under Alternative 1, approximately 5 acres of riparian woodland (15 percent of the available habitats on the former NWS Concord) would be removed (see Table 4.5-1). The proposed development would affect riparian woodlands in the Commercial Flex, Village Neighborhood, and Greenways, Citywide Parks, and Tournament Facilities development districts. The majority of the removal would be associated with the development of roadways and with the creation of the Commercial Flex district, which would remove the majority of the riparian woodlands along Willow Pass Creek. Development would take place on both sides of Mt. Diablo Creek in some areas, thereby creating the need for stream crossings to allow pedestrian, vehicle, or utility crossings of the creek. Under Alternative 1, seven bridge crossings of Mt. Diablo Creek as well as several Class I trail crossings would be installed, resulting in the loss of riparian woodlands within the footprints of these bridges and crossings. This analysis assumes that future development would include the placement of materials (e.g., pilings, culverts, or other support structures) within riparian habitats associated with the creek. As discussed previously, it is also possible that portions of Mt. Diablo Creek may need to be reconfigured for flood-control or restoration purposes.

Riparian woodlands are typically biologically diverse habitats because the year-round presence of water enables vegetation and aquatic biota to thrive, thus supporting a greater variety of flora and fauna. These areas are regulated by the state under California Fish and Game Code (Sections 1600-1603) for any alteration to the bed, channel, or banks of streams that support fish and wildlife resources. For the permanent loss of portions of Willow Pass Creek and the adjoining riparian woodlands, impacts would be mitigated through the CWA Section 401/404 permitting process; additional discussion is provided in Section 4.14 (Water Resources). The riparian woodlands on the site have been degraded by grazing, stream incision, bank erosion, and other factors, but these habitats continue to support many wildlife species and provide unique habitats. Alternative 1 includes streambank restoration measures, as well as the establishment of a 300-foot riparian buffer, which could lead to an increase in the size of existing riparian woodland communities and the overall improvement of their function onsite.

Given that the majority of this vegetation community will remain onsite, impacts to this community would be mitigated, and the conservation areas could include an expansion of this habitat type under the implementation of Alternative 1, the loss of 5 acres of this habitat type at the former NWS Concord is not considered significant.

Wetlands and Non-wetlands Waters

Alternative 1 would result in the permanent loss of approximately 22 acres of jurisdictional and non-jurisdictional wetlands and waterbodies (Table 4.5-1). These wetlands within the former NWS Concord have been categorized into freshwater marsh, seeps and springs, and seasonal wetlands, whereas non-wetland waters include creeks, drainages, canals, and ponds. According to technical reports prepared for the 2010 FEIR (City of Concord 2010), the majority of the wetlands that would be affected by Alternative 1 are located in historically and currently grazed rangeland. Such moderate levels of livestock grazing have limited the functions and values of wetlands on the former NWS Concord site below their full potential to some extent. However, the wetlands within the former NWS Concord serve as foraging habitat for some waterbirds, watering areas for mammals, and moist refugia and foraging areas for amphibians. Wetlands that pool water for a sufficient period also provide breeding habitat for amphibians.

All of the development districts except for the North Concord TOD Core and TOD Neighborhoods will result in some loss of freshwater marsh, seasonal wetlands, or creeks, drainages, canals, and ponds. Loss of wetlands could occur through the permanent or temporary placement of fill, construction of stream or wetlands crossings, alterations of drainage, and other construction activities. Possible future restoration or construction near or within Mt. Diablo Creek for flood-control purposes could also result in the loss of aquatic habitat or channel habitat within the bed and banks of the creek.

During the future development, wetland impacts will be minimized to the maximum extent practicable through the final design and permitting process. As part of this process, future developers will be required to avoid, minimize, and/or mitigate any permanent impacts to wetland or waters of the U.S. in accordance with existing policies and procedures of the City of Concord, CDFG (California Fish and Game Code Section 1602 - Lake or Streambed Alteration Agreements), and the USACE's and RWQCB's requirements under Section 401 and 404 of the CWA. In particular, any specific requirements for development would be determined in coordination with the USACE as part of the City of Concord's Master 404 Permit for the Concord Area Plan. A more detailed discussion of impacts to wetlands and surface waters is provided in Section 4.14, Water Resources. Potential impacts to wetlands and non-wetland waters would not be significant because future project proponents would be required to avoid, minimize, and/or compensate for all impacts to wetlands and non-wetland waters at the former NWS Concord.

Ruderal/Urban

Under Alternative 1, the majority of the ruderal habitat type, 353 acres (76 percent), would be permanently removed. Ruderal habitat would be removed from within all the development districts, with the majority being removed within the Village Neighborhood and First Responder Training Center development districts. Approximately 467 acres (9 percent of the site) are developed with urban and industrial areas, including roadways, parking lots, runways, railroad yards, and asphalt aprons surrounding buildings. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. Ruderal vegetation also exists on the roofs of bunkers, which are covered with soil and provide some grassland habitat. As much of the ruderal habitat is within existing developed areas and the associated maintained landscaped vegetation communities on the former NWS Concord, the loss of 353 acres of ruderal habitat would not be significant.

Orchards and Plantations

Under Alternative 1, approximately 113 acres of orchards and plantations would be removed (Table 4.5-1). The majority of this habitat removal would take place within the Greenways, Citywide Parks, and Tournament Facilities and Village Neighborhoods development districts. Although these vegetation communities are not native, they provide suitable habitat for a range of wildlife, including common reptiles and mammals, as well as a number of bird species, including large raptors and a variety of passerines, including the white-tailed kite. Approximately 43 acres (27 percent) of this habitat type would

remain onsite. Therefore, the loss of 113 acres of orchards and plantations at the former NWS Concord would not be considered a significant impact.

4.5.1.2 Fish and Wildlife

Implementation of Alternative 1 would cause both short- and long-term impacts on resident fish and wildlife populations. Long-term impacts could include species mortality and would include permanent habitat loss, as well as habitat fragmentation of a number of vegetation communities and habitat types as described in Section 4.5.1.1. Short-term effects could include those impacts associated with temporary disturbance during construction. Mortality of less-mobile species such as small mammals and/or reptiles and amphibians would be possible during construction; however, overall impacts on species diversity and abundance on the former NWS Concord from construction activities would be minor because the conservation/open space area that would encompass approximately 2,715 acres would provide habitat for wildlife. Consequently, no significant impacts on fish or wildlife populations would occur.

Implementation of Alternative 1 would result in the permanent removal of extensive areas of relatively common and widespread habitats (e.g., California annual grassland) and the development of urban and suburban uses. This removal of habitat would result in changes in the abundance of wildlife species that currently use these habitats within the former NWS Concord. Table 4.5-2, above, lists the acreage of displacement for existing habitats that could potentially be impacted under Alternative 1. Although the total acreage of these impacts is large, the habitats themselves are common and widespread in the region.

Under Alternative 1 and within the Conservation/Open Space district, extensive grasslands, oak woodland/savannah, and other more sensitive habitats would be preserved in open space areas. The overall loss of these habitats in other development districts on the former NWS Concord would have only a small effect on the regional availability of these vegetation types. As a result, for most wildlife species associated with these common habitats, the loss of these habitats would not result in significant impacts.

Wildlife that use these habitats within the development footprint on the former NWS Concord would be forced to migrate to other areas with suitable habitat. Small mammals and reptiles would be most affected, and some individuals of these species may be impacted if unoccupied habitat of equal quality is not available in the immediate vicinity. In addition to habitat loss, wildlife species may be temporarily displaced in peripheral areas during construction, when noise and human activity levels increase. Species that would be most affected include those with relatively small home ranges. During construction, short-term impacts may include displacement of mobile species such as the striped skunk or the coyote (*Canis latrans*). Currently, wildlife movements are limited by tall fencing topped by barbed wire surrounding the site, which presents an impediment to movement of larger animals onto the site. Such fencing is present around the perimeter of the site, including the areas where the site borders Bailey Road, Willow Pass Road, and SR 4. The fencing is also found in several areas within the interior of the former NWS Concord. Large animals can pass through these fences only where there are gaps under or within the fences, at gates, or in the grating where the perimeter fence crosses Mt. Diablo Creek at Bailey Road. In general, the fencing presents a constraint for large wildlife movement through the site. Under Alternative 1, fencing would be removed from the former NWS Concord, thus alleviating these constraints to wildlife movement into the future conservation area.

Upon completion of construction, recolonization by species of small mammals, reptiles, and birds adapted to urban conditions would be expected within many parts of the developed footprint. While permanent removal of habitat would directly affect wildlife communities not adapted to urban conditions, these species would continue to populate undeveloped portions of the site in the conservation/open space area. In addition, large tracts of undeveloped land to the east and south of the former NWS Concord would provide additional refugia for displaced wildlife. Overall impacts on species diversity and abundance on

the former NWS Concord from construction activities would be minor because the majority of these species would avoid areas of construction where equipment and human activities create disturbance.

Implementation of Alternative 1 could result in temporary and permanent, significant adverse impacts to nesting birds from development-related construction disturbance and direct removal of nests during the breeding season and through loss or mortality of young. The loss of habitat on the former NWS Concord under Alternative 1 would also result in the loss of nesting areas for breeding birds and stopover areas for migrating bird species. However, the preservation of the conservation/open space area and the restoration of riparian areas and creation of a 300-foot buffer along Mt. Diablo Creek would lead to some improvements in overall nesting habitat and long-term opportunities for the management and preservation of migratory bird habitat. In addition, measures adopted in the city's Area Plan would address impacts to nesting birds during construction.

Alternative 1 could also result in the introduction of non-native wildlife species as a result of development. In particular, humans may intentionally introduce (e.g., as a result of release of pets that are no longer wanted or for other reasons) species such as bullfrogs, crayfish, or non-native fish to aquatic habitats on the former NWS Concord. These species prey upon the larvae of sensitive species such as the California red-legged frog and the California tiger salamander, and adult bullfrogs may outcompete and displace adults of these species. Invasive or non-native species could be introduced to the site through construction, development, deliberate introduction, or human use, or existing populations of invasive species could spread to previously uncolonized areas. The presence of these species within the site could significantly affect native special-status species and sensitive vegetation communities. Although habitats within the former NWS Concord already contain invasive species, additional invasive species could be introduced to the area through construction, development, and human use.

The implementation of Alternative 1 would result in an overall loss of stream and wetland habitats on the site, including the filling in of 2,013 feet of Willow Pass Creek, which would be filled in to facilitate the development of the Commercial Flex district. This loss of aquatic habitat would permanently displace any aquatic biota from the creek, although, in general, limited fisheries habitat is available in the creek, except during high flows when species may migrate from Mt. Diablo Creek into Willow Pass Creek. No sensitive species have been reported to have been observed in this creek, and both creeks contain minimal water during the summer. Upstream movement of fish is currently blocked by an EBMUD utility-related berm in Mt. Diablo Creek, except during high-flow events. Upstream-migrating fish may be able to bypass the berm only during very high flows. As specified in the 2010 FEIR, fish movement through the segment of Mt. Diablo Creek within the former NWS Concord is also constrained by 11 culverts. Long-term benefits to fisheries resources will occur as a result of the restoration of Mt. Diablo Creek and the creation of a 300-foot riparian buffer, which should stabilize stream banks, thereby reducing erosion and sedimentation. In addition, the development of a functional riparian zone should also increase the shading of the stream channel, reducing stream temperatures and improving water quality through the reduction of point- and non-point-source pollutant loading into the stream channel. With the long-term improvements to aquatic habitat of Mt. Diablo Creek and the preservation of waterbodies within the conservation/open space area, expected loss of aquatic habitat and displacement or mortality of existing aquatic biota at the former NWS Concord is not expected to be significant.

In summary, Alternative 1 would result in adverse impacts to existing fish and wildlife resources and their habitats. With the implementation of minimization and mitigation measures in the Area Plan, and through its planning and development review process, the city will ensure that future development plans address adverse impacts to fish and wildlife species such that impacts would be avoided, minimized, or adequately mitigated. Specifically for nesting birds, compliance with the MBTA and California Fish and Game Code Section 3513 will ensure that any adverse impacts are minimized. In addition, any state sensitive species, such as those listed as threatened or endangered or fully protected, would be protected

under existing CDFG codes. Consequently, impacts on the fish and wildlife resources at the former NWS Concord would not be significant.

4.5.1.3 Special Status Species

The disposal of the former NWS Concord would have no effect on federally listed species, and it would not result in the destruction or adverse modification of designated critical habitat.

However, the subsequent reuse of the property through implementation of Alternative 1 would be an interrelated action that “may affect and is likely to adversely affect” some listed species. Therefore, the Navy has joined in consultation with USACE under Section 7 of the ESA (Navy June 2013), The USACE also informally consulted with the NMFS regarding issuance of the CWA base-wide master Section 404 permit, and the NMFS concurred that the proposed action would have no effect on the Central California Coast steelhead and its designated critical habitat because the steelhead is not located in Mt. Diablo Creek, and Mt. Diablo Creek is not designated as critical habitat (Stern 2014).

In a letter to USFWS dated June 21, 2013 (Navy June 2013), the Navy identified the following three species as occurring or potentially occurring on the site:

- California red-legged frog
- California tiger salamander
- Alameda whipsnake

The California red-legged frog and the California tiger salamander have documented breeding populations on the former NWS Concord and are present there throughout the year. The Alameda whipsnake has not been documented on the site during historic surveys (Ecology & Environment and Swaim Biological 2009), but suitable habitat does exist for the species in the southeast part of the site. No proposed or designated critical habitat for any of these species is present on the site; thus, the proposed action would not result in an adverse modification of any critical habitat. The following impact assessment describes impacts on these, as well as other, special status species.

California Red-Legged Frog (Federally Threatened)

Implementation of Alternative 1 could result in potential direct and indirect effects to the federally listed California red-legged frog and its habitat. These adverse impacts would include permanent loss of non-breeding aquatic and dispersal habitat, direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets during operation of the proposed reuse on the site. However, all of the documented breeding habitat on the site and the majority of the documented upland and dispersal habitats (e.g., Mt. Diablo Creek) would not be disturbed during construction. In addition, following construction, the Mt. Diablo Creek corridor would include the designation and preservation of a 300-foot wide riparian corridor. This restoration and preservation of an expanded riparian zone along Mt. Diablo Creek would improve the overall dispersal and non-breeding habitat on the site. The permanent loss of habitat and the potential for take or harassment are significant impacts that are discussed in greater detail below.

USFWS (2006) has determined that the following four habitat types are most critical to the survival and conservation of California red-legged frog: aquatic breeding habitat, non-breeding aquatic habitat, upland habitat, and dispersal habitat. No impacts to California red-legged frog aquatic breeding habitat are expected because all of the documented breeding locations are located in the conservation/open space area and will not be disturbed during the implementation of Alternative 1. California red-legged frog tadpoles were introduced into Cistern Pond within the site in 1982 by CDFW (then CDFG) and have

expanded their breeding range since then to include Cistern Pond, upper Cistern Pond, 5AT-1 freshwater marsh, Rattlesnake Canyon, 5AT-2 pond and freshwater marsh, and the Indian Springs ponds. At least 17 egg masses were observed during surveys in 2009, which indicates a high population density of the California red-legged frog at Cistern Pond (City of Concord 2013c). Two other locations within the reuse area that include low quality, questionable breeding habitat include the ponds within the Diablo Creek Golf Course and the freshwater marsh and seasonal pools near the old airfield. Both of these locations are not expected to provide suitable breeding habitat, as the golf course ponds contain many predators (e.g. bullfrogs) and the former airfield contains crayfish, which are known predators on California red-legged frog and have contributed to the decline of this species (USFWS 2002). Due to the absence of suitable breeding pools, Mt. Diablo Creek also does not provide suitable breeding habitat (City of Concord 2013c). Therefore, no direct impacts to suitable breeding habitat are expected as a result of the implementation of Alternative 1.

Direct impacts to non-breeding aquatic habitat, upland, and dispersal habitats would occur under Alternative 1. The City of Concord's Draft BA (City of Concord 2013c) estimated that the total impact to potential California red-legged frog habitat under this alternative would include the entire development footprint, or 2,315 acres, based upon the Navy's GIS database. This estimate was based upon the California red-legged frog's ability to widely disperse from suitable breeding habitat. The non-breeding aquatic habitats and adjacent upland/dispersal habitats within the development footprint include the golf course ponds and the seasonal wetlands near the former airfield that could provide suitable perennial aquatic habitat during the non-breeding season. Some of these areas would be removed as a result of the development of the Central Neighborhoods, Campus, Greenways and Citywide Parks, and Village Neighborhood development districts. In addition, temporary impacts to the riparian woodlands along the Mt. Diablo Creek corridor during the construction of stream restoration or flood-control activities or the construction of trails, picnic areas, or parking areas in the conservation/open space area could also result in direct impacts to this species; these impacts would be temporary because future uses would preserve these areas in an undeveloped condition, ensuring that dispersal habitat between Mt. Diablo Creek and the breeding locations to the east would remain undeveloped and retained as open space.

Direct mortality could occur to individuals during construction activities within the proposed development area. Grading activities could directly crush individuals or trap and suffocate individuals during construction in the upland or wetlands areas within the proposed development districts. The primary areas for impacts are associated within the proposed 300-foot-wide riparian corridor along Mt. Diablo Creek. Construction activities within this area could include grading of riparian areas for streambank restoration activities or future flood control measures. In addition, the creation of recreational trails, picnic areas, and parking areas within the conservation/open space area could directly affect individuals. In addition, the potential for spills of contaminants associated with construction equipment could result in harm to individuals. However, through the city's master permitting process that has been initiated, the conservation measures that will be included in the BO and ITS developed by the USFWS in conjunction with the USACE and City of Concord will ensure that these impacts are minimized through the implementation of BMPs prior to, during, and following construction activities.

Alternative 1 would involve the removal of up to 2,315 acres of suitable California red-legged frog habitat and could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct effects through harassment or mortality could also result from increased human activity in California red-legged frog habitats during operation of the development districts under Alternative 1. For example, the construction of new roadways and trails would increase traffic and recreational use. USFWS considers heavily traveled roads without bridges or culverts to be a barrier to dispersal for the California red-legged frog (USFWS 2006). These actions could increase California red-legged frog mortality due to vehicles, alteration of hydrology and water quality, potential introduction of predatory non-native species, increased nighttime lighting, and increased harassment by

humans and domestic animals. Indirect impacts could occur as a result of the introductions of predatory non-native fish, amphibians, and/or crustaceans in occupied California red-legged frog habitat or the potential degradation of water quality resulting from unregulated discharge of contaminants or sediment from development and alteration of hydrology in aquatic habitats. Any of these effects could be considered significant.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. Furthermore, conservation measures included in the BO and associated ITS for the City of Concord's Master 404 Permit for the Concord Area Plan will address impacts and include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 5), impacts to California red-legged frog habitats will be mitigated to avoid long-term impacts.

In summary, the concepts described above would ensure that impacts to the California red-legged frog and its habitats would be avoided and minimized during the implementation of Alternative 1. Any long-term impacts would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as the responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened California red-legged frog would not be significant at the former NWS Concord.

California Tiger Salamander (Federally Threatened)

Implementation of Alternative 1 could result in potential direct and indirect effects to the federally listed California tiger salamander and its habitat. These adverse impacts would include permanent loss of breeding, dispersal, and upland habitats; direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets after construction is completed. However, the majority of the documented breeding habitat on the site and the majority of the documented upland and dispersal habitats (e.g. conservation/open space area) would not be disturbed during construction. The permanent loss of habitat and the potential for take or harassment are significant impacts that are discussed in greater detail below.

The implementation of Alternative 1 would result in the removal of historic breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. California tiger salamanders predominately breed in the southeastern portion of the site in a number of seasonal pools or small ponds. The documented breeding locations include: the Cistern Ponds, Rock Quarry Pond, 5AT-1 ponds and adjoining wetlands, 5AT-2 pond, Rattlesnake Canyon pond, lower Indian Springs ponds, north and south Hilltop ponds, and some additional seasonal pools in the conservation/open space area. However, there is also a historic record of larval California tiger salamanders in a seasonal pool in a ditch in the Bunker City area (City of Concord 2013c), within what would be the Village Center development district. This area was surveyed in the late 2000s as well as more recently in 2011 by H.T. Harvey and Associates, and no documented breeding was found. In fact, this area did not support suitable hydrology during 2011, a year with above-average rainfall during the breeding season.

The City of Concord's Draft BA summarized a total of 957 acres of direct California tiger salamander habitat impacts that would result from implementation of the Area Plan; this estimate included approximately 19 acres of high-quality habitat, 119 acres of medium-quality habitat, and 819 acres of low-quality habitat. Based on the Navy's GIS data, the total direct impacts would be to 982 acres of California tiger salamander habitat; these discrepancies are based on minor differences between the GIS

datasets used for the BA and this analysis. The tiger salamander habitat estimates were based on the EDAW (2008) study of the suitability of upland habitat at the former NWS Concord. This study found that the vast majority of high-quality/high-use habitat was located east of Mt. Diablo Creek, with the majority located in the southeastern portion of the site. The northeast, northwest, and Bunker City portions of the site were determined to be low-quality habitat based on the lack of burrows and breeding habitat, and the presence of a likely migration barrier (Mt. Diablo Creek). However, based on the historic occurrence in the Bunker City area, construction and operation of the Village Center development district in this area would result in a loss of historical breeding habitat, as well as surrounding dispersal and upland habitat.

Alternative 1 will involve the removal of 957 to 982 acres of California tiger salamander habitat and could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct mortality could occur to individuals during construction activities within the proposed reuse area. Grading activities could directly crush or trap individuals that are in an aestivation state within underground burrows. As the majority of the high- and medium-quality California tiger salamander habitat is located within the conservation/open space area, the primary period of direct mortality would be during the construction of recreational trails, picnic areas, and parking areas within the conservation/open space area. In addition, the potential for spills of contaminants from construction equipment could result in harm to individuals. However, it is anticipated that the conservation measures included in the future BO and ITS being developed by the USFWS in conjunction with the USACE and City of Concord will ensure that these impacts are minimized through the implementation of BMPs prior to, during, and following construction activities.

Direct effects through harassment or mortality could also result from increased human activity in California tiger salamander habitats during operation of the development districts under Alternative 1. The construction of roads and exclusion fencing may prevent California tiger salamanders from dispersing between breeding and upland habitat. California tiger salamanders will readily attempt to cross roads during migration, and roads that sustain heavy traffic may act as barriers and have negatively affected California tiger salamander populations in some areas (Shaffer and Fisher 1991, Shaffer and Stanley 1992, Barry and Shaffer 1994). In addition, vehicular mortalities have been described as a primary threat to California tiger salamander populations in some areas (Barry and Shaffer 1994, Jennings and Hayes 1994).

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. Furthermore, conservation measures included in the BO and associated ITS for the City of Concord's Master 404 Permit for the Concord Area Plan will address impacts and include avoidance and minimization measures to limit the direct and indirect effects to the California tiger salamander. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 6), any permanent impacts to California tiger salamander habitats will be mitigated to avoid long-term population-level impacts.

In summary, the concepts described above would ensure that impacts to California tiger salamander and their habitats would be avoided and minimized. Any long-term impacts would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS, would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened California tiger salamander would not be significant at the former NWS Concord.

Alameda Whipsnake (Federally Threatened)

Implementation of Alternative 1 could result in minor, permanent, or temporary adverse impacts to the federally listed Alameda whipsnake or its habitat. The Alameda whipsnake has not been previously documented on the site. Based on past surveys, the only locations of suitable habitat exist in small patches of sage scrub in the upper Rattlesnake Canyon area and the grasslands with rock outcrops in the areas southeast and just northwest of Bailey Road. As these locations will be located within the conservation/open space area, adverse impacts are expected to be limited.

Alternative 1 could result in permanent adverse impacts to Alameda whipsnake habitat through the development of recreational trails or picnic areas within suitable habitat of the conservation area. This impact is expected to be minor, as recreational trails or picnic facilities would not destroy large amounts of habitat, and the surrounding areas would remain intact and continue to provide suitable habitat for this species. The use of construction equipment within these areas could result in direct mortality if individuals are physically crushed during grading activities, or trapped within underground spaces during site preparation. In addition, post-development recreational use could adversely impact this species through human use or disturbance by domestic animals. However, these impacts are also considered minor because no Alameda whipsnakes have been documented on the site and the overall development footprint within this area would be extremely small compared to the surrounding habitats that would remain undisturbed.

Alternative 1 would involve minor disturbance to suitable Alameda whipsnake habitat during implementation of Alternative 1. In addition, there is a slight potential for individuals to be killed or harassed during construction or future recreational activities during the operation of the site. Any long-term impacts upon the Alameda whipsnake associated with the implementation of Alternative 1 would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened Alameda whipsnake would not be significant at the former NWS Concord.

Bald and Golden Eagle

Implementation of Alternative 1 could result in potential impacts to bald and golden eagles or their habitat.¹⁶ According to the 2010 FEIR, a single juvenile bald eagle was observed during surveys in 1982. Individual bald eagles may forage over the proposed action area, but this species is not expected to breed onsite. However, a breeding pair of golden eagles nests on a regular basis along the eastern boundary of the proposed action area. Additional nesting pairs occur on EBRPD lands south of the site. Eagles in the area would use the grassland habitat within the site for foraging. However, because of the abundance of such habitat in the region, and because most foraging activity by these birds occurs in areas that would be preserved as open space, impacts to foraging habitat are considered only moderately adverse. Alternative 1 could remove up to 1,720 acres of California annual grassland and a total loss of 2,315 acres of existing vegetation communities on the site. The loss or disturbance of an active nest would be a significant adverse impact.

¹⁶ The golden eagle is not listed as a threatened or endangered species under the Federal Endangered Species Act but is protected by three federal laws: The Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Lacey Act. These laws prohibit the possession, use, and sale of eagle feathers and parts as well as a number of other activities, including the transportation of eagles and feathers and parts that have been illegally obtained. The Bald and Golden Eagle Protection Act has prohibited take of Bald Eagles since 1940 and Golden Eagles since 1962 (USFWS 2011).

As described under the MBTA, it is unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. Take under the BGEPA has been broadly interpreted to include altering or disturbing nesting habitat. In addition, CDFG Codes provide protections to nesting birds, including eagles. With the protections afforded by Area Plan minimization and mitigation measures and under the MBTA, BGEPA, and CDFG Codes, potential impacts to eagles would not be significant because project proponents would be required to avoid and minimize potential impacts to the species and compensate for impacts to the species habitat.

4.5.2 Alternative 2

Alternative 2 would maintain approximately 56 percent of the former NWS Concord as conservation and open space, and the remaining 44 percent would be developed as a mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, research and development/educational land uses, and greenways, citywide parks, and recreational areas within ten “development districts.” Figure 4.5-2 shows the development districts in relation to the vegetation communities onsite. The conservation area and open space of Alternative 2 would include a 2,537-acre regional park along the east side of the property, including the ridgeline of the Los Medanos Hills area, and the Mt. Diablo Creek corridor.

Implementation of Alternative 2 would disturb approximately 2,200 acres of land, based on the assumption that 5 percent of the Conservation Open Space development district would be disturbed during construction, and all land within the other development districts would be disturbed during construction. Compared to Alternative 1, Alternative 2 would have a more concentrated residential development with the addition of a Village Center development district in the north-central portion of the site; however, a smaller portion of the site would be developed into the Greenways, Citywide Parks, and Tournament development district, resulting in a larger conservation/open space area in the northeastern portion of the site.

4.5.2.1 Vegetation Communities and Habitats

Implementation of Alternative 2 would include the permanent removal of existing vegetation communities and associated habitats within portions of the site. Table 4.5-2 identifies the vegetation communities and types of habitat that would be affected by the implementation of Alternative 2. These habitat impact acreages are areas where the development footprint overlaps these habitat types, resulting in the permanent removal of the existing habitat. Alternative 2 would result in the development of approximately 2,200 acres, the majority of which is currently California annual grassland, resulting in 1,650 acres of impacted grasslands (Table 4.5-2).

Approximately 2,803 acres (based on the Navy’s GIS data) of land at this site would be maintained as conservation/open space. Temporary indirect impacts to the conservation/open space area in the form of temporary disturbance could occur during construction because this area is located next to areas that would be disturbed during construction. However, any temporarily disturbed areas designated as conservation/open space following construction activities will be restored to pre-construction conditions.

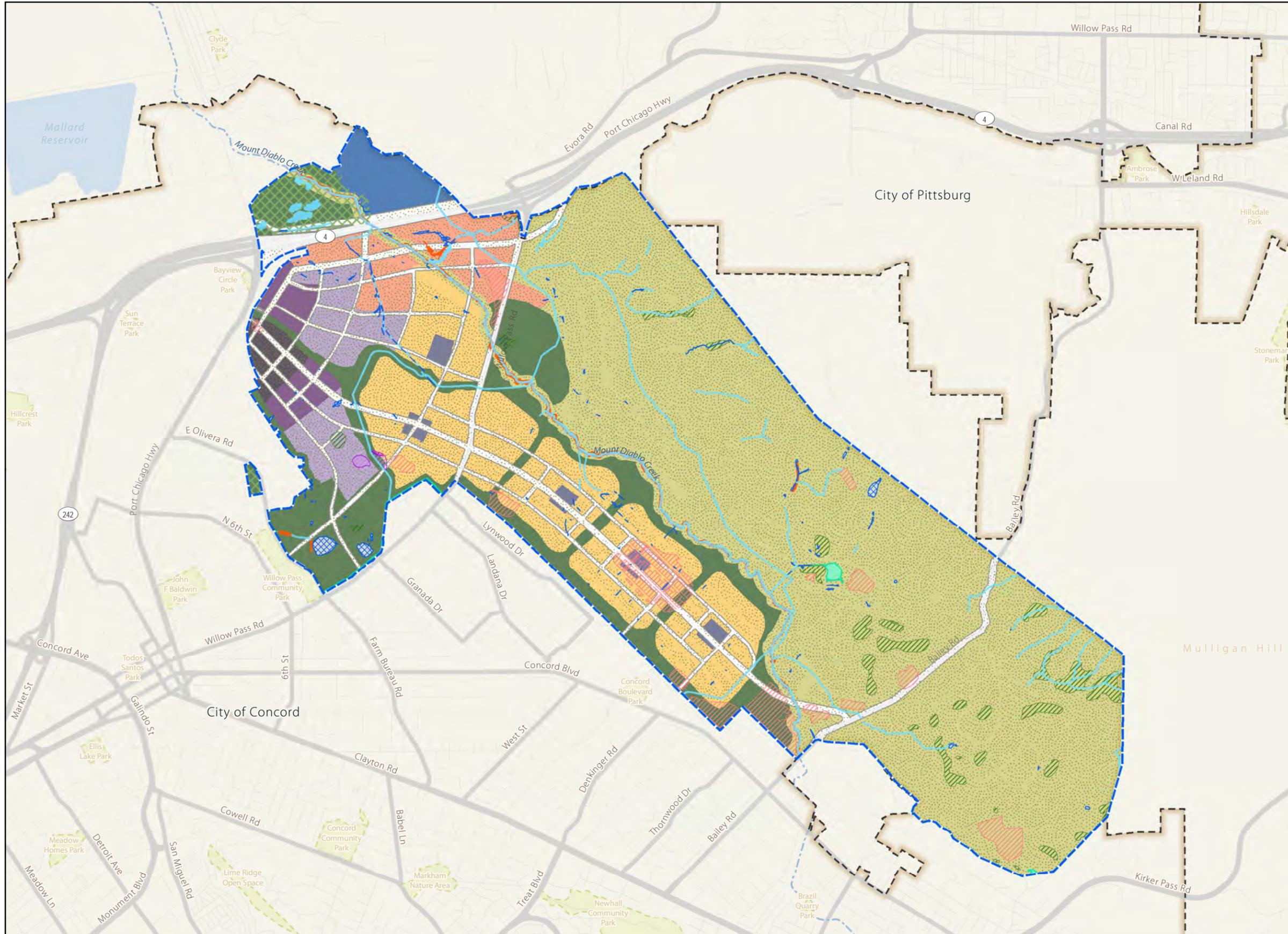


Figure 4.5-2
Alternative 2 Redevelopment
and Potential Vegetation Impacts
 Former NWS Concord
 Concord, California

Legend

- Former NWS Concord
- City Limits

Vegetation Communities

- | | |
|-------------------------------------|--------------------------|
| Seasonal Wetlands | Golf Course / Recreation |
| Creeks / Drainages / Canals / Ponds | Oak Woodland / Savannah |
| California Annual Grassland | Orchards and Plantations |
| Freshwater Marsh | Riparian Woodland |
| Coyote Brush / Coastal Sage Scrub | |

***Alternative 2 Development Districts**

- | | |
|------------------------------|--------------------------------|
| Campus | North Concord TOD Core |
| Central Neighborhood | North Concord TOD Neighborhood |
| Commercial Flex | Roadways |
| Conservation Open Space | Village Center |
| Greenways and Citywide Parks | Village Neighborhood |



0 0.5 1 Miles

SOURCE: City of Concord, 2010; H. T. Harvey & Associates, 2009.

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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Table 4.5-2 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 2)

Vegetation Communities / Habitats	Acreage of Impact
California Annual Grassland	1,650
Coyote Brush Scrub/Coastal Sage Scrub	5
Oak Woodland/Savannah	9
Riparian Woodland	5
Wetlands and Non-Wetland Waters	22
• Freshwater Marsh	1
• Seasonal Wetlands	13
• Creeks, Drainages, Canals, and Ponds	8
Orchards and Plantations	112
Recreation	89
Ruderal/Urban	343
Total	2,234

The permanent loss of these vegetative communities and habitat types (Table 4.5-2) would lead to habitat fragmentation in western Contra Costa County. Implementation of Alternative 2 could also result in potentially permanent, adverse impacts to remaining grasslands in the conservation/open space area through the introduction of invasive and non-native species. Some of the invasive plants documented on the site are listed on the California Invasive Plant Council watch list and could spread throughout the area during development. The implementation of Alternative 2 could also result in the removal of some of the mature trees in the oak woodland/savannah habitat type that may meet the criteria for the City of Concord Heritage Tree Ordinance. Alternative 2 would also result in the permanent loss of approximately 22 acres of jurisdictional and non-jurisdictional wetlands and waterbodies.

During future development activities, a number of regulatory policies and the implementation of minimization and mitigation measures from the Area Plan will ensure that the adverse impacts associated with the removal of vegetative communities and habitats will be minimized during construction and the future operation of the development districts. For instance, the City of Concord’s General Plan policy (Policy POS-2.2.6) calls for the control of invasive plants within natural resource areas and general open space (City of Concord 2012). In addition, the City of Concord’s General Plan, includes a policy to protect heritage trees (Policy POS-3.4.3 *Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation*). As part of this process, future developers will be required to avoid, minimize, and/or mitigate for any permanent impacts to wetland or waters of the U.S. in accordance with existing policies and procedures of the City of Concord, CDFG (California Fish and Game Code Section 1602 - Lake or Streambed Alteration Agreements), and Sections 401 and 404 of the USACE’s CWA requirements. In particular, any specific requirements would be determined in coordination with the USACE as part of the City of Concord’s Master 404 Permit for the Concord Area Plan.

Given that the majority of this vegetation community at the former NWS Concord will remain onsite within the conservation/open space area and that future development would be conducted in a manner consistent with the Area Plan and protective regulations of the City of Concord, the State of California, and the USACE, the loss of 2,200 acres of existing vegetation communities and habitats is not considered significant.

4.5.2.2 Fish and Wildlife

Implementation of Alternative 2 would cause both short- and long-term impacts on resident fish and wildlife populations. Long-term impacts could include species mortality and would include permanent habitat loss, as well as habitat fragmentation related to the loss of vegetative communities and habitat types as described in Section 4.5.2.1. Long-term impacts could also include indirect effects associated with increased recreational activities in the conservation area and the disturbance to existing wildlife communities. Short-term effects could include those impacts associated with temporary disturbance during construction. Mortality of less-mobile species such as small mammals and/or reptiles and amphibians would be possible during construction, as well as displacement of mobile species.

Implementation of Alternative 2 would result in the permanent conversion of extensive areas of relatively common and widespread habitats (e.g., California annual grassland) to more urban and suburban uses. This habitat conversion will result in a loss of existing habitat and changes in the abundance of wildlife species that currently use these habitats within the site. Table 4.5-2, above, lists the acreage of existing habitats that could potentially be impacted under Alternative 2. Although the total acreage of these impacts is large, the habitat types themselves are common and widespread in the region.

Wildlife species that use habitats within the development footprint on the former NWS Concord would be forced to migrate to other areas with suitable habitat or likely experience mortality as a result of construction. Small mammals and reptiles would be most affected, and some individuals of these species may be impacted if unoccupied habitat of equal quality is not available in the immediate vicinity. In addition to habitat loss, wildlife species may be temporarily displaced in peripheral areas during construction, when noise and human activity levels increase. Currently, wildlife movements are limited by tall fencing around the site, but Alternative 2 would remove fencing from the former NWS Concord, thus alleviating this constraint to wildlife into the future conservation/open space area. Overall impacts on species diversity and abundance on the property from construction activities would be minor because the majority of these species would avoid areas of construction where equipment and human activities create disturbance.

Implementation of Alternative 2 could also result in temporary and permanent significant adverse impacts to nesting birds from development-related construction disturbance and direct removal of nests during the breeding season. Similar to Alternative 1, Alternative 2 could also result in the introduction of non-native wildlife species as a result of development. Alternative 2 would also result in the overall loss of stream and wetland habitats on the site, including the filling in of a portion of Willow Pass Creek, which would be filled in to facilitate the development of the Commercial Flex district. However, long-term benefits to fisheries resources will occur as a result of the restoration of Mt. Diablo Creek and the creation of a 300-foot riparian buffer, which should stabilize stream banks, thereby reducing erosion and sedimentation of stream substrates.

Alternative 2 also includes the development and preservation of the Conservation/Open Space district, which would preserve extensive grasslands, oak woodland/savannah, and other more sensitive habitats in open space areas. The overall loss of these habitats in the development footprint will have only a small effect on the regional availability of these vegetation types. As a result, for most wildlife species associated with these common habitats, the loss of these habitats will result in a very slight reduction in regional populations.

In summary, Alternative 2 would result in adverse impacts to existing fish and wildlife resources. With the implementation of minimization and mitigation measures in the Area Plan, and through its planning and development review process, the city will ensure that future development plans address adverse impacts to fish and wildlife species such that impacts would be avoided, minimized, or adequately

mitigated. Specifically for nesting birds, compliance with the MBTA and California Fish and Game Code Section 3513 will ensure that any adverse impacts are minimized. In addition, any state sensitive species, such as those listed as threatened or endangered or fully protected would be protected under existing CDFG Codes. With the creation and preservation of the conservation area and open space on over 50 percent of the former NWS Concord, impacts on the fish and wildlife resources would not be significant.

4.5.2.3 Special Status Species

Under Alternative 2, the disposal of the former NWS Concord would have no effect on federally listed species and would not result in the destruction or adverse modification of designated critical habitat. However, the subsequent reuse of the property through implementation of Alternative 2 would be an interrelated action that “may affect and is likely to adversely affect” some listed species.

Similar to Alternative 1, Alternative 2 would have the potential to adversely affect the California red-legged frog, the California tiger salamander, and the Alameda whipsnake. Impacts to these species would be similar to those described under Alternative 1, with the potential for increased long-term harassment of listed species from the increased development that could result in an increased use of recreational and picnic facilities in the conservation/open space area. The following impact assessment describes impacts on these, as well as other, special status species.

California Red-Legged Frog (Federally Threatened)

Implementation of Alternative 2 could result in potential direct and indirect effects to the federally listed California red-legged frog and its habitat. These adverse impacts would include permanent loss of non-breeding aquatic and dispersal habitat, direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets during operation of Alternative 2 on the site.

Direct impacts to non-breeding aquatic habitat, upland habitat, and dispersal habitats are expected. Based on the Navy’s GIS data, the total area of impact associated with Alternative 2 would equate to 2,200 acres of impacts. This estimate was based upon the California red-legged frog’s ability to widely disperse from suitable breeding habitat and potential to occur anywhere within the development footprint. The non-breeding aquatic habitats and adjacent upland/dispersal habitats within the development footprint include the seasonal wetlands near the former airfield that could provide suitable perennial aquatic habitat during the non-breeding season. These areas will be removed as a result of the development of the greenways and citywide parks in the former airfield area. For the purposes of this NEPA assessment, all 2,200 acres are projected to be removed from suitable habitat for the California red-legged frog.

The implementation of Alternative 2 could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct mortality could occur to individuals during construction activities within the proposed footprint of Alternative 1. In addition, the potential for spills of contaminants from construction equipment could result in harm to individuals. Direct effects could also occur through impacts associated with harassment or mortality resulting from increased human activity in California red-legged frog habitats during operation of the development districts under Alternative 2. However, through the city’s master permitting process that has been initiated, the conservation measures that will be included in the BO and ITS developed by the USFWS in conjunction with the USACE and City of Concord will ensure that these impacts are minimized through the implementation of BMPs prior to, during, and following construction activities.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. Furthermore, conservation measures included in the BO and associated ITS for the City of Concord’s Master 404 Permit for the Concord Area

Plan will address impacts and include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 5), impacts to California red-legged frog habitats will be mitigated to avoid long-term impacts.

In summary, the concepts described above would ensure that impacts to the California red-legged frog and its habitat would be avoided and minimized. Any long-term impacts would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as the responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened California red-legged frog would not be significant.

California Tiger Salamander (Federally Threatened)

Implementation of Alternative 2 could result in potential direct and indirect effects to the federally listed California tiger salamander and its habitat. These adverse impacts would include permanent loss of breeding, dispersal, and upland habitats; direct mortality or injury during construction activities; and increased mortality or harassment of individuals by humans or domestic pets during operation of Alternative 2 on the site.

Alternative 2 would result in the removal of historic breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. However, more recent data suggests that California tiger salamanders predominately breed in the southeastern portion of the site in a number of seasonal pools or small ponds. The analysis of Alternative 2 and the EDAW data indicated 898 acres would be impacted through implementation of Alternative 2, which could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects.

Direct mortality could also occur to individuals during construction activities within the proposed footprint of Alternative 2. Grading activities could directly crush individuals or trap and suffocate individuals during construction in the upland or wetlands areas within the proposed development districts. Direct effects could also result through harassment or mortality from increased human activity in California tiger salamander habitats during operation of the development districts under Alternative 2.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. Furthermore, conservation measures included in the BO and associated ITS for the City of Concord's Master 404 Permit for the Concord Area Plan will address impacts and include avoidance and minimization measures to limit the direct and indirect effects to the California tiger salamander. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 6), any permanent impacts to California tiger salamander habitats will be mitigated to avoid long-term impacts.

In summary, the concepts described above would ensure that impacts to California tiger salamanders and their habitats would be avoided and minimized. Any long-term impacts would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as the responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened California tiger salamander at the former NWS Concord would not be significant.

Alameda Whipsnake (Federally Threatened)

Implementation of Alternative 2 could result in minor, permanent, or temporary adverse impacts to the federally listed Alameda whipsnake or its habitat. The Alameda whipsnake has not been previously documented on the site, and the only suitable habitat for it exists in small patches of sage scrub in the upper Rattlesnake Canyon area and the grasslands with rock outcrops in the areas southeast and just northwest of Bailey Road. As these locations will be located within the conservation/open space area, adverse impacts are expected to be limited.

Alternative 2 could result in permanent adverse impacts to Alameda whipsnake habitat through the development of recreational trails or picnic areas within suitable habitat of the conservation/open space area. The use of construction equipment within these areas could result in direct mortality if individuals are physically crushed during grading activities or trapped within underground spaces during site preparation. In addition, post-development recreational use could adversely impact this species through human use or disturbance by domestic animals. However, these impacts are also considered minor because no Alameda whipsnakes have been documented on the site and the overall development footprint within this area would be extremely small compared to the surrounding habitats that would remain undisturbed.

Any long-term impacts upon the Alameda whipsnake associated with the implementation of Alternative 2 would be mitigated through the permitting process. The city's proposed master permitting framework that would be developed in coordination with the USFWS would ultimately be the basis for specific, adequate, and binding language for conservation of threatened and endangered species, explicitly establish the city as the responsible party for USFWS and USACE permitting requirements, and provide assurances of sufficient funding for compensatory mitigation. Consequently, impacts on the federally threatened Alameda whipsnake at the former NWS Concord would not be significant.

Bald and Golden Eagle

Implementation of Alternative 2 could result in potential impacts to bald and golden eagles or their habitat. Bald eagles may occasionally be transient individuals over the site, but a breeding pair of golden eagles have regularly nested along the eastern boundary of the site. Eagles in the area would primarily use the grassland habitat within the site for foraging. Alternative 2 would remove up to 1,650 acres of California annual grassland and a total loss of 2,200 acres of existing vegetation communities on the site. However, because of the abundance of such habitat in the region, and because most foraging activity by these birds occurs in areas that will be preserved as open space by this project, impacts to foraging habitat are considered only moderately adverse. However, any loss of or disturbance to an eagle nest would be a significant adverse impact.

As described under the MBTA, it is unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. Take under the BGEPA has been broadly interpreted to include altering or disturbing nesting habitat. In addition, CDFG codes provide protections to nesting birds, including eagles. With the protections afforded by the Area Plan minimization and mitigation measures and under MBTA, BGEPA, and CDFG codes, potential impacts to eagles would not be significant because project proponents would be required to avoid and minimize potential impacts to the species and compensate for impacts to the species' habitat.

State-Listed Species

Impacts to state-listed species will be avoided or minimized, as the City of Concord will review development proposals, consult with resource agencies (e.g., required consultation under CESA), and add conditions to permits for such proposals that will address environmental impacts determined to be significant. The Area Plan FEIR (City of Concord 2010) includes a series of mitigation measures that will

avoid or minimize adverse impacts to state listed species. Where avoidance or minimization is not sufficient to avoid adverse impacts to state listed species, the City of Concord has included mitigation requirements to ensure that any impacts to state listed species are not significant.

4.5.3 No Action Alternative

4.5.3.1 Vegetation Communities and Habitats

The No Action Alternative would not result in redevelopment, and the property would remain in caretaker status. There would be no impacts to existing vegetation communities or habitats on the site. The Navy would continue to maintain some form of vegetation management in portions of the site to reduce the potential for future natural disasters (e.g. wildfires). Even with continued vegetation management, some expansion of invasive plant species may continue within the California Annual Grasslands vegetation community, further reducing the productivity of this habitat for native plant and wildlife populations.

4.5.3.2 Fish and Wildlife

Under the No Action Alternative, the property would be retained by the U.S. government in caretaker status. The overall abundance of wildlife may increase because of the lack of human activity. As mentioned in Section 4.5.3.1, the expansion of invasive plant species could further reduce the suitability of existing habitats on the site for various wildlife populations.

4.5.3.3 Special Status Species

The No Action Alternative would likely result in the continued existence of the California red-legged frog and California tiger salamander populations on the site. As mentioned in Section 4.5.3.1, under caretaker status, the Navy would continue to maintain vegetation management for the site, which would address the occurrence of a wildfire. Some expansion of invasive plant species at the site may occur under this alternative, and it may reduce the suitability of the existing habitats on the site to support the existing federally listed species.

4.6 Cultural Resources

This EIS provides an evaluation of the potential environmental consequences of the disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative on cultural resources and also requires compliance with the NHPA as part of this evaluation. Therefore, the Navy has evaluated the potential impacts of the proposed action in terms of its effects on significant cultural resources, defined as those cultural resources that have been determined NRHP-eligible and hence considered historic properties, pursuant to Section 106 of the NHPA.

Section 106 of the NHPA of 1966 (P.L. 96-515), as amended (1980 and 1992), and its implementing regulations (36 CFR 60, 63, and 800), requires federal agencies to take into account the effects of their undertakings on significant cultural properties, including archaeological sites, historic structures, landscapes, and districts. To comply with Section 106 of the NHPA and its implementing regulations at 36 CFR Part 800, the Navy is required to identify historic properties within the APE, as discussed previously in Section 3.6, and to consider the effects of the proposed action on these properties. The effects of the impacts of the proposed action on historic properties were evaluated pursuant to Section 106 of the NHPA, using the ACHP's guidance on determining effects, including findings of no effect on historic properties, no adverse effect on historic properties, and adverse effect on historic properties (36 CFR 800.4[d] and 800.5; ACHP 2004). These criteria are listed in Table 4.6-1.

Table 4.6-1 Findings of Effect on Historic Properties

Finding of No Historic Properties Affected (No Effect on Historic Properties)

“If the agency official finds that either there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i), the agency shall provide documentation of this finding, as set forth in §800.11(d), to the SHPO/THPO” (36 CFR 800.4[d][1]).

Finding of No Adverse Effect

“If the agency official finds that there are historic properties which may be affected by the undertaking, the agency official shall notify all consulting parties, including Indian tribes and Native Hawaiian organizations, invite their views on the effects and assess adverse effects, if any, in accordance with §800.5” (36 CFR 800.4[d][2]). “The agency official, in consultation with the SHPO/THPO may propose a finding of no adverse effect when the undertakings’ effects do not meet the criteria of paragraph (a)(1) [of 36 CFR 800.5] or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO ...to avoid adverse effects” (36 CFR 800.5[b]).

“The agency official shall maintain a record of the finding of no adverse effect and provide information on the finding to the public on request consistent with the confidentiality provisions of §800.11(c)” (36 CFR 800.5[d]).

Finding of Adverse Effect

“An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative” (36 CFR 800.5[a][1]).

Examples of Adverse Effect

“Adverse effects on historic properties include but are not limited to:

- Physical destruction of or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines
- Removal of the property from its historic location
- Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features
- Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance” (36 CFR 800.5[a][2]).

Source: ACHP 2004.

4.6.1 Alternative 1

Under Alternative 1, the disposal of the former NWS Concord would have no direct impacts on the two NRHP-eligible archaeological sites (Sites CA-CCO-680 and P-07-00861) because the transfer of the former NWS Concord out of federal ownership would have no physical impacts. However, the proposed reuse of the former installation property under Alternative 1 has the potential to result in indirect impacts on the two NRHP-eligible archaeological sites.

Under Alternative 1, once the BRAC process is complete and the former installation property has been transferred out of federal ownership, ground-disturbing construction activities have the potential to result in direct, permanent, negative impacts on NRHP-eligible archaeological sites CA-CCO-680 and P-07-00861. These impacts would result from the destruction and/or disturbance of the two archaeological sites during any ground-disturbing construction activities at the site locations, including ground-disturbing activities within the area of disturbance for Alternative 1 and ground-disturbing activities that may occur within land proposed for conservation/open space under Alternative 1 (see Figure 2-1).

Potential indirect, permanent, negative impacts on archaeological sites CA-CCO-680 and P-07-00861 resulting from implementation of Alternative 1 would be significant pursuant to NEPA because both the sites have been determined NRHP-eligible. The evaluation of impacts of Alternative 1 on historic properties in accordance with Section 106 of the NHPA indicates that without “adequate and legally enforceable restrictions or conditions to ensure long-term preservation of these properties’ historic significance,” the transfer of the two NRHP-eligible archaeological sites out of federal ownership would be considered an adverse effect under 36 CFR 800.5(2)(vii) (Lee 2014). Additionally, it is reasonably foreseeable that reuse of the surplus property consistent with the City of Concord’s Concord Reuse Project Area Plan (2012) may also adversely affect historic properties. Applying the criteria of adverse effect indicates that disposal and subsequent reuse of the former NWS Concord has the potential to result in adverse effects on historic properties (Lee 2014).

The Navy is continuing the Section 106 consultation process with the California SHPO and the 11 other consulting parties on the resolution of adverse effects. The goal of this continued consultation is to discuss means to avoid, minimize, and mitigate potential adverse effects on historic properties (Lee 2014). The Navy anticipates that it will execute a Section 106 Memorandum of Agreement, which will require the Navy to insert a deed notice regarding the two NRHP-eligible archaeological sites (CA-CCO-680 and P-07-00861) and the applicability of state and local law after Navy transfer.

Separately from the NEPA process, the City of Concord adopted mitigation measures for potential impacts on archaeological resources at the former NWS Concord as part of the CEQA process for the Area Plan (Arup 2010) that were based on the results of the Phase I cultural resources survey (Garcia-Herbst and Hale 2008) and included the following: (1) measures for preservation in place or for adequate data recovery, curation, and documentation of historic properties/historical resources prior to earth-disturbing activities that would impact any of the six sites in the areas where development is proposed (archaeological sites CA-CCO-680, CA-CCO-780H, CA-CCO-781H, CA-CCO-785H, CA-CCO-786, and CA-CCO-788H); (2) cultural resources protection measures to control public access to the five resources located within the Open Space and Parks and Recreation development districts (archaeological sites CA-CCO-777H, CA-CCO-787H, CA-CCO-791H, P-07-00860, and P-07-00861); and (3) inadvertent discovery measures for the protection of cultural resources, including human remains. The public or private sponsor of the proposed development would be responsible for establishing and implementing the inadvertent discovery measures prior to initiating ground-disturbing activities (Arup 2010). In addition, it is anticipated that the open space area would be managed by the EBRPD in accordance with the cultural and resources management policies specified in the EBRPD Master Plan (EBRPD 2013a).

With the implementation of the Navy and City of Concord mitigation measures, the potential indirect, permanent, negative impacts of Alternative 1 on the NRHP-eligible archaeological resources at former NWS Concord, Sites CA-CCO-680 and P-07-00861, would be mitigated such that they are not considered significant.

4.6.2 Alternative 2

The NEPA impacts and Section 106 effects of Alternative 2 on cultural resources and historic properties are the same as those identified for Alternative 1.

4.6.3 No Action Alternative

The No Action Alternative would have no impacts on cultural resources or historic properties because the former installation would remain in caretaker status, and the property would not be redeveloped. Because the No Action Alternative would have no impacts on cultural resources or historic properties, the effects of impacts do not require consideration pursuant to Section 106 of the NHPA.

4.7 Topography, Geology, and Soils

This section summarizes the potential impacts on topography, geology, and soil resources resulting from the implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord.

4.7.1 Alternative 1

4.7.1.1 Topography

Construction of Alternative 1 may involve below-grade development, which could somewhat change the current topography of the former NWS Concord site. As described in the Area Plan, most of the future development would take place in the valley floor, mass grading would be largely avoided, and hillsides and steeper slopes would be preserved as open space. If the topography would be altered to raise the current topography, it would be contoured gradually. Thus, the impact of Alternative 1 related to alteration of topography would not be significant.

4.7.1.2 Geology

The former NWS Concord site is located in a seismically active area and has a high probability of earthquake hazard. Seismic hazards include earthquakes, ground faulting, and secondary effects such as liquefaction and related slope failures.

Seismically Induced Ground Shaking and Associated Ground Failure

Liquefaction typically occurs when saturated, clean, fine-grained loose sands near the surface (usually in the upper 50 feet) are subject to intense ground shaking and the water table is shallow. One of the major types of liquefaction-induced ground failures is lateral spreading of mildly sloping ground. Lateral spreading is a failure within a nearly horizontal soil zone (possibly from liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope.

The former NWS Concord is located within an area where liquefaction susceptibility ranges from Very Low to Very High (USGS 2006, USGS 2005-2006). In addition, the USGS has predicted that there is a 63 percent chance of an earthquake with a magnitude of 6.7 or greater occurring in the Bay Area during the next 30 years. The intensity of the seismic shaking during an earthquake depends on the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions (USGS 2007). Earthquakes occurring on faults closest to the former NWS Concord site would have the potential to generate the largest ground motions at the site. The implementation of Area Plan

policies addressing earthquake and landslide hazards would address impacts associated with seismically induced ground shaking and associated ground failure. In addition, under Alternative 1, buildings would be engineered and designed per the IBC (or reference the National Earthquake Hazards Reduction Program Recommended Seismic Provisions for New Buildings and Other Structures [Federal Emergency Management Agency P-749 and P-75]) to address the potential for seismically induced ground shaking and associated ground failure at the former NWS Concord. No significant adverse impacts would therefore result.

Seismically Induced Landslides or Slope Failures

Landslides include slumps, translational slides, rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over-steepened slope is the primary reason for a landslide, erosion, slopes weakened through saturation, and earthquakes are also contributing factors. Human activities can be a contributing factor in causing landslides. Many human-caused landslides can be avoided or mitigated. They are commonly a result of building roads and structures without adequate grading of slopes, of poorly planned alteration of drainage patterns, and of disturbing old landslides (USGS 2013).

The former NWS Concord contains a few areas with higher landslide susceptibility, along the northeastern property boundary. This area consists of mapped landslides and intervening areas typically narrower than 1,500 feet. The remaining areas of the site are mapped as having few landslides. Few of these mapped landslides contain any large mapped landslides, but they locally contain scattered small landslides and questionably identified larger landslides (USGS 1998). Under Alternative 1, the areas of the former NWS Concord site that are within areas with higher landslide susceptibility are intended to be conservation areas. Therefore, no significant adverse impacts associated with seismically induced landslides or slope failures would occur under Alternative 1.

Surface Fault Rupture

Surface fault rupture is the abrupt shearing displacement that occurs along a fault that extends to the ground surface when the fault ruptures to cause an earthquake. Generally, a fault rupture extends to the ground surface only during earthquakes of magnitude 6 or higher. Surface fault shear displacements typically range from a few inches to a foot or two for a magnitude 6 earthquake and to 10 feet or more for a magnitude 7.5 earthquake. Because fault displacements tend to occur along a relatively narrow area defining the fault zone, large displacements may have catastrophic effects on a structure located directly astride the fault. Most current seismic design codes are not intended to prevent damage caused by surface fault rupture, liquefaction, landslides, ground subsidence, or inundation.

One fault is located on the former NWS Concord: the Clayton Section Greenville Fault (northern section of the Greenville Fault) (see Figure 3.7-1). This fault is located in the southeastern to the northeastern portion of the site and is categorized as a Holocene fault. There is no record of historic earthquakes on the Clayton Fault section, although it is considered an active fault. Because the fault is considered active, under Alternative 1 there is a potential for impact due to fault rupture. Under Alternative 1, the implementation of Area Plan policies addressing earthquake and landslide hazards would address impacts associated with surface fault failure. In addition, buildings would be engineered and designed per the IBC (or reference the National Earthquake Hazards Reduction Program Recommended Seismic Provisions for New Buildings and Other Structures [Federal Emergency Management Agency P-749 and P-75]) to address seismic risks at the former NWS Concord. No significant adverse impacts would therefore result.

4.7.1.3 Soils

Erosion Potential

Construction completed during Alternative 1 would involve site grading and preparation that would disturb exposed artificial fill. Despite previous development on the former NWS Concord site, erosion

and loss of topsoil could occur as a result of construction activities. Excavation, grading, importation of fill, and facility construction would require temporary disturbance of surface soils and removal of existing onsite buildings/features (e.g., magazine areas, research areas, housing, etc.). Exposed fill materials could be susceptible to erosion during construction-related excavation. Stormwater runoff could cause erosion during project construction.

As described in the Area Plan, an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity would need to be obtained prior to the start of construction activities (State Water Resources Control Board Order No. 99-08-DWQ). Construction activities disturbing 1 acre or more and having drainage flowing to a separate sewer system requires a SWPP to be prepared and implemented per the Construction General Permit's conditions. In addition, erosion and sedimentation control measures would need to be implemented in compliance with the City's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the City's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71). See also Section 4.14 (Water Resources), which evaluates erosion in further detail. With implementation of a SWPP, the construction-related impact of initial construction related to erosion and loss of topsoil would not be significant.

Farmland

The former NWS Concord site includes approximately 3,434.7 acres of prime farmland (if irrigated) or farmland of statewide importance. No unique farmland soils occur on the property. Grazing takes place across much of the site, and some limited agricultural research uses are also located within the site. Prime farmland and statewide important farmland soils have essentially been converted to urban uses on the former installation. There is also very little agriculture in the vicinity of the installation and little in the way of farm support services. There are no agricultural investments (barns, drainage or irrigation systems, etc.) on the installation. The impact of Alternative 1 on prime farmland and farmland of statewide importance would, therefore, be minor or negligible.

Hydric Soils

Approximately 1,275 acres of the former NWS Concord site are occupied by soil map units in which all or some of the soils are hydric; non-hydric soil map units also can contain hydric inclusions. Therefore, new construction under Alternative 1 could impact mapped hydric soils and hydric inclusions in non-hydric soils. Hydric soils may require special measures during construction or other uses to overcome limitations caused by wetness. Limitations may include a high water table or low strength for supporting construction equipment and structures. Hydric soils may also present limitations to development activities (e.g., excavation and movement of heavy equipment) due to wet conditions. The implementation of Area Plan policies requiring that structures be designed to reflect the findings of evaluations of geologic hazards and soil conditions would address impacts associated with hydric soils.

Constructability

The primary constructability limitations on the former installation include hydric soils and shallow depth to bedrock. Depth to bedrock is less than 5 feet in several areas. Shallow depth to bedrock may require blasting to excavate for foundations. The implementation of Area Plan policies requiring that structures be designed to reflect the findings of evaluations of soil conditions would address impacts associated with constructability.

4.7.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than the Area Plan and is generally consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development. Under Alternative 2, development and conservation would take place in largely the same locations and according to the same development program, concepts, and principles, with some

differences. Approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as for Alternative 1.) Two major conservation areas proposed include a regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills, and the Mt. Diablo Creek corridor, similar to Alternative 1.

4.7.2.1 Topography

As with Alternative 1, Alternative 2 could result in below-grade development or could somewhat change the current topography of the site. As discussed under Alternative 1, the construction-related impact of Alternative 2 related to alteration of topography would not be significant.

4.7.2.2 Geology

Seismically induced ground shaking and ground failure under Alternative 2 would involve the same project components as Alternative 1. Thus, the effects related to seismically induced ground failure discussed above for Alternative 1 also would apply to Alternative 2. To limit seismic risk, the proposed buildings would be engineered and designed to address the potential for seismically induced ground shaking and associated ground failure at the former NWS Concord site. No significant adverse impacts would result.

4.7.2.3 Soils

The effects of constructing buildings as proposed under Alternative 2 would be similar to those of Alternative 1. As under Alternative 1, a NPDES general permit for stormwater discharges associated with construction activities would need to be completed, and a SWPP would need to be implemented that meets the conditions of the Construction General Permit. With implementation of a SWPP and Area Plan policies requiring that structures be designed to reflect the findings of evaluations of geologic hazards and soil conditions, the construction-related impact of Alternative 2 related to erosion and loss of topsoil would not be significant.

4.7.3 No Action Alternative

The No Action Alternative is retention of the surplus property at the former NWS Concord site by the U.S. government in caretaker status. No reuse or redevelopment would occur at any location within the property. As a result, the No Action Alternative would be expected to have no direct or indirect impacts on topography, geology, or soils.

4.8 Hazards and Hazardous Substances

This section describes the potential impacts on the environment from hazardous wastes and materials associated with disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of the potential impacts from hazards associated with the presence, use, handling, disposal, or transport of hazardous wastes and materials relative to Navy ER Program sites and other regulatory sites (such as SWMU sites and radiological sites), as well as hazardous waste/materials management associated with redevelopment and future use of the property.

4.8.1 Methodology

4.8.1.1 ER Program Sites and other Regulatory Sites

As discussed in Sections 3.8.1 and 3.8.3, the former NWS Concord was placed on the CERCLA NPL on December 16, 1994, and subsequent CERCLA investigation and remedial actions have been and continue to be conducted under the Navy's ER Program. The Navy is implementing CERCLA response actions to address actual or threatened releases of hazardous substances, pollutants, or contaminants into the environment at the former NWS Concord in a way that will ensure adequate protection of human health and the environment. This fundamental "threshold" requirement of CERCLA (Section 121[b] of CERCLA, 42 U.S.C. 9621[b]) and the NCP (40 CFR 300.430[f][1][i][A]) applies regardless of future ownership of the former NWS Concord property or the legal authority used to convey the property from the Navy to another legal entity.

ER Program requirements can be satisfied by different types and combinations of actions, ranging from recommendations for no further action to response actions that consist of removal or remedial actions. Response actions can include excavation and disposal, treatment, and containment of hazardous substances, pollutants, or contaminants. Potential environmental effects of the removal and remedial activities are evaluated by the Navy and regulatory agencies in conjunction with the approval process for specific response actions selected and implemented by the Navy under CERCLA. The response actions are ultimately specified in a CERCLA ROD (for remedial actions) or CERCLA action memorandum (for removal actions). CERCLA and the NCP also require that CERCLA response actions selected by the Navy comply with applicable or relevant and appropriate federal and state laws and regulations during the course of and at the completion of the response action.

Remedial actions can include the use of LUCs or ICs, which are restrictions placed on a site to protect human health and the environment in cases where the site cannot or will not be cleaned up to levels that allow unrestricted use. LUCs are typically physical (e.g., engineering controls), legal (e.g., restrictive covenants or deeds), or administrative (e.g., notices and permits) mechanisms that restrict property use to ensure that land use activities in the future remain compatible with the conditions of the land. ICs are typically administrative or legal devices. The Navy commonly uses the term "ICs" to encompass both LUCs and ICs. ICs ensure the integrity of the selected remedy and may allow property to be developed for its intended use, subject to compliance with prescribed controls or restrictions. ICs include requirements for monitoring, inspection, and reporting to ensure compliance with land use or activity restrictions.

The Navy, EPA, DTSC, and RWQCB will, independent of the proposed action and this EIS, require that appropriate and legally enforceable CERCLA ICs are implemented, as required, before any project site development activity occurs at the former NWS Concord. In so doing, the Navy will be ensuring that actual or potential releases of hazardous substances have been addressed in a way that ensures the protection of human health and the environment following transfer in accordance with Section 120(h) of CERCLA (42 U.S.C. 9620[h]). Such ICs would generally take the form of a recorded covenant, deed provision, easement, or lease term. As described in Section 3.8.2.1, a deed transferring title to real property shall contain, to the extent required by law, the notices, restrictions, covenants, and assurances specified in Section 120(h). The Navy may, when appropriate, place limits on land reuse through deed restrictions on conveyance and use restrictions on leases. The Navy, EPA, DTSC, and RWQCB may also retain right-of-access to some properties to inspect monitoring wells or conduct other remedial activities. Actions taken in accordance with these restrictions would not result in a hazard to the public or the environment.

If ICs are prescribed as part of the remedial action for an ER Program site, the Navy would rely upon proprietary controls in the form of environmental restrictive covenants as provided in the "Memorandum

of Agreement between the United States Department of the Navy and the California Department of Toxic Substances Control” and attached covenant models (the Navy/DTSC MOA) (Navy and DTSC 2000). Land use and activity restrictions would be incorporated into two separate legal IC instruments as provided in the Navy/DTSC MOA:

1. Restrictive covenants included in one or more quitclaim deeds from the Navy to the property recipient.
2. Restrictive covenants included in one or more covenants to restrict use of property entered into by the Navy and the DTSC as provided in the Navy/DTSC MOA and consistent with the substantive provisions of 22 CCR Section 67391.1.

The covenant to restrict use of property would incorporate the land use and activity restrictions into environmental restrictive covenants that run with the land and that are enforceable by the DTSC and any other signatory state entity against future transferees and users. The quitclaim deed would include the identical land use and activity restrictions in environmental restrictive covenants that run with the land and that will be enforceable by the Navy against future transferees and users. The covenant and deed would provide for future access to the subject property by the Navy and/or applicable regulatory agencies, as well as describe IC implementation and maintenance actions such as the frequency and requirements for periodic inspection, monitoring, and reporting.

In addition to ER Program requirements, the future developer or owner will be required to obtain all applicable local and state permits, approvals, planning reviews, and consultations and adhere to all applicable building, zoning, environmental, and health and safety laws and regulations before and during the development of the former NWS Concord following disposal of the property by the Navy.

As a result of the implementation of legally prescribed CERCLA remedial actions, including the use of appropriate and legally enforceable ICs, and the expectation that the future developer or owner of the former NWS Concord property would adhere to local, state, and federal laws and regulations during construction and operation, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with ER Program sites would be minimized to the extent practicable. There would be no reasonably foreseeable environmental impacts and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants from disposal and reuse of the former NWS Concord, relative to ER Program sites.

A similar analysis and determination would apply to the SWMU sites (regulated under RCRA) and radiological sites (regulated under CERCLA and the Atomic Energy Act) at the former NWS Concord.

4.8.1.2 Other Hazardous Waste/Materials Management

The analysis assumes that reuse of the former NWS Concord property following disposal by the Navy would involve the routine use of hazardous materials and generation of hazardous waste from both construction/demolition and operational activities. Quantification of precise amounts of hazardous waste and materials expected to be associated with new proposed uses is not practical at this stage of proposed action development. Therefore, the analysis broadly and qualitatively evaluates hazardous waste generation and hazardous material use during future occupancy.

For purposes of the analysis, compliance with existing federal, state, and local laws and regulations pertaining to hazardous waste and materials management is presumed to be sufficient to minimize health and safety risks, and state and local agencies would be expected to continue to enforce applicable requirements to the extent they do now. The local requirements discussed in this section are evaluated as they would apply during future occupancy and use by transferees after the Navy has conveyed the

property. They do not apply to the Navy's CERCLA cleanup program because local requirements are not federal or state "applicable or relevant and appropriate" requirements (Sections 121[d] and [e] of CERCLA, 42 U.S.C. 9621[d] and [e]).

4.8.1.3 Finding of Suitability to Transfer

As discussed previously in Section 3.8.2.3 and reiterated here, the Navy must ensure that all applicable statutory and regulatory requirements have been satisfied before transfer of BRAC property. The Navy prepares a FOST for the transfer of title to real property by deed to non-federal entities. A FOST summarizes how the applicable requirements and notifications for hazardous materials, petroleum products, and other regulated materials (such as ACM, LBP, and PCBs) have been satisfied and that the property is environmentally suitable for transfer. A FOST also addresses any restrictions, notifications, or deed covenants related to hazardous materials at the surplus property. Any long-term remedies, including LUCs or ICs, and responsibilities for maintenance and reporting are discussed in a FOST. A FOST is forwarded to the EPA and state agencies for review and comment (DOD 2006).

Potentially contaminated properties can be transferred under the "early transfer" process of CERCLA, as described in Section 3.8.2.1, in which case the Navy would prepare a FOSET to transfer property prior to completion of cleanup actions. In the case of a FOSET, either the Navy or the property recipient may conduct cleanup actions. A FOSET allows for earlier property transfer and redevelopment while still assuring property cleanup.

4.8.2 Alternative 1

4.8.2.1 Environmental Restoration Program Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former ER Program sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former ER Program sites.

As described in Section 3.8.3 and Table 3.8-1, the Navy's ER Program at the former NWS Concord is in various stages of completion depending on the ER Program site. The CERCLA investigation has been completed at many sites, which have been recommended for no further action, and continues at others. For most of the active IRP and MMRP sites, the Navy anticipates that investigation and final remedy would be completed over the next 5 to 10 years, which would be compatible with the 25-year build-out schedule presented in the Area Plan.

Figure 4.8-1 shows the ER Program sites at the former NWS Concord in relation to the development districts proposed under Alternative 1. Table 4.8-1 summarizes the ER Program sites at the former NWS Concord, their current status under the ER Program, the type of Alternative 1 development district the site falls within, and whether ICs are anticipated to be part of the CERCLA remedy for the site. The potential for future ICs is not yet known for those sites that are in earlier stages of the CERCLA investigative process or that are being reevaluated to confirm earlier findings. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities under the ER Program and obtain the regulatory concurrences described in Section 4.8.1.1.

As established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 1 at former ER Program sites would be minimized to the extent practicable, and there would be no significant impacts. Specific redevelopment plans would need to consider and accommodate any ICs prescribed for former ER Program sites.

As discussed in Section 4.1, the City of Concord would be responsible for review and approval of applications for development following the transfer of property from the Navy. In its review and approval process, the City of Concord will require a developer to have a remediation plan that has been approved by applicable environmental regulatory agencies and developed in consultation with the city. Any remediation planning and implementation would occur prior to city approval of the development plan or, alternatively, as part of development activities. The city will not issue a certificate of occupancy until the implementation of the remediation has been approved by the applicable regulatory agencies (City of Concord 2010). In addition, the city will require a developer to have a site management plan that covers site development activities, including requirements for worker health and safety plans, air monitoring plans, dust control plans, and soil management plans, as appropriate, that have been approved by applicable environmental regulatory agencies. As well, the city will require that development activities do not interfere with any remediation activities or systems of the Navy or others, and that the details of those activities and systems are included in appropriate property transfer documents (such as the covenants, deeds, and FOSTs/FOSETs discussed above).

4.8.2.2 Solid Waste Management Unit Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former SWMU sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former SWMU sites.

As described in Section 3.8.4 and Table E-1 in Appendix E, of the 37 SWMUs originally identified at the former NWS Concord, 32 have received a recommendation of no further action, and four SWMUs were transferred to the IRP. A closure report was submitted for SWMU 30 in 1991, but there is no verification record acknowledging site closure under RCRA. Prior to transfer or lease of the former NWS Concord property, the Navy will obtain DTSC concurrence and closure documentation for the 33 SWMU sites not transferred to the IRP.

As established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 1 at former SWMU sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed in Section 4.8.2.1 would also apply to specific redevelopment plans for former SWMU sites.

4.8.2.3 Radiological Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former radiological sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former radiological sites.

As described in Section 3.8.5 and Table 3.8-2, the HRA conducted in 2010 concluded that 48 sites at the former NWS Concord—seven buildings and 41 weapons magazines—may have been impacted from historical uses of radioactive material, although the contamination potential is considered unlikely. The

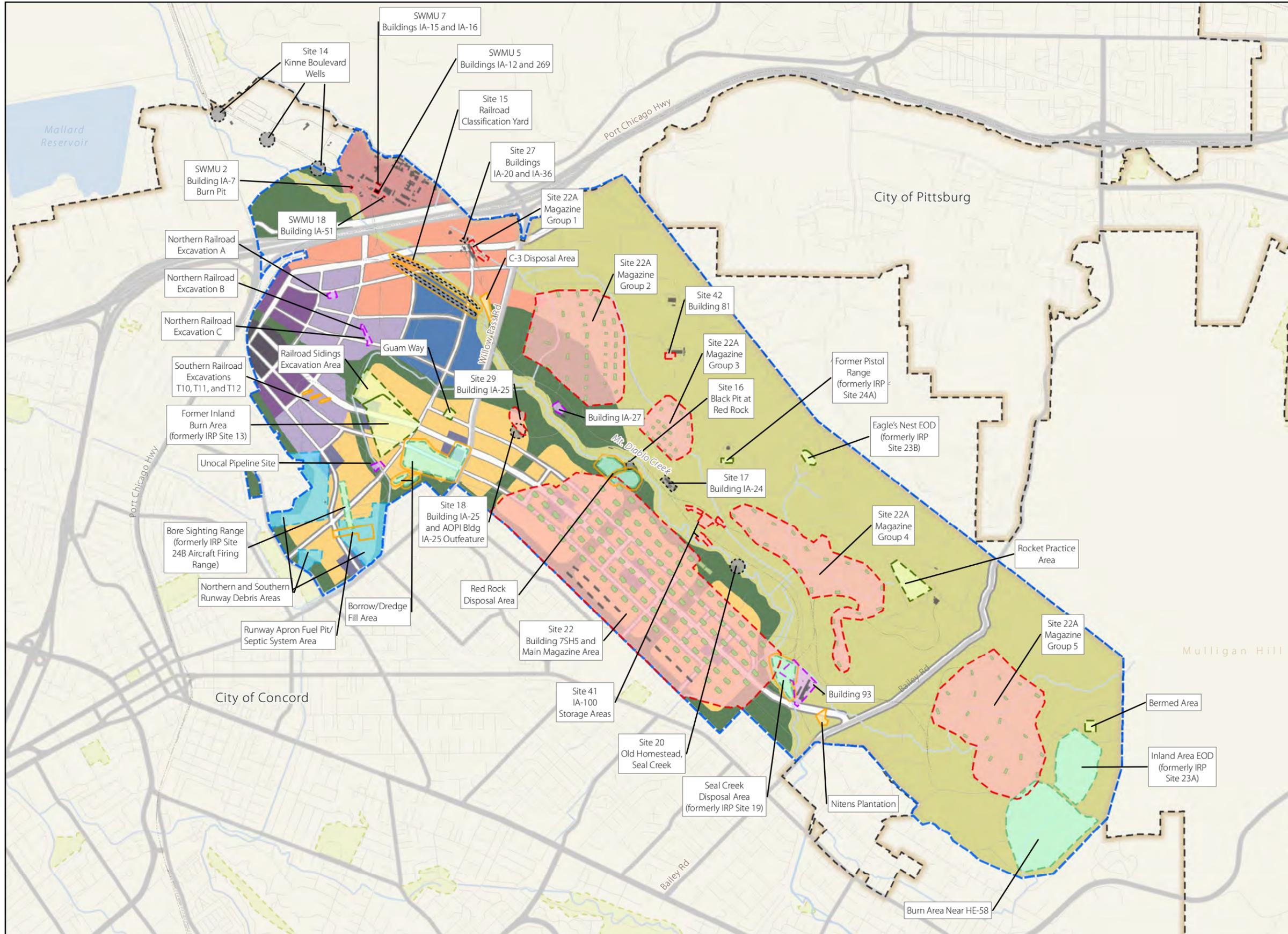


Figure 4.8-1
Alternative 1,
ER Program Sites
 Former NWS Concord
 Concord, California

Legend

- Major Road
- Street
- Railroad
- Stream/Canal
- Former NWS Concord
- City Limit
- Waterbody
- Local Park

- Building
- Magazine
- Active Installation Restoration Program (IRP) Site
- Closed or No Further Action IRP Site
- Active Military Munitions Response Program (MMRP) Site
- Closed or No Further Action MMRP Site
- Active Area of Potential Interest (AOPI) Site
- Closed or No Further Action AOPI Site
- Site Included in Preliminary Assessment/ Re-verification Investigation (PA/RVI)

- *Alternative 1 Development Districts**
- Campus
 - Central Neighborhood
 - Commercial Flex
 - Conservation Open Space
 - First Responder Training Center
 - Greenways, Citywide Parks, and Tournament Facilities
 - North Concord TOD Core
 - North Concord TOD Neighborhood
 - Roadways
 - Village Center
 - Village Neighborhood



SOURCE: Navy 2006, 2008, 2014; ESRI 2010; Tetra Tech 2014. (See text for additional site-specific references)

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Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
Installation Restoration Program (IRP) Sites					
Active IRP Sites					
SWMU 2	Building IA-7 Burn Pit	Remedial action for VOCs in groundwater and soil gas in progress.	Not yet specified.	• First Responder Training Center	• Campus
SWMU 5	Buildings IA-12 and 269			• First Responder Training Center	• Campus
SWMU 7	Buildings IA-15 and IA-16			• First Responder Training Center	• Campus
SWMU 18	Building IA-51			• First Responder Training Center	• Campus
22	Building 7SH5 and Main Magazine Area	NTCRA for endrin-contaminated soil completed. Bioavailability study for arsenic in surface soil in progress, to be followed by FS addendum and ROD.	LUCs for arsenic in surface soil.	<ul style="list-style-type: none"> • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood 	<ul style="list-style-type: none"> • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
22A	Magazine Group 1	Proposed Plan recommended NFA. ROD in progress.	No.	<ul style="list-style-type: none"> Commercial Flex 	<ul style="list-style-type: none"> Commercial Flex
	Magazine Group 2	Proposed Plan recommended NFA. ROD in progress.	No.	<ul style="list-style-type: none"> Commercial Flex Conservation Open Space Greenways, Citywide Parks, and Tournament Facilities 	<ul style="list-style-type: none"> Commercial Flex Conservation Open Space Greenways, Citywide Parks, and Tournament Facilities
	Magazine Group 3	Proposed Plan specified LUCs for arsenic in surface soil. ROD in progress.	LUCs for arsenic in surface soil.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
	Magazine Group 4	Proposed Plan recommended NFA. ROD in progress.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
	Magazine Group 5	Proposed Plan specified LUCs for arsenic in surface soil. ROD in progress.	LUCs for arsenic in surface soil.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
29	Building IA-25	NTCRA for VOCs in groundwater in progress. Revised FS, ROD, remedial action, and long-term monitoring anticipated.	LUCs to restrict use of groundwater (and the installation of groundwater monitoring wells) are anticipated.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Neighborhood 	<ul style="list-style-type: none"> Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
41	IA-100 Storage Areas	NFA recommended for two of the four areas (IA-100 South and the Area North of IA-100). IA-100 North area is being studied for PAHs in soil. NTCRA for MEC in soil planned for the Area West of IA-100. RI/FS anticipated.	No for two of the four areas. Not yet specified for the two remaining areas.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
42	Building 81	RI for VOCs in soil and groundwater in progress.	Not yet specified.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
Closed or No Further Action IRP Sites					
14	Kinne Boulevard Wells	NFA recommended.	No.	<ul style="list-style-type: none"> Two wells are outside the current boundary for the former NWS Concord, on property transferred to the U.S. Army The third well partly falls in the area of Greenways, Citywide Parks, and Tournament Facilities 	<ul style="list-style-type: none"> Two wells are outside the current boundary for the former NWS Concord, on property transferred to the U.S. Army The third well partly falls in the area of Greenways, Citywide Parks, and Tournament Facilities
15	Railroad Classification Yard	NFA previously recommended. PA/RVI for MEC in progress.	No.	<ul style="list-style-type: none"> Campus Commercial Flex Conservation Open Space 	<ul style="list-style-type: none"> Commercial Flex Conservation Open Space Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
16	Black Pit at Red Rock	NFA recommended twice previously.	No.	<ul style="list-style-type: none"> • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities 	<ul style="list-style-type: none"> • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
17	Building IA-24	NFA ROD.	No.	<ul style="list-style-type: none"> • Conservation Open Space 	<ul style="list-style-type: none"> • Conservation Open Space
18 (also known as AOPI Building IA-25 Outfeature)	Building IA-25	NFA recommended twice previously.	No.	<ul style="list-style-type: none"> • Village Neighborhood 	<ul style="list-style-type: none"> • Village Neighborhood
20	Old Homestead, Seal Creek	NFA recommended.	No.	<ul style="list-style-type: none"> • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities 	<ul style="list-style-type: none"> • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
27	Buildings IA-20 and IA-36	NFA ROD.	No.	<ul style="list-style-type: none"> • Commercial Flex 	<ul style="list-style-type: none"> • Commercial Flex

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
Military Munitions Response Program (MMRP) Sites					
Active MMRP Sites					
UXO 0001A (also known as IRP Site 24A, Pistol Firing Range)	Former Pistol Range	NTCRA for MEC, metals, and PAHs in soil in progress.	Not yet specified.	<ul style="list-style-type: none"> • Conservation Open Space 	<ul style="list-style-type: none"> • Conservation Open Space
UXO 0009/ UXO 0003 (portions of site were formerly IRP Site 13, Burn Area)	Former Inland Burn Area/Railroad Sidings Excavation Area	TCRA for MEC and metals in soil in progress. RI/FFS for MEC and munitions constituents in soil and groundwater in progress.	Not yet specified.	<ul style="list-style-type: none"> • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood 	<ul style="list-style-type: none"> • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood
UXO 0010 (formerly IRP Site 23B)	Eagle's Nest EOD	TCRA for MEC in soil in progress. RI/FFS for MEC and munitions constituents in soil in progress.	Not yet specified.	<ul style="list-style-type: none"> • Conservation Open Space 	<ul style="list-style-type: none"> • Conservation Open Space
UXO 0011	Guam Way	TCRA for debris and MEC in soil completed. RI/FS for MEC and munitions constituents in soil and groundwater in progress.	Not yet specified.	<ul style="list-style-type: none"> • Village Neighborhood 	<ul style="list-style-type: none"> • Village Neighborhood
UXO 0012	Bermed Area	RI for MEC and munitions constituents in soil in progress.	Not yet specified.	<ul style="list-style-type: none"> • Conservation Open Space 	<ul style="list-style-type: none"> • Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
UXO 0013	Rocket Practice Area	PA/SI for MEC in soil in progress.	Not yet specified.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
Closed or No Further Action MMRP Sites					
UXO 0002	Borrow/Dredge Fill Area	NFA previously recommended. PA/RVI for chemicals in soil in progress.	No.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Center Village Neighborhood 	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Center Village Neighborhood
UXO 0004	Red Rock Disposal Area	NFA previously recommended. PA/RVI for chemicals and munitions constituents in soil and groundwater in progress.	No.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Neighborhood 	<ul style="list-style-type: none"> Conservation Open Space Greenways, Citywide Parks, and Tournament Facilities Village Neighborhood
UXO 0005	Burn Area Near HE-58	NFA recommended.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
UXO 0006 (formerly IRP Site 19, Seal Creek)	Seal Creek Disposal Area	NFA previously recommended. PA/RVI for chemicals in soil and groundwater in progress.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
None (formerly IRP Site 23A)	Inland Area EOD	NFA recommended twice previously.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
None (formerly IRP Site 24B, Aircraft Firing Range)	Bore Sighting Range	NFA recommended twice previously.	No.	<ul style="list-style-type: none"> Village Neighborhood 	<ul style="list-style-type: none"> Central Neighborhood Greenways, Citywide Parks, and Tournament Facilities
Other Sites and Investigations					
Areas of Potential Interest					
AOPI	Building IA-27	NFA recommended.	No.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities 	<ul style="list-style-type: none"> Conservation Open Space Greenways, Citywide Parks, and Tournament Facilities
AOPI	Building 93	NFA recommended.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
AOPI	Northern Railroad Excavation A	NFA recommended.	No.	<ul style="list-style-type: none"> Central Neighborhood 	<ul style="list-style-type: none"> Central Neighborhood
AOPI	Northern Railroad Excavation B	NFA recommended.	No.	<ul style="list-style-type: none"> Central Neighborhood 	<ul style="list-style-type: none"> Central Neighborhood
AOPI	Northern Railroad Excavation C	NFA recommended	No.	<ul style="list-style-type: none"> Central Neighborhood 	<ul style="list-style-type: none"> Central Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
AOPI	Unocal Pipeline Site	NFA recommended.	No.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Neighborhood 	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities
AOPI	Northern and Southern Runway Debris Areas	SI for MEC, MPPEH, and munitions constituents in soil in progress.	No.	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities Village Center Village Neighborhood 	<ul style="list-style-type: none"> Central Neighborhood Greenways, Citywide Parks, and Tournament Facilities
<i>Preliminary Assessment/Re-verification Investigation Sites</i>					
None	C-3 Disposal Area	NFA previously recommended. PA/RVI for chemicals in soil in progress.	No.	<ul style="list-style-type: none"> Commercial Flex Conservation Open Space 	<ul style="list-style-type: none"> Commercial Flex Conservation Open Space
None	Nitens Plantation	NFA previously recommended. PA/RVI for chemicals in soil in progress.	No.	<ul style="list-style-type: none"> Conservation Open Space 	<ul style="list-style-type: none"> Conservation Open Space
None	Runway Apron Fuel Pit/Septic System Area	PA/RVI for chemicals in soil and groundwater and for MEC in progress.	No.	<ul style="list-style-type: none"> Village Neighborhood 	<ul style="list-style-type: none"> Greenways, Citywide Parks, and Tournament Facilities

Table 4.8-1 Relationship of ER Program Sites to Proposed Development Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
None	Southern Railroad Excavations T10, T11, and T12	NFA previously recommended. PA/RVI for chemicals in soil in progress.	No.	<ul style="list-style-type: none"> Central Neighborhood 	<ul style="list-style-type: none"> North Concord TOD Neighborhood

City of Concord 2010; ECC-Insight LLC 2014; Malcolm Pirnie, Inc., 2007; Navy April 2006, April 2010, July 2010, January 2012, November 16, 2012, November 2012, March 2013, February 2014; Tetra Tech, Inc. 2013; Tetra Tech EM, Inc., 2013; Trevet 2012; TriEco-Tetra Tech 2012, 2013.

Key:

- AOPI = area of potential interest
- EOD = explosive ordnance disposal
- FS = feasibility study
- FFS = focused feasibility study
- IRP = Installation Restoration Program
- LUC = land use control
- MEC = munitions and explosives of concern
- MMRP = Military Munitions Response Program
- MPPEH = material potentially presenting an explosive hazard
- NFA = no further action
- NTCRA = non-time-critical removal action

- PA = preliminary assessment
- PA/RVI = preliminary assessment/re-verification investigation
- PAH = polycyclic aromatic hydrocarbon
- RI = remedial investigation
- ROD = record of decision
- SI = site inspection or site investigation
- SWMU = solid waste management unit
- TCRA = time-critical removal action
- TOD = transit-oriented development
- VOC = volatile organic compound

term “impacted” is an NRC term used early in an investigation process that indicates there is a possibility for residual radioactive contamination exceeding NRC’s release standards. The HRA determined that there is no contamination potential associated with surface soil, surface water, groundwater, or air at any of the 48 sites. A low potential for contamination was determined to exist for subsurface soil, structures, and drainage systems at the seven buildings and for structures at the 41 weapons magazines. The Navy is presently performing the additional surveys recommended by the HRA for those areas with a contamination potential of “low.”

Figure 4.8-2 shows the impacted radiological sites designated by the HRA at the former NWS Concord in relation to the development districts proposed under Alternative 1. Table 4.8-2 summarizes the impacted radiological sites, the potential for contaminated media at each site as identified by the HRA, and the type of Alternative 1 development district the site falls within. Prior to transfer or lease of the former NWS Concord property, the Navy will complete its investigation and, as necessary, any remediation of the 48 sites identified by the HRA. The investigation and remedial program will proceed under the CERCLA process in coordination with EPA Region 9 (Naval Sea Systems Command 2010). The Navy anticipates obtaining NRC, EPA, and DTSC concurrence and closure for the sites.

As established in the methodology in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of radioactive wastes or materials associated with construction and operation activities of Alternative 1 at former radiological sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord’s review and approval process discussed in Section 4.8.2.1 would also apply to specific redevelopment plans for former radiological sites.

4.8.2.4 Other Hazardous Waste/Materials Management

Construction/demolition and operational activities to accommodate new development under Alternative 1 would involve the routine use of hazardous materials and routine generation of hazardous wastes. Potential impacts associated with those activities are discussed below.

4.8.2.4.1 Hazardous Waste

Some RCRA hazardous wastes would be generated during the construction/demolition of existing facilities and the development and operation of the new commercial, residential, industrial, recreational, and conservation land uses planned under Alternative 1. The use of heavy equipment and machinery and the performance of demolition and construction activities would result in waste oils and oily wastes, chemicals, acids, paints, solvents, cleaners, degreasers, and PCB-containing light ballasts (from the removal of old fluorescent light fixtures), as well as universal wastes such as batteries and fluorescent light bulbs. Operation of the new businesses and daily residential living would result in the routine generation of similar hazardous wastes, as well as waste pesticides and herbicides from pest control and landscaping. Offices and retail businesses, recreational facilities, and residential areas would generate relatively modest amounts of hazardous waste, whereas new industrial facilities could generate larger amounts of hazardous waste. Although not a RCRA hazardous waste, medical and biohazardous waste would be generated by any medical facilities (such as doctor and dentist offices, laboratories, and pharmacies) that are established in the new development districts under Alternative 1.

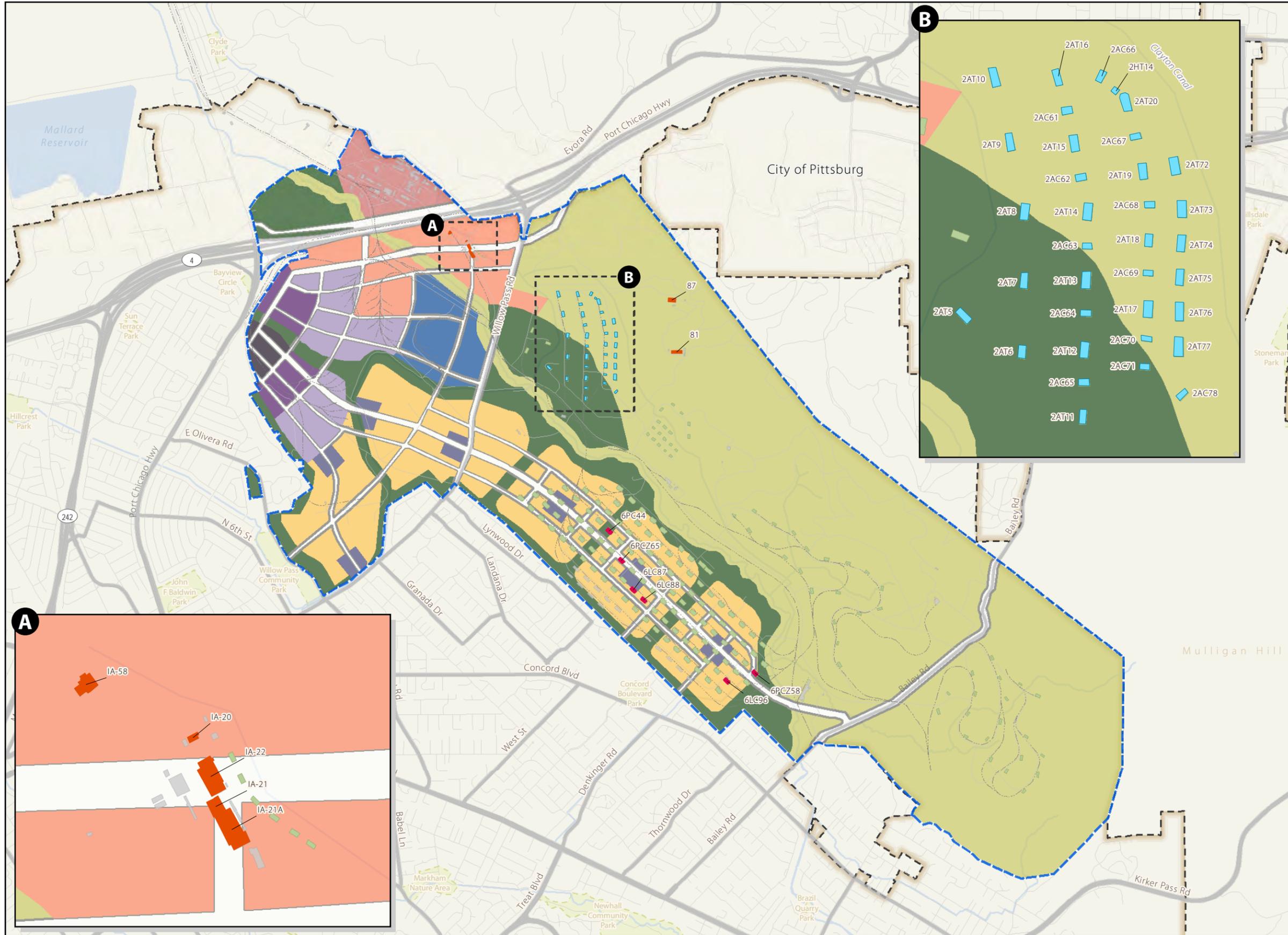


Figure 4.8-2
Alternative 1,
Potential Radiological Sites
 Former NWS Concord
 Concord, California

Legend

- Major Highway
- Street
- - - Railroad
- Stream/Canal
- ▭ Former NWS Concord
- ▭ City Limit
- ▭ Waterbody
- ▭ Local Park

- ▭ Building
- ▭ Magazine

Potential Radiological Sites Identified by Historical Radiological Assessment:

- ▭ Building
- ▭ Depleted Uranium Munitions Storage
- ▭ Magazine
- ▭ Special Weapons Magazine

***Alternative 1 Development Districts**

- ▭ Campus
- ▭ Central Neighborhood
- ▭ Commercial Flex
- ▭ Conservation
- ▭ Open Space
- ▭ First Responder
- ▭ Training Center
- ▭ Greenways, Citywide Parks, and Tournament Facilities
- ▭ North Concord TOD Core
- ▭ North Concord TOD Neighborhood
- ▭ Roadways
- ▭ Village Center
- ▭ Village Neighborhood



0 0.5 1 Miles

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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Table 4.8-2 Relationship of Radiological Sites to Proposed Development Districts, Alternatives 1 and 2

Impacted Site Designated by Historical Radiological Assessment (HRA) ^a	Potential for Contaminated Media Based on HRA ^a	Proposed Development	
		Alternative 1	Alternative 2
Building IA-20, Chemical Laboratory	None: Surface soil, surface water, groundwater, air Low: Subsurface soil, structures, drainage systems	• Commercial Flex	• Commercial Flex
Building IA-21, Material Test Laboratory		• Commercial Flex	• Commercial Flex
Building IA-21A, Evaluation Laboratory		• Commercial Flex	• Commercial Flex
Building IA-22, Photography Laboratory		• Commercial Flex	• Commercial Flex
Building IA-58, X-Ray Building		• Commercial Flex	• Commercial Flex
Building 81, Ordnance Maintenance and Test Building		• Conservation Open Space	• Conservation Open Space
Building 87, Inert Storage Building		• Conservation Open Space	• Conservation Open Space
Depleted Uranium Munitions Storage Magazines (6 total): 6LC87, 6LC88, 6LC96, 6PC44, 6PC58, and 6PC65	None: Surface soil, subsurface soil, surface water, groundwater, air, drainage systems Low: Structures	Depending on the magazine: • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood	Depending on the magazine: • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood
Special Weapons, Bulk Magazines (17 total): 2AC61, 2AT5, 2AT6, 2AT7, 2AT8, 2AT9, 2AT10, 2AT11, 2AT12, 2AT13, 2AT14, 2AT15, 2AT16, 2AT17, 2AT18, 2AT19, and 2AT20		Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
Special Weapons, RI Magazines (17 total): 2AC62, 2AC63, 2AC64, 2AC65, 2AC66, 2AC67, 2AC68, 2AC69, 2AC70, 2AC71, 2AT72, 2AT73, 2AT74, 2AT75, 2AT76, 2AT77, and 2AC78		Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	• Conservation Open Space
Special Weapons Magazine 2HT14		• Conservation Open Space	• Conservation Open Space

Source: Naval Sea Systems Command 2010.

^a The HRA concluded that the potential for contamination at each of the 48 impacted sites is unlikely. The Navy is performing the additional surveys recommended by the HRA for those areas with a contamination potential of “low.” See Section 3.8.5 for additional information.

The generation of hazardous waste under Alternative 1 would be greater than what is generated now at the former NWS Concord, which is in a reduced operational status. However, impacts would be minimized by adhering to standard regulations, policies, and procedures for hazardous waste management. DTSC's regulations in CCR Title 22 Division 4.5, Environmental Health Standards for the Management of Hazardous Waste, apply to the generation, storage, treatment, transport, and disposal of hazardous waste. The future developers and owners of the property would be required to manage hazardous wastes in accordance with applicable local, state, and federal regulations. Demolition and construction contractors typically would be required under contract to segregate, collect, and properly dispose of hazardous waste in accordance with Contra Costa County, state, and federal requirements.

The new businesses, their management/service contractors, and residents similarly would be required to manage hazardous wastes in accordance with county, state, and federal requirements. Contra Costa County provides a household hazardous waste program to residents and qualified small businesses, with a choice of three collection facilities throughout the county, in order to prevent the disposal of household hazardous waste in municipal solid waste. In addition to the regulatory requirements, industrial facilities would be subject to more regulatory oversight than businesses and households that generate smaller quantities of hazardous waste. Hazardous waste transporters also would be required to follow state and federal hazardous waste regulations.

Although more hazardous waste would be generated under Alternative 1 compared to existing conditions, compliance with the regulatory framework that is in place for hazardous waste management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of hazardous waste from construction and operational activities under Alternative 1; those impacts would not be significant.

4.8.2.4.2 Underground Storage Tanks

As described in Section 3.8.6.2, all of the 42 USTs originally located at the former NWS Concord have been removed and have received determinations of no further action, closure, or both. Prior to transfer or lease of the former NWS Concord, the Navy would obtain applicable regulatory concurrence from the RWQCB that the removed tanks have been properly closed.

New USTs could be installed for certain commercial and industrial businesses that are established under Alternative 1, such as gas stations, laboratories, and manufacturers. Such USTs would need to be installed, maintained, and monitored in accordance with CCR Title 23, Division 3, Chapter 16, Underground Storage Tank Regulations.

Compliance with the regulatory framework that is in place for managing USTs would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of hazardous materials in USTs under Alternative 1; those impacts would not be significant.

4.8.2.4.3 Aboveground Storage Tanks

As described in Section 3.8.6.3, all of the 21 ASTs originally located at the former NWS Concord have been removed and have received determinations of closure. Prior to transfer or lease of the former NWS Concord, the Navy would obtain applicable regulatory concurrence from CCHS that the tanks have been properly closed.

Similar to USTs, new ASTs could be installed for certain commercial and industrial businesses that are established under Alternative 1, such as laboratories and manufacturers. Such ASTs would need to be

installed, maintained, and monitored in accordance with the Aboveground Petroleum Storage Act and the CUPA, which is CCHS.

Compliance with the regulatory framework that is in place for managing ASTs would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of hazardous materials in ASTs under Alternative 1; those impacts would not be significant.

4.8.2.4.4 Asbestos

ACM has been found in 40 of the 49 buildings at the former NWS Concord that were surveyed in the past for asbestos (see Section 3.8.6.4). Further, due to the age of the buildings in general at the former NWS Concord, asbestos could be present in any other unsurveyed building built prior to 1989, the year that asbestos use was restricted in the U.S. An ACM reevaluation effort is in progress to further document for the Navy and future landowners the condition of identified ACM at the former NWS Concord. It is estimated that 46,000 cubic yards of ACM could be present in buildings on the property (see Appendix F).

Under Alternative 1, the future developers or owners of the property would have to remove ACM from buildings that are demolished to allow for new development. Specialized ACM removal contractors would have to be used to ensure that ACM is removed safely and that human health and the environment are protected. ACM removal would have to be conducted in accordance with federal and state requirements, which address ACM removal, ACM disposal, worker safety, and air quality. For example, National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR Part 61), as enforced by the local AQMD, requires that each owner or operator of a demolition activity subject to NESHAPS remove regulated ACM from the facility being demolished before any activity is undertaken that would break up, dislodge, or disturb the materials. Regulated ACM need not be removed before demolition if the ACM is considered non-friable (e.g., vinyl asbestos floor tiles), is not in poor condition, and would not be rendered friable during the demolition process.

Compliance with the regulatory framework that is in place for asbestos management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of ACM resulting from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because asbestos is no longer used in new building materials.

4.8.2.4.5 Lead-Based Paint

LBP has been evaluated in the past at the former NWS Concord largely for housing and child-occupied areas; little information exists for other buildings (see Section 3.8.6.5). Due to the age of the buildings in general at the former NWS Concord, LBP could be present in any building built prior to 1978, the year that LBP use was restricted in the U.S. Estimates are not available for potential quantities of LBP-containing materials in buildings on the property.

Under Alternative 1, the future developers or owners of the property would have to remove LBP from buildings that are demolished to allow for new development. Specialized LBP-removal contractors would have to be used to ensure that LBP is removed safely and that human health and the environment are protected. LBP removal would have to be conducted in accordance with federal and state requirements, which address worker safety and air quality as well as the proper removal of LBP in residential or child-occupied areas. In accordance with RCRA, demolition waste streams that might contain lead would be evaluated, either by applying knowledge of the waste or by testing using the toxicity characteristic leaching procedure (TCLP), to determine whether hazardous waste disposal regulations are applicable.

LBP-containing wastes generated from demolition would be required to be stored, transported, and disposed of offsite by an authorized contractor in accordance with RCRA requirements.

Lead from LBP reported to be in soil beneath Building IA-25 (IRP Site 29) will not be addressed under the ER Program because it is not a CERCLA release, and it would be addressed as applicable as part of reuse and redevelopment (Accord MACTEC 8A JV and Brady 2013).

Compliance with the regulatory framework that is in place for LBP management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of LBP from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because LBP manufacture and use have been restricted since 1978.

4.8.2.4.6 Polychlorinated Biphenyls

As described in Section 3.8.6.6, the transformers at the former NWS Concord for which there are testing results in the ECP report (Navy April 2006) contain PCBs below the EPA 50-ppm limit, but many of the available results exceeded 5 ppm, which is the level at which the DTSC requires PCB-containing liquids to be managed as a hazardous waste (22 CCR Division 4, Chapter 11, Article 3). Analytical results were not provided in the ECP report for more than 60 transformers at the former NWS Concord.

Prior to transfer or lease of the former NWS Concord, the Navy would provide analytical results for PCB testing for all of the transformers on the property, demonstrating that PCBs are below the EPA 50-ppm limit. Transformers that are handled or removed during construction and development activities under Alternative 1 would need to be handled in accordance with applicable state and federal regulations for hazardous waste if PCB content exceeds 5 ppm. Light ballasts from older fluorescent fixtures that are removed during building demolition likely contain PCBs and would require management as a hazardous waste.

Compliance with the regulatory framework that is in place for PCB management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of PCBs from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because PCB manufacture was banned in the U.S. in 1979.

4.8.2.4.7 Radioactive Materials

Potential impacts associated with the prior use of radioactive materials at the former NWS Concord are addressed in Section 4.8.2.3, Radiological Sites.

Under Alternative 1, radioactive materials could be used in soil density gauges, soil moisture gauges, and radiography gauges used during construction and demolition activities. New businesses that could use radioactive materials would include hospitals, medical offices, medical laboratories, pharmacies, and certain industries. Construction contractors and the new businesses would be required to hold radioactive materials licenses and conduct their activities in accordance with the requirements of CDPH and the State Radiation Control Law, which are authorized by the NRC.

Compliance with the regulatory framework that is in place for radioactive materials management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of radioactive materials associated with construction and operation activities of Alternative 1; those impacts would not be significant.

4.8.3 Alternative 2

4.8.3.1 Environmental Restoration Program Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former ER Program sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former ER Program sites.

As described for Alternative 1, the Navy's ER Program at the former NWS Concord is in various stages of completion depending on the ER Program site. Figure 4.8-3 shows the ER Program sites at the former NWS Concord in relation to the development districts proposed under Alternative 2. Table 4.8-1 summarizes the ER Program sites at the former NWS Concord, their current status under the ER Program, the type of Alternative 2 development district the site falls within, and whether ICs are anticipated to be part of the CERCLA remedy for the site. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities under the ER Program and obtain the regulatory concurrences described in Section 4.8.1.1.

As described for Alternative 1 and established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 2 at former ER Program sites would be minimized to the extent practicable, and there would be no significant impacts. Also as discussed for Alternative 1, following the transfer of property from the Navy, the City of Concord would be responsible for review and approval of applications for development, would ensure that remediation has been approved by applicable regulatory agencies, and would require that development activities be compatible with any remediation activities of the Navy or others.

4.8.3.2 Solid Waste Management Unit Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former SWMU sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former SWMU sites.

As described for Alternative 1, four SWMU sites were transferred to the IRP, and the 33 remaining SWMU sites are not considered to require further investigation under RCRA and DTSC's hazardous waste regulations. Prior to transfer or lease of the former NWS Concord property, the Navy will obtain DTSC concurrence and closure documentation for the 33 SWMU sites not transferred to the IRP.

As described for Alternative 1 and established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 2 at former SWMU sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed under Alternative 1 would apply to redevelopment plans for former SWMU sites.

4.8.3.3 Radiological Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former radiological sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former radiological sites.

As described for Alternative 1, the Navy is presently performing additional surveys for the 48 impacted sites identified by the HRA. The surveys are being performed for subsurface soil, structures, and drainage systems characterized as having a contamination potential of “low.” Figure 4.8-4 shows the impacted radiological sites designated by the HRA at the former NWS Concord in relation to the development districts proposed under Alternative 2. Table 4.8-2 summarizes the impacted radiological sites, the potential for contaminated media at each site as identified by the HRA, and the type of Alternative 2 development district the site falls within. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities and obtain the appropriate regulatory concurrences, as described under Alternative 1.

As described for Alternative 1 and established in the methodology in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of radioactive wastes or materials associated with construction and operation activities of Alternative 2 at former radiological sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord’s review and approval process discussed under Alternative 1 would apply to redevelopment plans for former radiological sites.

4.8.3.4 Other Hazardous Waste/Materials Management

As with Alternative 1, construction/demolition and operational activities to accommodate new development under Alternative 2 would involve the routine use of hazardous materials and routine generation of hazardous wastes. Potential impacts associated with those activities would be the same as those described for Alternative 1.

4.8.4 No Action Alternative

Under the No Action Alternative, the former NWS Concord would not be disposed of and would remain a closed federal property under caretaker status. The property would not be reused or redeveloped. Environmental investigation and cleanup of ER Program sites, SWMU sites (which have already been recommended for no further action or transferred to the IRP), and radiological sites would continue until completion and would be performed in accordance with the regulatory requirements for those cleanups. Those regulations have been promulgated to ensure the continued protection of human health and the environment during and following investigation and remedial action.

Similarly, under the No Action Alternative, the Navy would continue to manage other hazardous waste and hazardous materials in accordance with the regulatory compliance programs it is currently following. For example, the Navy would continue to obtain final closure documentation as applicable for USTs and ASTs that have been removed. ACM and LBP would remain in unoccupied buildings because they are not a safety hazard. Any ACM and LBP in occupied buildings would be further evaluated if the ACM and LBP deteriorate and could create a human health or environmental hazard. PCBs in transformers and light ballasts from older fluorescent fixtures would be handled as a hazardous waste in accordance with applicable state and federal regulations if that equipment is removed as part of routine property maintenance.

There would be minimal hazards to the public and the environment, and therefore minor impacts, from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with completing regulatory cleanup programs and continuing caretaker-status activities under the No Action Alternative.

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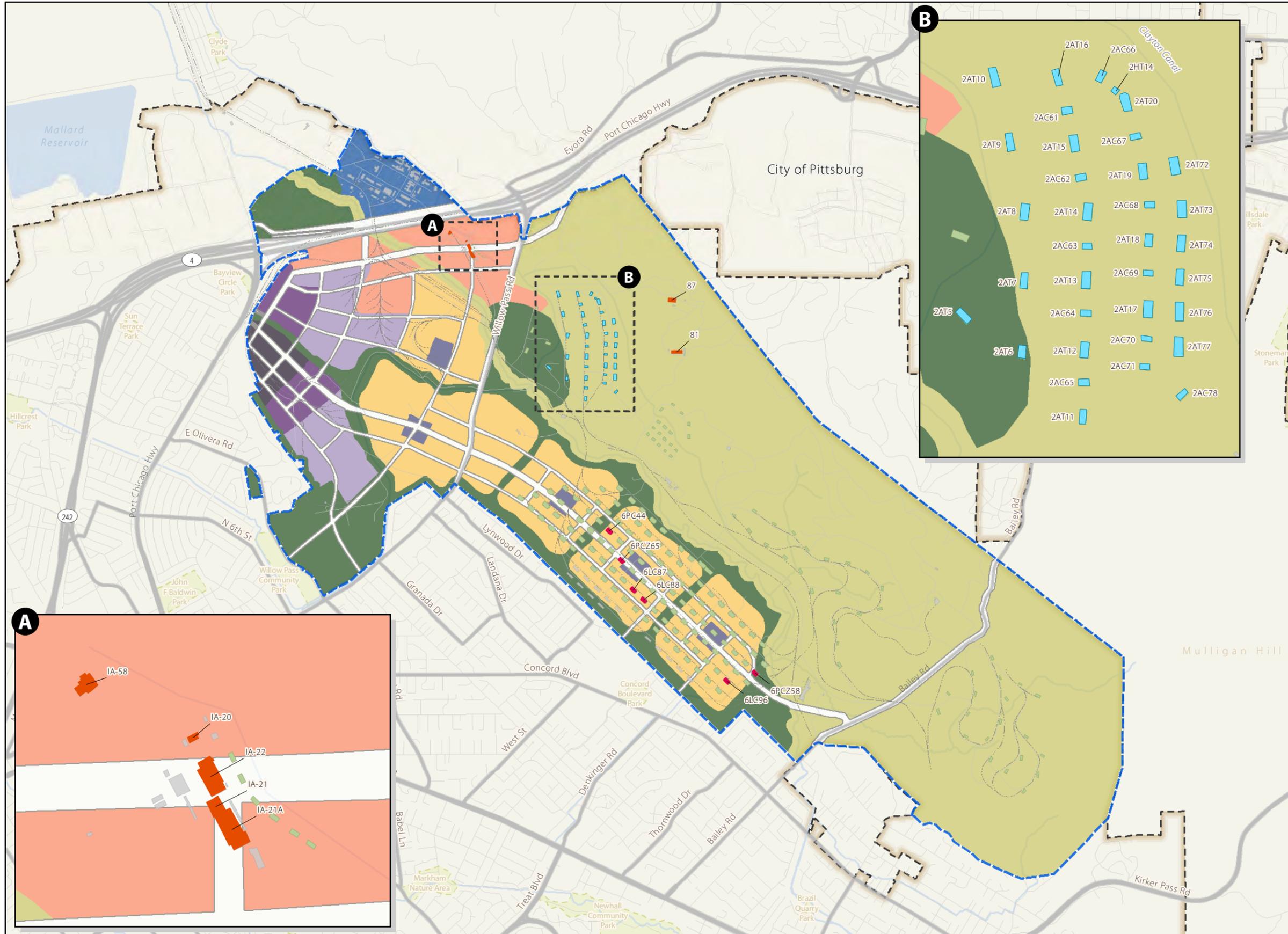


Figure 4.8-4
Alternative 2,
Potential Radiological Sites
 Former NWS Concord
 Concord, California

Legend

- Major Highway
- Street
- - - Railroad
- Stream/Canal
- ▭ Former NWS Concord
- ▭ City Limit
- ▭ Waterbody
- ▭ Local Park

- ▭ Building
 - ▭ Magazine
- Potential Radiological Sites Identified by Historical Radiological Assessment:
- ▭ Building
 - ▭ Depleted Uranium Munitions Storage
 - ▭ Magazine
 - ▭ Special Weapons Magazine

- *Alternative 2 Development Districts
- ▭ Campus
 - ▭ Central Neighborhood
 - ▭ Commercial Flex
 - ▭ Conservation Open Space
 - ▭ Greenways, Citywide Parks, and Tournament Facilities
 - ▭ North Concord TOD Core
 - ▭ North Concord TOD Neighborhood
 - ▭ Roadways
 - ▭ Village Center
 - ▭ Village Neighborhood



0 0.5 1 Miles

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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4.9 Noise

This section describes the potential impacts to the ambient noise environment resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an analysis of the potential construction and operation impacts resulting from reuse of the former NWS Concord property.

4.9.1 Alternative 1

4.9.1.1 Construction

Implementation of Alternative 1 would involve construction of diverse residential, commercial, and community structures distributed in eight development districts connected by public transit. Noise impacts during construction activities would include construction equipment operating on the site and delivery vehicles traveling to and from the site during regular working, daylight hours. Noise impacts would vary widely, depending on the phase of construction, the specific task being undertaken, and the size of the new development. During construction of any of the proposed development at the site, noise would be produced by operation of heavy-duty equipment from demolition, grading, clearing, pile-driving, paving, framing, landscaping, and other common urban construction activities.

Table 4.9-1 provides a summary of the predicted noise levels from the typical pieces of equipment expected to be used during the different phases of development proposed for Alternative 1. Construction noise impacts were estimated by the city using the Federal Highway Administration (FHA) reported maximum noise levels for construction equipment (FHA 2006). At a distance of 50 feet from a construction or demolition site, noise from the various types of equipment will, at times, range from 79 to 101 dBA.

Noise-sensitive receptors are located around the site, including residential land uses along the western boundary of the former NWS Concord. In particular, noise-sensitive receptors along the Port Chicago Highway boundary and Willow Pass Road are likely to be exposed to a temporary increase in noise from construction activities due to the density of development proposed in this portion of the site.

Table 4.9-1 Estimated Noise Levels from Construction Equipment

Typical Equipment per Phase	Predicted Average Noise Levels (8-hour L_{eq} , in dBA)		
	25 feet	50 feet	100 feet
Demolition			
Track hoe	96	90	84
Crane	94	88	82
Excavator	91	85	79
Water Truck	94	88	82
Site Work			
Crawler Tractor	91	85	79
Grader	91	85	79
Loader	91	85	79
Compactor	88	82	76
Water truck	94	88	82
Pile driver	107	101	95

Table 4.9-1 Estimated Noise Levels from Construction Equipment

Typical Equipment per Phase	Predicted Average Noise Levels (8-hour L_{eq} , in dBA)		
	25 feet	50 feet	100 feet
Foundation			
Backhoe	86	80	74
Loader	91	85	79
Forklift	85	79	73
Water truck	94	88	82
Utilities			
Backhoe	86	80	74
Water truck	94	88	82
Forklift	85	79	73
Slab on Grade			
Skip loader	88	82	76
Bobcat tractor	90	84	78
Forklift	85	79	73
Steel Erection			
Crane	94	88	82
Air compressor	87	81	75
Generator	87	81	75
Forklift	85	79	73
Decking/Slabs			
Generator	87	81	75
Forklift	85	79	73
Concrete pump	88	82	76
Completion			
Forklift	85	79	73

Source: City of Concord 2010

Although the impacts of construction on noise-sensitive receptors are potentially significant, Concord General Plan Policy S-2.2.3 requires developers to reduce noise impacts of new developments on adjacent properties through appropriate means. Prior to approving a permit for development at the site to ensure that the city's policy is achieved, the city will require developers to demonstrate compliance with the following guidance:

- Whenever construction occurs adjacent to occupied residences (onsite or offsite), temporary barriers shall be constructed around the construction sites to shield the ground floor from the noise-sensitive uses.
- Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 8:00 a.m. to 5:00 p.m. on Saturday; and 12:00 p.m. to 4:00 p.m. on Sundays and holidays, or at such other hours that may be authorized and restricted by the permit, if they meet at least one of the following noise limitations:
 1. No individual piece of equipment shall produce a noise level exceeding 90 dBA L_{eq} at a distance of 25 feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible.

2. The noise level at any point outside the site boundary shall not exceed 90 dBA L_{eq} .
- Construction equipment staging areas shall be located as far as feasible from residential areas while still serving the needs of construction contractors.
 - Quieter “sonic” pile drivers shall be used, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations.
 - Groundborne vibration impacts from construction activities shall be considered in the construction programs to minimize the disturbance to noise-sensitive receptors.
 - Routes for heavy construction site vehicles shall be identified, and contractors shall be required to use them exclusively to minimize noise and vibration impacts to residences and noise-sensitive receptors.
 - Activities that generate high noise levels—such as pile driving and the use of jackhammers, drills, and impact wrenches—shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday (City of Concord 2010).

4.9.1.2 Operation

Implementation of Alternative 1 would result in the extension of existing roads, construction of new roads, and increased traffic volumes associated with the proposed development within the former NWS Concord site.

The City of Concord conducted a noise assessment based on the traffic levels projected in the FEIR (City of Concord 2010). Table 4.9-2 presents anticipated increases in day-night average noise levels at identified locations near the former NWS Concord associated with the projected increase in traffic volumes. See Figure 4.9-1 for noise receptor locations.

Table 4.9-2 Predicted Traffic Noise Levels (Alternative 1)

Receptor No.	Location/Roadway Segment	Predicted Day-Night Noise Level (dB Ldn)		
		Existing Conditions	With Alternative 1	Increase in Noise Level
1	20 feet from Port Chicago Highway	74	77	3
2	25 feet from East Olivera Road and 25 feet from Salvio Street	72	73	1
3	25 feet from Willow Pass Road	74	76	2
4	25 feet from Concord Boulevard	76	78	2
5	25 feet from Clayton Road and 1,000 feet from West Street	79	80	1
6	25 feet from Bailey Road and 25 feet from Myrtle Road	73	74	1
7	1,000 feet from East Olivera Road; 2,000 feet from Port Chicago Highway; and 5,000 feet from SR 4	52	54	2
8	25 feet from West Street at the site of boundary (where road extension is proposed).	NA	68	NA
9	25 feet from Denkinger Road at the site boundary	61	68	7

Source: City of Concord 2010

Long-term effects on existing noise levels due to the projected increase of vehicular traffic associated with the development of Alternative 1 would be significant and localized at closest sensitive receptors.

The FHWA provides policies and guidance for the analysis of highway traffic noise and abatement of highway traffic noise. FHWA-established criteria that represent the upper limit of acceptable traffic noise levels in areas based on defined land use are identified in Table 4.9-3.

Noise impacts occur when the predicted traffic noise levels approach within 1 dBA of the noise abatement criteria (see Table 4.9-3) corresponding equivalent sound level (FHA 1995). Based on this, 66 dBA effectively becomes the noise abatement criterion for the residential land use category, or when the predicted traffic noise levels substantially exceed (are more than 15 dBA) the existing noise levels. Traffic noise impacts can occur below the noise abatement criteria. The noise abatement criteria should not be viewed as federal standards or desirable noise levels. The noise abatement criteria should only be used as absolute values that, when approached or exceeded, require that traffic noise abatement measures be considered.

Table 4.9-3 Traffic Noise Abatement Criteria, Hourly A-weighted Sound Level (dBA)

Activity Category	$L_{EQ}(H)^1$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ²	67 (Exterior)	Residential
C ²	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E ²	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

Source: FHA 2011.

¹ Hourly A-Weighted Sound Level in decibels (dBA).

² Includes undeveloped lands permitted for this activity category

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. For noise, either the city or individual project proponents will be required to obtain any necessary permits from state and federal

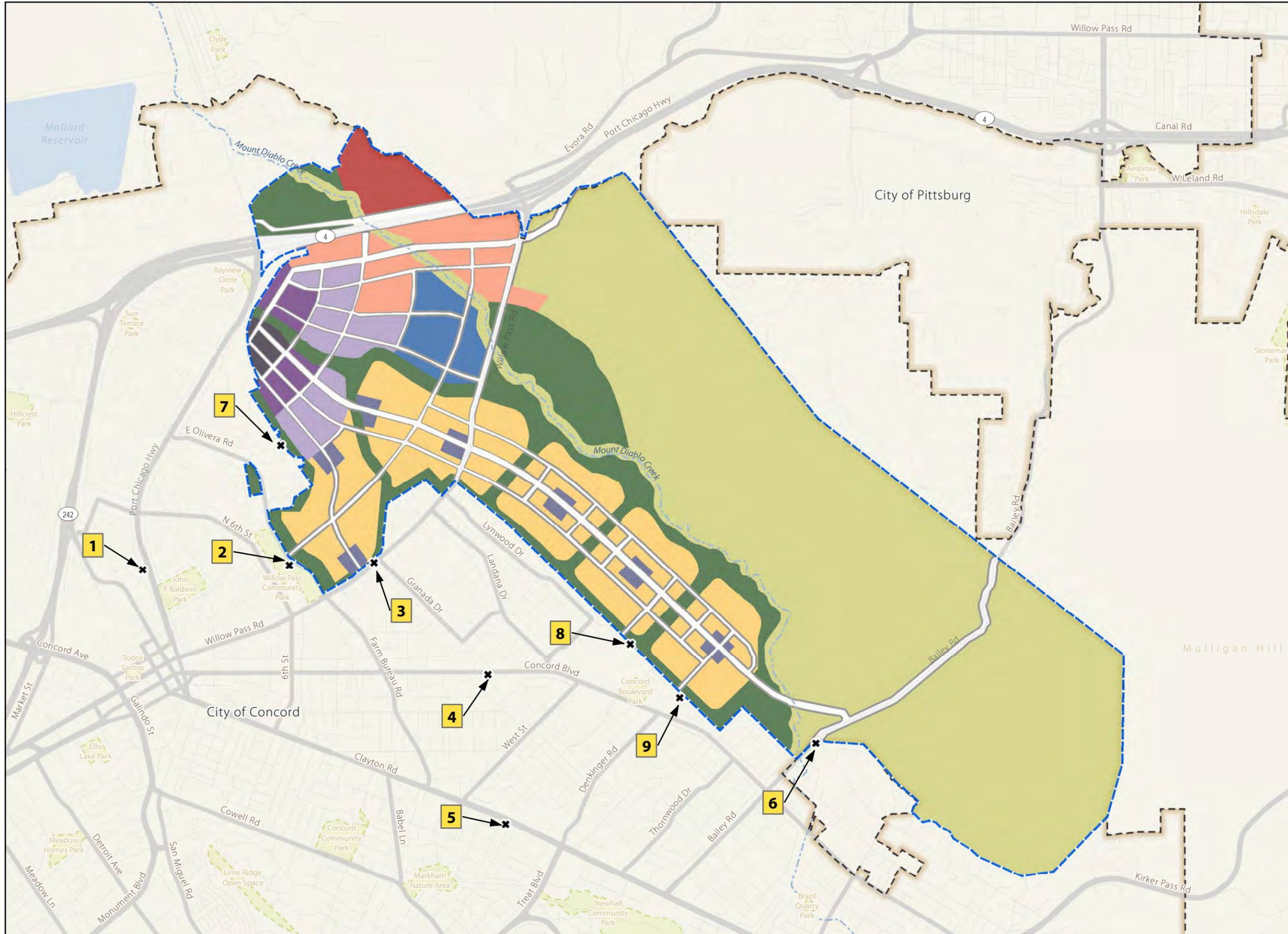


Figure 4.9-1
Predicted Traffic Noise
Receptor Locations
 Former NWS Concord
 Concord, California

Legend

- Former NWS Concord
- City Limits

Traffic Noise Prediction Locations

- 1** Port Chicago Highway and High School Avenue
- 2** East Olivera Road and Salvio Street
- 3** Willow Pass Road and Granada Drive
- 4** Concord Boulevard and Granada Drive
- 5** Clayton Road and Mendocino Drive
- 6** Bailey Road and Myrtle Road
- 7** East Olivera Road, Port Chicago Hwy and SR 4
- 8** West Street at Boundary with Proposed Site
- 9** Denkinger Street at Boundary with Proposed Site

***Alternative 1 Development Districts**

- | | |
|---------------------------------|--------------------------------|
| Campus | North Concord TOD Core |
| Central Neighborhood | North Concord TOD Neighborhood |
| Commercial Flex | Roadways |
| Conservation Open Space | Village Center |
| First Responder Training Center | Village Neighborhood |
| Greenways and Citywide Parks | |



0 0.5 1 Miles

SOURCE: City of Concord, 2010.

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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agencies prior to construction, conduct acoustical analyses for the proposed new uses, and adjust proposed construction techniques and materials to provide sufficient acoustical insulation and reduce effects on noise-sensitive receptors to the extent feasible. Noise mitigation measures specifically identified in the MMRP include:

- The City shall require that new extensions of West Street and Denkinger Road shall be constructed using low-noise road surfaces, and to incorporate grading measures such as berms or other barriers to screen noise. The City will also require developers to fund grants that will allow noise-sensitive receptors to install acoustical insulation.
- Before the City of Concord grants approval for any residential uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the City shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the City. New residential development must demonstrate that the City's "normally acceptable" noise standard can be achieved in exterior living spaces.
- Before the City of Concord grants approval for any commercial uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the City shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the City. Construction of buildings for commercial use on land that is exposed to noise levels above the City's noise standard shall include only be undertaken after a detailed analysis of the noise reduction and noise insulation features needed to comply with City standards.
- Before the City of Concord grants approval for any public parks on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the City shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the City. Public parks shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.
- Before the City of Concord grants approval for any schools on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the City shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the City. Schools shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.

Increase of ambient noise levels associated with the increase in vehicular traffic would be a significant, long-term, and area-wide effect on closest sensitive receptors. However, effects on noise-sensitive receptors exposed to long-term ambient noise increases due to traffic noise from adjacent roads would be reduced by implementation of the mitigation measures described above.

Development of Alternative 1 would involve the construction and operation of a tournament facility, which would be located adjacent to complementary uses within the Commercial Flex district. Potential adjacent uses would also involve open space and residential. The specific layout and location of this facility would be defined at a project level; however, it is expected that, once in operation, it would involve periodic events with public attendance and related traffic increases, the use of sound reinforcement, and public address systems. During each periodic event, ambient noise levels would be increased over the community annoyance threshold of 5 dBA defined by FTA and other applicable guidance, resulting in a localized, short-term, moderate effect on closest noise-sensitive receptors.

To reduce potential effects on noise-sensitive receptors, the city will require that a noise analysis be conducted to determine the likely increase to exterior noise levels at noise-sensitive receptors during sports events and develop appropriate mitigation measures to reduce noise impacts.

Implementation of the mitigation measure mentioned above would reduce the intensity of the impact from moderate to minor level, potentially reducing the increase of exterior noise below the community noise annoyance threshold of 5 dBA. Therefore, no further mitigation would be required.

Implementation of Alternative 1 would result in new land uses within the former NWS Concord site that would expose sensitive receptors to new sources of noise. Sensitive receptors would also increase over time, as development of the proposed eight districts would happen in phases and new residents would move into the developed areas. New noise sources would involve construction and long-term use of residential, commercial, and community use buildings and public spaces; vehicular traffic; rail system use; as well as permanent sources associated with the proposed urban development, such as heating, ventilation, and air conditioning (HVAC) systems and utility transformers.

The City of Concord General Plan establishes exterior noise standards for residential uses of 60 dBA L_{dn} for low density use, and 64 dBA L_{dn} for multi-family, mixed-use, high-density developments. The exterior noise standard for commercial, community land uses, public parks, and schools is 69 dBA L_{dn} . Moreover, the California Building Standards Code requires that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{dn} in any residence or hotel guest room.

As shown in Tables 4.9-1 and 4.9-2, traffic/rail and construction noise sources associated with the development of Alternative 1 would expose the closest residential and commercial and other community sensitive land uses to levels above the city exterior noise standards. Exposure to noise levels in excess of the city standards would be significant, localized, and long-term, except for those sources associated with construction activities.

To minimize the exposure of residential receptors to noise levels in excess of the city standards and the California Building Code, the City of Concord would require developers to use intervening structures and barriers to screen noise-sensitive land uses from new sources. Pursuant to the California Building Standard Codes, an acoustical analysis needs to be conducted in order to demonstrate that the interior noise standard is achieved in areas where exterior noise levels exceed 60 dBA L_{dn} . In addition, the city has adopted the following mitigation measures to reduce the exposure of persons to generation of noise in excess of applicable standards:

- Before the City of Concord grants approval for any buildings that include habitable rooms on parcels on lands along the BART and SR 4 corridors and along Willow Pass Road, the City shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the City demonstrating that the 45 dBA L_{dn} standard is achieved. With implementation of this mitigation measure, this potentially significant impact would be reduced to a level that is less than significant.
- The City of Concord shall require any new development of the site to include noise control measures at stationary sources to reduce impacts to noise sensitive receptors. Prior to the issuance of building permits, the City shall require developers to submit engineering and acoustical specifications for project mechanical HVAC and utility transformers (including generators) to the Planning Department or other appropriate department, demonstrating that the equipment design (types, location, enclosure, specifications) could control noise from the equipment to at least 10 dB(A) below existing ambient noise levels at nearby residential and other noise-sensitive land uses.

Implementation of the city's mitigation measures above would ensure construction and future long-term use of the proposed Alternative 1 development districts provide noise controls and reduce exposure of

sensitive receptors to levels above the city and state community noise and building standards. While the extension of noise exposure would remain localized and long term for most cases, the acoustical analysis and the use of noise-reducing design, building materials, and construction techniques would reduce effects on closest sensitive receptors to moderate to minor levels of intensity.

Implementation of Alternative 1 would involve two major sources of noticeable vibration: construction activities and increased rail system operations. Because roadway traffic with rubber tires generates low levels of vibration, construction activities and rail use are the most likely cause of noticeable vibration; however, effects from vehicle traffic on sensitive receptors located in the proximity of SR 4 have been considered for the purposes of this analysis.

Vibration effects are usually related to one single event or activity and generally are dependent upon the distance from the source to the closest receptors, the type of soils in the area, and the presence of barriers. The soils at the entire site have been reported as soils, not rock (City of Concord 2010). As discussed above, sensitive land uses (residences) are currently located adjacent to the western boundary of the site. Presence of sensitive receptors would increase over time, as new residents and other sensitive land uses are established within developed areas within the proposed Alternative 1 site. Due to the proximity of sensitive land uses, it is expected that effects of vibration sources would be noticeable to closest receptors.

During construction, groundborne vibration is generally associated with the use of heavy-duty equipment and vehicles, as well as with the use of ground-breaking construction techniques such as demolition, excavation, pile-driving, blasting, compaction, and paving. Pile-driving could be most noticeable within buildings or near the construction sites, resulting in annoyance to local residents and occupants of commercial and community uses. Vibration associated with pile-driving has been reported as 104 and 112 VdB at 25 feet (FTA 2005).

To mitigate the impacts of vibration noise, the City of Concord would require developers to demonstrate compliance with construction vibration controls, such as the following:

- Use of quieter “sonic” pile drivers, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations.
- Consideration of groundborne vibration impact reductions in construction programs
- Use of routes for heavy construction site vehicles shall be identified and contractors shall be required to use them exclusively to minimize noise and vibration impacts to residences and noise-sensitive receptors.
- Hour limits to activities that generate high noise levels—such as pile driving and the use of jackhammers, drills, and impact wrenches—shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday.

Effects during construction would be generally moderate in intensity, localized, and short term. Implementation of controls proposed by the city focused on controls over major groundborne noise and vibration sources that would reduce effects from a moderate to minor intensity.

During long-term development of Alternative 1, roadway traffic and operation of the BART system would be the major sources of vibration. Measurements conducted by the City of Concord in proximity to the BART corridor and SR 4 have been reported to be below the thresholds established by the FTA general assessment methodology for sensitive and uses. Therefore, no specific measures for permanent, long-term, vibration effects associated with rail use and traffic have been identified.

Overall, adverse impacts associated with construction and operation of Alternative 1 would not be significant.

4.9.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than Alternative 1 and is generally consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development.

However, the impact of the construction and full build-out of Alternative 2 on the ambient noise environment would be similar to that described for Alternative 1 at the programmatic level analyzed. Measures identified by the City of Concord to mitigate the noise impacts under Alternative 1 would similarly apply to Alternative 2, and no significant adverse impacts would result from the implementation of Alternative 2.

4.9.3 No Action Alternative

The No Action Alternative is the retention of the former NWS Concord property by the U.S. government in caretaker status. No reuse or redevelopment of the property would occur. Noise sources associated with the current approved uses of the property would remain until the leases expire or the Navy decides to renew the lease. Existing noise uses are equipment and vehicle use associated with the remedial and environmental cleanup activities underway at the site, as well as general maintenance of the property.

4.10 Public Services

This section describes the potential impacts to public services resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of direct and indirect impacts on educational facilities; public safety, emergency, and health care facilities; and open space, parks, and recreation. The study area includes the former NWS Concord, the City of Concord, the City of Pittsburg, and Contra Costa County.

4.10.1 Alternative 1

4.10.1.1 Educational Facilities

Implementation of Alternative 1 would affect the provision of educational services in the City of Concord by increasing the number of school-aged children in the city and by providing for new development of educational facilities.

As discussed in Section 4.3, the population in the City of Concord is estimated to increase by 32,387 residents, based on the projected number of housing units in the Area Plan. Assuming full build-out of Alternative 1 and full occupancy of all residential units, an estimated 4,577 school-aged children would be living in these new units and would require educational services.

The estimate of the number of school-aged children was developed utilizing data for the City of Concord from the U.S. Census Bureau's 2012 American Community Survey on school enrollment, population by housing type, and number of housing units within a structure. These data were used to provide a demographic multiplier that was then applied to the projected number of multi- and single-family housing units to estimate the number of school-aged children, as shown on Table 4.10-1.

Table 4.10-1 School-aged Population Projections by Grade Level at Full Build-out under Alternative 1

Type of Residential Unit	Projected Number of Units	Residential Demographic Multiplier	Projected Total Number of School-aged Children	Projected Number of School-aged Children (grades K-5)	Projected Number of School-aged Children (grades 6-8)	Projected Number of School-aged children (grades 9-12)
Multi-Unit Housing and Mixed-Use, Multi-Unit Housing	7,800	.356	2,777	847	486	468
Single-Family Detached, Single-Family Attached, and Moderate-Density Townhomes	4,400	.409	1,800	1,304	750	722
Total	12,200		4,577	2,151	1,236	1,190

Sources: City of Concord 2010; U.S. Census Bureau n.d. a, b, c.

In accordance with the City of Concord’s 2030 General Plan, approximately 47 percent of the students would attend elementary schools (grades kindergarten through 5), 27 percent of the students would be in middle schools (grades 6 through 8), and 26 percent would be in high schools (grades 9 through 12). The number of school-aged children by grade is also shown on Table 4.10-1.

As shown on the table, if current public school enrollment rates remain constant, full build-out of Alternative 1 would result in the addition of 2,151 elementary school students, 1,236 middle school students, and 1,190 high school students to the MDUSD, for a total of 4,577 students. The projected number of school-aged children after full build-out of Alternative 1 would represent approximately 14 percent of the current student enrollment in the MDUSD and would approximate the level of enrollment in the early 2000s, before enrollment in the district began to decline.

In 2010, the district began a process of redistricting, which included some school closures (Education Data Partnership 2011-2013). With the projected increase in population, old facilities may need to be reopened or new school facilities constructed.

Under Alternative 1, approximately 98.9 acres of land within the former NWS Concord would be allocated toward new elementary, middle school, and high school educational facilities within the former NWS Concord property (City of Concord 2010). Table 4.10-2 shows the allocated acreage by type of school. The City of Concord has proposed that four elementary schools, one middle school, and one high school would be constructed to meet the demand generated by new residents. (City of Concord 2010)

Table 4.10-2 Alternative 1 – Allocated Acreage for K-12 Schools

Type of School	Allocated Acreage
Elementary (K-5)	40.2
Middle (6-8)	25
High School (9-12)	33.7
Total	98.9

Source: City of Concord 2010

Allocation of this land for public schools ensures compliance with Policy PF-2.1.6 of the 2030 General Plan, which requires that future planning for the former NWS Concord include adequate land for schools.

In addition, the Leroy F. Greene School Facilities Act of 1998 authorizes local school districts to levy statutory development fees on new construction within their jurisdiction that would provide for “full and complete school facilities mitigation.” In other words, the MDUSD is allowed to levy development fees on construction at the former NWS Concord that would provide sufficient funding to build any necessary additional schools. Currently, the MDUSD requires developers to pay \$2.97 per square foot of assessable space for residential construction, \$0.47 per square foot of covered and enclosed space for commercial/industrial construction, and \$0.23 per square foot for rental mini-storage space (MDUSD 2012).

Additional operating expenses are expected to be covered through the growth of the local tax base. Currently, the former NWS Concord is nontaxable federal property, generating no property or school tax revenues. Once the disposal and reuse process of the property is complete, the residential and commercial property would become taxable, thus expanding the potential property tax revenues from the former NWS Concord.

Growth in the school-aged population resulting from Alternative 1 would be directly related to the rate of re-occupancy of the property. Increases in municipal expenses associated with an increased demand for educational services under Alternative 1 are assumed to be offset by a proportional growth in the tax base

as the former installation is developed and people purchase or rent housing on the property. Property taxes levied against new development on the site would generate new funding to allow for the operation of new schools on allocated land. Because additional land would be allocated toward the development of schools and new development would create additional funding sources, implementation of Alternative 1, while necessitating an expansion of schools, would not result in a significant, long-term impact on educational services.

4.10.1.2 Public Safety, Emergency, and Health Care Facilities

Police Protection

Implementation of Alternative 1 would affect the provision of police protection services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of public safety facilities.

With the transfer of the former NWS Concord from the Navy, the CCPD would expand its jurisdiction to include the site area. Reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retail shops, schools, and recreational areas, under the jurisdiction of the CCPD. Implementation of Alternative 1 would support an increased residential population of 32,387 and a workforce of approximately 22,714.

Expansion of the service area and the increased number of residents living and working in the city would generate additional demands on the CCPD and expenses for the CCCFPD to provide additional services. The CCPD has indicated that this increase in demand would require a future expansion of staffing and equipment (Contra Costa LAFCO 2011). In 2010, the CCPD provided approximately 1.2 police officers per 1,000 city residents. Maintaining this ratio with the projected population increase under Alternative 1 would require an estimated 39 additional police officers. In addition, a commensurate amount of equipment would be required to support these additional police officers.

The existing police headquarters building could accommodate the projected increase in police officers based on the standard of 200 square feet of police station area per 1,000 city residents that is stated in the City of Concord's 2030 General Plan. The square footage of the existing police headquarters building can serve up to 335,000 residents based on this standard; thus, expansion of the existing police headquarters would not be necessary. However, as described in Section 2.2.3.2, Alternative 1 also provides for the possibility that the CCPD may establish a field office at the former NWS Concord site.

In addition, under Alternative 1, the City of Concord proposes to construct a First Responder Training Center. Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments. Additionally, the EBRPD Police Department would patrol the proposed conservation open space area (EBRPD 2014c).

Because development of the site would occur incrementally over approximately 25 years, CCPD services would be expanded slowly, on an as-needed basis. Costs incurred from expanding the CCPD service area are anticipated to be offset by property taxes generated from the development. Similarly, EBRPD police services are primarily funded by property tax revenue (EBRPD 2013a, 2014d), and increases in service costs would be offset by increased tax revenues. Refer to the taxes and revenues discussion in Section 4.3. Therefore, reuse of the site in a manner consistent with Alternative 1 is not expected to result in any significant, long-term impacts on police protection services.

Fire Protection and Emergency Medical Services

Implementation of Alternative 1 would affect the provision of fire protection and EMS in the City of Concord by increasing the residential population and workforce in the city and by providing for new development of emergency response facilities. With the transfer of the former NWS Concord from the Navy, the CCCFPD would expand its jurisdiction to include the site area. Reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retail shops, schools, and recreational areas, under the jurisdiction of the CCCFPD. The implementation of Alternative 1 would support an increased residential population of 32,387 and a workforce of approximately 22,714.

Expansion of the service area and the increased number of residents and personnel living in the city would generate additional demands and expenses for the CCCFPD to provide additional services. As discussed in Section 3.10, 24 fire stations currently serve approximately 523,162 residents, for a ratio of one fire station per 21,798 people. Additionally, during FY 2012-2013, the fire district had a total of 362 authorized personnel, resulting in a ratio of approximately 0.69 firefighting personnel per 1,000 residents. In order to maintain levels of service similar to the existing levels upon implementation of Alternative 1, two additional fire stations would need to be developed, and an additional 22 personnel would need to be employed to serve the projected 32,387 new residents at the site. In addition, a commensurate number of fire trucks and equipment would be required to support these additional fire fighters.

However, as described in Section 2.2.3.2, Alternative 1 also provides for the possibility that two or more new fire stations, one of which could be converted from an existing, fully operational Navy facility, are likely to be developed. In addition, the City of Concord proposes to construct a First Responder Training Center. Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments. Additionally, the EBRPD Fire Department would provide emergency services for the proposed conservation open space area (EBRPD 2014c).

Likewise, as discussed in Section 3.10, the CCCFPD levies a development fee on new construction within its jurisdiction of \$325 per single-dwelling family unit, \$200 per multi-family dwelling unit, and between \$0.15 and \$0.38 per square foot for all other commercial and industrial development to fund new capital projects needed as a result of development (CCCFPD 2012b; City of Concord 2010). Therefore, while additional fire stations and equipment would be required to accommodate the expected population growth associated with implementation of Alternative 1, sufficient property and revenues would be available to meet these capital expenditures.

The CCCFPD receives the majority of its operating revenues from property tax receipts. EBRPD fire and emergency services are also primarily funded by property tax revenue (EBRPD 2013a, 2014d). As Alternative 1 is implemented and as private development occurs, the local tax base and thus local property tax receipts would increase. This growth in the property tax receipts is expected to offset any additional operational costs associated with the expanded service area and service population. Therefore, implementation of Alternative 1, while necessitating an expansion of fire protection services, would not result in a significant, long-term impact on fire protection in the city.

EMS services at the former NWS Concord site are expected to be supplied by the CCCFPD via a private contractor, as is currently provided in the City of Concord. An increase in EMS personnel and equipment serving the City of Concord would be required to service the additional population and the larger area if similar response times throughout the city are to be maintained. Contractual agreements with the private firm would ensure that the necessary additional personnel and equipment were supplied to the site. The increase in property tax receipts generated by the development and received by the CCCFPD is expected to be sufficient to offset any additional costs associated with the increase in EMS service. Therefore, no

significant long-term impacts are expected to occur to EMS services in the City of Concord as a result of implementation of Alternative 1.

Health Care Facilities

Implementation of Alternative 1 would affect the provision of health care services in the City of Concord by increasing the residential population and workforce in the city and by providing for new development of emergency response facilities.

With the transfer of the former NWS Concord from the Navy, the CCCFPD would expand its jurisdiction to include the site area. Reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retail shops, schools, and recreational areas, under the jurisdiction of the CCCFPD. The implementation of Alternative 1 would support an increased residential population of 32,387 and a workforce of approximately 22,714.

Any growth in population resulting from the reuse of the former NWS Concord site would increase the demands on the existing local and regional healthcare systems.

Based upon statewide per capita health service levels, it is projected that full build-out of Alternative 1 would generate an additional 9,500 emergency room visits; 2,900 hospital admissions; 45,300 outpatient visits, and 14,700 inpatient visits annually. Table 4.10-3 presents the healthcare service projections for Alternative 1.

Table 4.10-3 Projected Annual Public Hospital Utilization at Full Build-out

Hospital Service	Service Level per 1,000 Population	Projected Increase in Service Needs
Hospital Emergency Room Visits	294	9,500
Hospital Admissions	90	2,900
Outpatient Visits	1,398	45,300
Inpatient Visits	454	14,700

Kaiser Family Foundation 20011a, 2011b, 2011c, and 2011d.

Although the demand for health care would increase, Alternative 1 would be implemented over a 25-year timeframe in increments, and private health care and medical providers would have sufficient time to increase their facilities to accommodate this additional demand. Therefore, Alternative 1 would not negatively impact the provision of health care in the City of Concord.

4.10.1.3 Open Space, Parks and Recreation

Implementation of Alternative 1 would affect the use of open space, parks, and recreation in the City of Concord and regionally by increasing the residential population in the city and by providing for new development of open space, parks, and recreational facilities. Disposal and reuse of the former NWS Concord in a manner consistent with Alternative 1 would include up to 12,200 new residential units, which would support an increased residential population of 32,387.

While increasing the population in the City of Concord and, therefore, the demand on and use and availability of open space, parks, and recreational facilities, the proposed implementation of Alternative 1 would also provide for new areas of open space and parks, and for recreational facilities.

As described in Section 2.2.3, Alternative 1 provides for development of approximately 786 acres of greenways, citywide parks, and active recreational areas. Reuse of the former NWS Concord would include a Central Greenway that would extend throughout the site along Mt. Diablo Creek, adjacent to the northern boundaries of the Village Neighborhoods, and through the Central Neighborhood, TOD, and

Campus districts. This greenway would be a minimum of 100 feet wide and occupy approximately 380 acres of the site.

Neighborhood frame greenways would also be located along the southwest perimeter of the site, mostly adjacent to the Village Centers. These greenways would provide a transition space between development districts and existing neighborhoods adjacent to the site. The neighborhood frame greenways would range between 275 feet and 425 feet wide between existing Concord neighborhoods and villages, and between 150 feet and 500 feet wide between proposed villages, for a total of approximately 98 acres.

Three citywide parks would be created. These parks would be located adjacent to the proposed Campus district, adjacent to the existing Willow Pass Park, and at the location of the existing municipal Diablo Creek Golf Course. Each proposed citywide park would be approximately 45 to 100 acres, for an approximate total of 308 acres.

The citywide park adjacent to the Campus district would include an approximately 75-acre tournament sports facility. This facility would provide space for regional adult and youth tournaments, and may include softball, baseball, and soccer fields, as well as volleyball courts, batting cages, and other sports facilities.

Smaller pocket parks between 0.25 and 2 acres would be located throughout the plan area, as would neighborhood parks between 2 and 10 acres in size. The North Concord Plaza would be located at the entryway to the North Concord/Martinez BART Station and would provide pedestrian connections between the BART station and other modes of transportation. The plaza would range between 0.5 acre and 5 acres.

In addition, approximately 2,537 acres of the eastern side of the former NWS Concord would be transferred to the East Bay Regional Park District. The planned addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site would result in approximately 24.3 acres of greenways, citywide parks, and active recreational areas per 1,000 residents on the former NWS Concord site. This exceeds the City of Concord's General Plan Growth Management Policy 2.1.1, which requires new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. It would also result in an increase in the city's overall park-area-to-population ratio by increasing the area of parkland per person citywide to 9 acres per 1,000 residents. The proposed increase in greenways, citywide parks, and active recreational areas supports the City of Concord's General Plan Policy 1.1.1 goal of 6 acres of parkland per 1,000 residents. This would result in a long-term beneficial impact on the demands for recreational services and facilities.

4.10.2 Alternative 2

4.10.2.1 Educational Facilities

Similar to Alternative 1, Alternative 2 would affect the provision of educational services in the City of Concord by increasing the number of school-aged children residing in the city and by providing for the development of new educational facilities. Based on the methodology described for Alternative 1, an estimated 5,885 school-aged children (2,766 elementary-school-aged children; 1,589 middle-school-aged children; and 1,530 high-school-aged children) would live in the new residential units that would be constructed under Alternative 2.

The impacts associated with these additional children would be similar to those described for Alternative 1. The need for additional schools to serve these children would be met the same way as described for Alternative 1. Approximately 98.9 acres of land within the former NWS Concord property would be allocated toward new elementary, middle, and high school facilities. Development fees would be

collected on the new construction to cover the capital costs associated with building the new facilities. Additional ad valorem property tax revenues generated from the development under Alternative 2 would be used to meet the operational costs associated with the additional school-aged children. Because additional land would be allocated toward the development of schools and new development would create additional funding sources, implementation of Alternative 2, while necessitating an expansion of schools, would not result in a significant, long-term impact on educational services.

4.10.2.2 Public Safety, Emergency, and Health Care Facilities

Police Protection

Similarly to Alternative 1, Alternative 2 would affect the provision of police protection services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of public safety facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Approximately 50 additional police officers would need to be added to the CCPD after implementation of Alternative 2 if the current ratio of 1.2 police officers per 1,000 residents is to be maintained. However, under Alternative 2, the City of Concord does not propose to construct the First Responder Training Center at the former NWS Concord site.

Costs incurred from expanding the CCPD service area are anticipated to be offset by property taxes generated from the development of the former NWS Concord site. Therefore, reuse of the site in a manner consistent with Alternative 2 is not expected to result in any significant, long-term impacts on police protection in the City of Concord.

Fire Protection and Emergency Medical Services

Implementation of Alternative 2 would affect the provision of fire protection and emergency medical services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of emergency response facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Two additional fire stations and approximately 29 additional fire fighters would need to be added to the department to maintain existing levels of service under Alternative 2. In addition, a commensurate number of fire trucks and equipment would be required to support these additional fire fighters. However, under Alternative 2, the City of Concord does not propose to construct the First Responder Training Center at the former NWS Concord site.

Costs incurred from expanding the CCCFPD service area are anticipated to be offset by development fees levied on new construction under Alternative 2 and property taxes generated from the development of the former NWS Concord site. Therefore, reuse of the site in a manner consistent with Alternative 2 is not expected to result in any significant, long-term impacts on fire protection in the City of Concord. An increase in EMS personnel and equipment serving the City of Concord would be required to service the additional population and the larger area if similar response times throughout the city are to be maintained. Contractual agreements with a private firm would ensure that the necessary additional personnel and equipment were supplied to the site. The increase in property tax receipts generated by the development and received by the CCCFPD is expected to be sufficient to offset any additional costs associated with the increase in EMS service.

Health Care Facilities

Implementation of Alternative 2 would affect the provision of health care services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of emergency response facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Alternative 2 would generate approximately 12,200 emergency room visits; 3,700 hospital admissions; 58,200 outpatient visits; and 18,900 inpatient visits annually.

As described in detail under the discussion of Alternative 1, the potential that new medical facilities could be built within the former NWS Concord if demand warranted it, and the long timeframe and incremental nature of the build-out would ensure that Alternative 2 would not result in a significant, long-term impact on the provision of health care services in the city.

4.10.2.3 Open Space, Parks, and Recreation

Implementation of Alternative 2 would affect the use of open space, parks, and recreation in the City of Concord and regionally by increasing the residential population in the city, and by providing for new development of open space, parks, and recreational facilities.

The proposed new open space, parks, and recreational facilities under Alternative 2 would be identical to those described for Alternative 1. Alternative 2 would provide for the development of approximately 786 acres of greenways, citywide parks, and active recreational areas. In addition, approximately 2,537 acres of the eastern side of the former NWS Concord would be transferred to the East Bay Regional Park District for passive recreation and open space uses.

The planned addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site would result in approximately 18.9 acres of greenways, citywide parks, and active recreational areas per 1,000 residents on the former NWS Concord site under Alternative 2. This ratio would exceed the City of Concord's policy of requiring new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. Therefore, reuse of the site in a manner consistent with Alternative 2 is expected to result in positive long-term impacts to the provision of parkland and open space in the City of Concord.

4.10.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The Navy would continue to maintain some form of vegetation management in areas of the site. In accordance with the BRAC PMO Building, Vacating, Facility Layaway, and Caretaker Maintenance Guidance (March 2007) document, conditions adversely affecting public health, the environment, and safety would be addressed under the No Action Alternative.

4.11 Transportation, Traffic, and Circulation

This section summarizes the analysis completed in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc. 2014), which was conducted to evaluate the potential transportation impacts from the disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. As discussed in Section 3.11, the study area for the transportation impact analysis included 28 intersections, five roadway segments, 12 freeway segments, and 21 freeway ramps. Locations of these roadways and intersections are shown on Figure 3.11-3.

4.11.1 Methodology

The transportation impact study that was conducted used the latest travel demand model adopted by CCTA to evaluate the impact of the full build-out of the former NWS Concord on existing traffic volumes and operation of the roadway network. The following discussion provides some of the background assumptions for the model and also explains why the results of the transportation impact study differ from the results presented in the 2012 Area Plan EIR Addendum.

First, the transportation impact study conducted by Kittelson & Associates, Inc., was based on traffic volume data collected in 2013. The traffic volume data that served as the basis of the previous analyses conducted by the City of Concord were collected between 2007 and 2009, immediately before and during the recent economic downturn. Since then, economic conditions have changed in the project area. As a result, the volume data used in the prior traffic analyses do not accurately reflect current conditions.

Additionally, updates to the Countywide Travel Demand Model were adopted by CCTA in 2012, and the associated- Technical Procedures were adopted by CCTA in early 2013. The forecasts used for the build-out conditions in the updated model incorporate the latest land use projections developed by ABAG (ABAG n.d.) and other planned developments and roadway network improvements in the region. These changes result in a different future baseline condition when compared to the previous analyses conducted for the 2012 Area Plan EIR Addendum using the older model.

The current model includes future development throughout the region through 2040. Population and socioeconomic forecasts used in the model are consistent with regional totals for growth projected in the Sustainable Communities Strategy Base Case “Modified Projections 2009” land use by ABAG (2008). Therefore, the traffic forecasts reflect traffic from growth in Concord, as well as traffic in the region that may use the local roadways. Because the future regional development included in the model also includes traffic impacts, the No Action Alternative is used as a means to identify traffic impacts related to the action alternatives only.

The CCTA model also includes roadway improvements that have been planned or programmed for Concord and neighboring communities and those that are part of the Concord General Plan and/or the City’s Capital Improvement Program. Table 4.11-1 describes the improvements that were included in the model in the vicinity of the former NWS Concord.

The Technical Procedures provide guidance on how level of service (i.e., performance) standards may be applied by member agencies. In the updated Technical Procedures adopted by CCTA in early 2013, CCTA recommends use of the Highway Capacity Manual (HCM) methodology—specifically, the latest version of the HCM (2010)—to determine level of service changes in place of the previous LOS methodology. However, new policies and standards have not yet been developed to apply the HCM methodology. Therefore, after consultation with CCTA staff, the use of the CCTA LOS methodology was confirmed to be appropriate for the transportation impact study used to support this EIS (CCTA 2013d).

Table 4.11-1 CCTA Model Planned or Programmed Roadway Improvements

Location	Description
Freeway Improvements	
I-680	Add northbound HOV lane on I-680 from North Main Street to SR 242 and southbound HOV on I-680 lane from North Main Street to Livorna Road
I-680/Marina Vista	Interchange modifications
SR 242/Clayton Road Interchange	New northbound on-ramp and new southbound off-ramp
SR 4	Widening to provide an additional lane eastbound and westbound between SR 242 and I-680
SR 4 and I-680	Connector ramps and between SR 4 and I-680 and high-occupancy vehicle (HOV) connection

Table 4.11-1 CCTA Model Planned or Programmed Roadway Improvements

Location	Description
Local Roadway Improvements	
Bates Avenue	Widen to four lanes from Industrial Way to Mason Circle
Buchanan Road Bypass	Connect James Donlon Boulevard to Kirker Pass Road
Commerce Avenue	Extend existing two-lane arterial
Concord Boulevard	Widen to four lanes from 6th Street to Farm Bureau Road
Cowell Road	Widen to four lanes between Monument Boulevard and Treat Boulevard
Denkinger Road	Widen to four lanes between Clayton Road and Concord Boulevard
Evora Road	Widen from Willow Pass to Pomo Street
Farm Bureau Road	Widen to four lanes between Willow Pass Road and Clayton Road
Kirker Pass Road	Add climbing lane from Clearbrook Drive to Pittsburg city limit
Marsh Drive	Widen to four lanes from Center Avenue to Concord city limit
Meadow Lane	Widen to four lanes between Monument Boulevard and Clayton Road
Monument Boulevard	Widen to six lanes from Systron Drive to Cowell Road
Pacheco Boulevard	Widen to four lanes north of SR 4
Port Chicago Highway	Widen to four lanes from Bates Avenue north to the Union Pacific Railroad crossing
Waterworld Parkway Bridge	Construct a two-lane bridge with bicycle lanes over Walnut Creek connecting Waterworld Parkway with Meridian Park Boulevard
West Leland Road/Avila Road	Extend West Leland Road and widen Avila Road
Willow Pass Road	Widen to four lanes between Landana Drive and SR 4
Ygnacio Valley Road	Widen to six lanes between Cowell Road and Michigan Boulevard

The CCTA model follows a four-step process to estimate travel behavior and travel demand for the proposed reuse of NWS Concord in the context of the surrounding land uses and transportation systems. These inputs are then used to estimate impacts on existing traffic volumes and operation of the roadway network. The process includes the following four steps:

1. Trip generation to estimate the number of trips that would be made;
2. Trip distribution to estimate where those trips would go;
3. Mode choice to estimate how the trips would be divided among the modes of travel; and
4. Trip assignment to predict the routes those trips would take.

Trip Generation

The county is divided into traffic analysis zones (TAZs) for modeling trip generation. With this latest version of the CCTA model, almost 300 smaller TAZs were added in the vicinity of the TODs and Priority Development Areas throughout Contra Costa County to better reflect “trip-making” associated with smart growth. These smaller TAZs and more detailed roadway networks represent better access to transit and shorter trips associated with walking and/or bicycling. The TAZs in the vicinity of the former NWS Concord are shown on Figure 4.11-1.

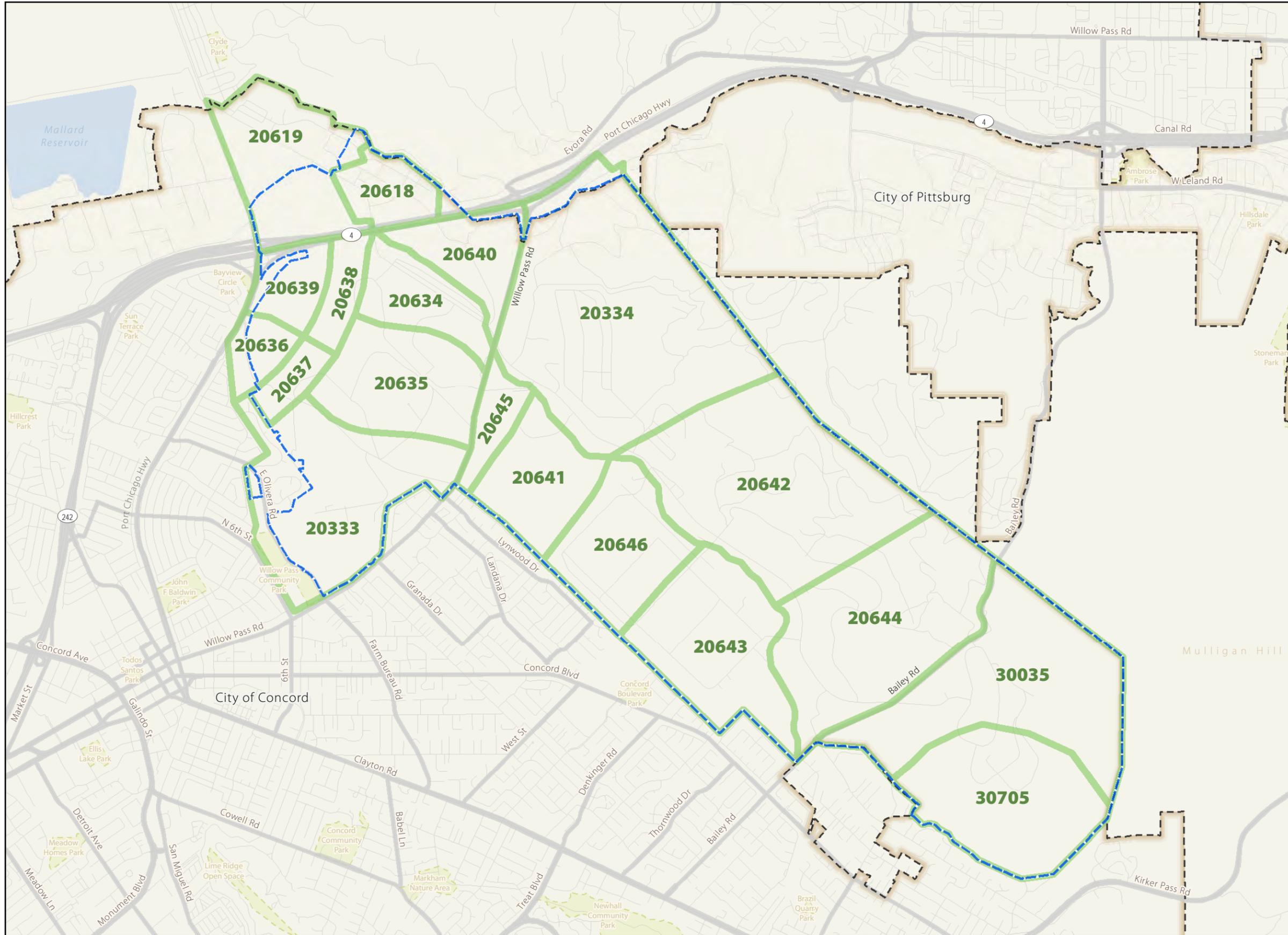


Figure 4.11-1
Traffic Analysis Zones
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Traffic Analysis Zones (TAZs)



0 0.5 1 Miles

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Estimates of the trip generation are based on variables, such as population, households, employed residents, employment by category (service, retail, agricultural, industrial, and other), income classifications, school enrollment, and age categories, as well as other characteristics of the TAZ, such as parking costs and terminal times. Estimates are also based on assumptions about mode split and include both automobiles and public transit as vehicle or motorized trips; it also includes non-motorized trips, such as bicycling or walking. The motorized trips are distributed between “productions” (trips made by households, workers, or students from the home end) and “attractions” (non-home end). These are then assigned to the roadway and transit networks (Kittelson & Associates, Inc. 2014).

While the latest CCTA model does incorporate some of the smart growth principles, including better access to transit, shorter trips associated with walking and/or bicycling, and shorter distances between mixed uses within a TAZ, the model cannot account for all of the TDM measures that the city proposes to implement to reduce VMT (TDM strategies are defined in the Climate Action Plan, Book 3 of the Area Plan). For example, the model does not provide specific ridership estimates for public transit and bicycle usage. Alternatives 1 and 2 are planned as transit- and pedestrian-oriented development that would result in increased transit ridership, particularly at the North Concord/Martinez BART Station adjacent to the property.

Table 4.11-2 provides a summary of daily vehicle trips, average vehicle trip lengths, and VMTs from the CCTA model associated with the reuse plan under Alternative 1, Alternative 2, and the No Action Alternative. The daily vehicle trips are trips that are generated on the site and include trips with one or both of the trip’s ends on the site. VMT represents the total travel on the roadway network by all vehicle trips with one or both ends on the site, including the travel to and from the site that is generated by those trips. Regional trips that would pass through the site or the City of Concord but that do not have a trip end on the site are not included. As shown on Table 4.11-2, the household population is 23 percent greater under Alternative 2 than under Alternative 1. Consequently, Alternative 2 would generate 13 percent more daily vehicle trips and 17 percent more VMTs than Alternative 1. The average trip length under Alternative 2 is also slightly higher than that of Alternative 1. The average trip length is calculated by dividing VMT by the number of vehicle trips.

Details of daily vehicle trips by TAZ are provided in Table 4.11-3. The area close to the BART station with highest employment (TAZ 20636) generates the most daily vehicle trips under Alternative 1 and Alternative 2.

Table 4.11-2 Daily Vehicle Trip Summaries

Scenario	Household Population ¹	Employment ¹	Students (Full-Time College Students)	Daily Vehicle Trips	Average Trip Length (miles)	Daily Vehicle Miles Travelled (VMT)
2013 Baseline	122	561	0	2,046	9.3	19,096
2040 No Action Alternative	122	561	0	2,046	9.3	19,096
2040 Alternative 1	28,861	26,531	10,000	203,205	8.1	1,638,958
2040 Alternative 2	35,500	26,532	10,000	229,301	8.4	1,921,144

Source: Kittelson & Associates, Inc. 2014

¹ Population and employment estimates were developed independently of the analysis conducted in Section 4.3 of this EIS.

Table 4.11-3 Daily Vehicle Trip Summaries by TAZ

TAZ	Household Population	Employment	College Students	Daily Vehicle Trips
Alternative 1				
20333	5,257	1,094	0	21,663
20334	0	0	0	0
20618	0	116	0	331
20619	0	0	0	0
20634	0	4,321	5,000	24,017
20635	6,554	2,066	0	28,173
20636	1,190	11,910	0	35,101
20637	2,064	150	0	8,519
20638	1,469	1,850	0	14,349
20639	2,064	1,650	0	16,410
20640	0	2,544	5,000	19,538
20641	3,519	502	0	13,232
20642	0	0	0	0
20643	3,372	144	0	10,916
20644	0	0	0	0
20645	0	0	0	0
20646	3,372	144	0	10,839
30035	0	40	0	112
30705	0	0	0	0
Alternative 2				
20333	4,115	932	0	18,703
20334	0	0	0	0
20618	0	4,603	10,000	31,322
20619	0	0	0	0
20634	1,677	1,700	0	14,820
20635	8,303	288	0	29,131
20636	3,112	9,528	0	34,779
20637	2,544	2,457	0	16,216
20638	1,469	1,850	0	14,603
20639	3,948	1,650	0	21,894
20640	0	2,544	0	11,088
20641	3,444	552	0	13,691
20642	0	0	0	0
20643	3,444	194	0	11,503
20644	0	0	0	0
20645	0	0	0	0
20646	3,444	194	0	11,436
30035	0	40	0	109
30705	0	0	0	0

Source: Kittelson & Associate, 2014.

Trip Distribution

The second step in the model is the estimated trip distribution (the number of trips between each zone of origin and destination). The CCTA model accomplishes this through a gravity model that uses travel time between TAZs and trip purpose (e.g., work, shopping, school) to estimate where trips will go. Figure 4.11-2 and Table 4.11-4 show the geographic area where vehicle trips would go to and from during the AM and PM peak hours. As shown in Table 4.11-4, the travel patterns for both Alternative 1 and Alternative 2 are similar, with nearly 50 percent of the vehicle trips coming to and from the east (East Contra Costa County). The vehicle trips that would stay internal to the reuse plan area represent 15 to 16 percent of all trips for Alternatives 1 and 2 during the AM peak hour and 19 percent of all trips for both alternatives during the PM peak hour.

Table 4.11-4 Trip Distribution

	Alternative 1				Alternative 2			
	AM		PM		AM		PM	
	Trips	%	Trips	%	Trips	%	Trips	%
Reuse Plan Area	2,702	16%	4,230	19%	3,019	15%	4,775	19%
City of Concord	2,366	14%	2,878	13%	2,951	15%	3,709	15%
Central Contra Costa	1,644	10%	1,800	8%	2,298	12%	2,540	10%
East Contra Costa	8,411	49%	10,764	50%	8,382	43%	10,792	44%
Tri-Valley	491	3%	467	2%	757	4%	724	3%
West Contra Costa	476	3%	437	2%	718	4%	669	3%
Alameda County	420	2%	446	2%	582	3%	625	3%
San Francisco County	139	1%	101	0%	182	1%	133	1%
San Mateo County	59	0%	49	0%	76	0%	62	0%
Santa Clara County	58	0%	89	0%	73	0%	112	0%
Solano County	336	2%	368	2%	440	2%	488	2%
Napa County	28	0%	27	0%	35	0%	34	0%
Sonoma County	27	0%	35	0%	35	0%	45	0%
Marin County	33	0%	39	0%	43	0%	51	0%

Source: Kittelson & Associates, Inc., 2014.

Travel Mode

The third step in the model is to determine what mode of travel is used, or the modal split. The CCTA model captures 1) whether travel is motorized (e.g., automobile or public transit) or non-motorized (walking or bicycling); 2) the more specific automobile travel decisions (e.g., drive alone or carpool); and, 3) where relevant, mode of travel to public transit (e.g., walking or driving to the station or bus stop).

As shown in Table 4.11-5, the CCTA model estimates that the primary mode of travel for the reuse plan area is by automobile. While the area near the BART station is designed as a TOD, the CCTA model shows that the project would result in low transit use, which could be attributed in part to the fact that most of the development of the reuse plan area, including the campus, is located outside the TOD. However, it should be noted that this version of the CCTA model uses the default assumptions regarding estimates of transit access trips from the regional (MTC) model, resulting in a more conservative estimate of traffic impacts (in other words, more vehicle trips rather than transit trips are assumed).

Table 4.11-5 includes an estimate of the mode of travel for trips that would be internal within the reuse plan area. While a smaller portion of overall trips for each alternative (about 3 percent), walk trips represent about 13 percent of the trips that would occur within the project site for both alternatives.

Table 4.11-5 Daily Person Trips by Mode

From	To	Total	Drive Alone	Shared Ride (2 persons)	Shared Ride (3+ persons)	Transit	Bicycle	Walk
Alternative 1								
Reuse Plan Area	Reuse Plan Area	49,241	30,529	8,852	3,131	17	267	6,426
Reuse Plan Area	Outside	78,267	53,402	13,819	5,647	2,120	511	647
Outside	Reuse Plan Area	125,252	84,776	25,325	11,487	763	978	1,160
Alternative 2								
Reuse Plan Area	Reuse Plan Area	55,420	33,680	10,274	4,179	23	294	6,946
Reuse Plan Area	Outside	100,030	66,466	18,003	7,377	3,204	808	967
Outside	Reuse Plan Area	131,924	89,281	27,107	12,186	614	927	1,196

Source: Kittelson & Associates, Inc., 2014.

Note: "Transit" includes two categories, "transit-walk," which refers to trips for which the transit rider walks to the transit stop/station, and "transit-drive," which refers to trips for which the transit rider drives to the transit stop/station.

Trip Assignment

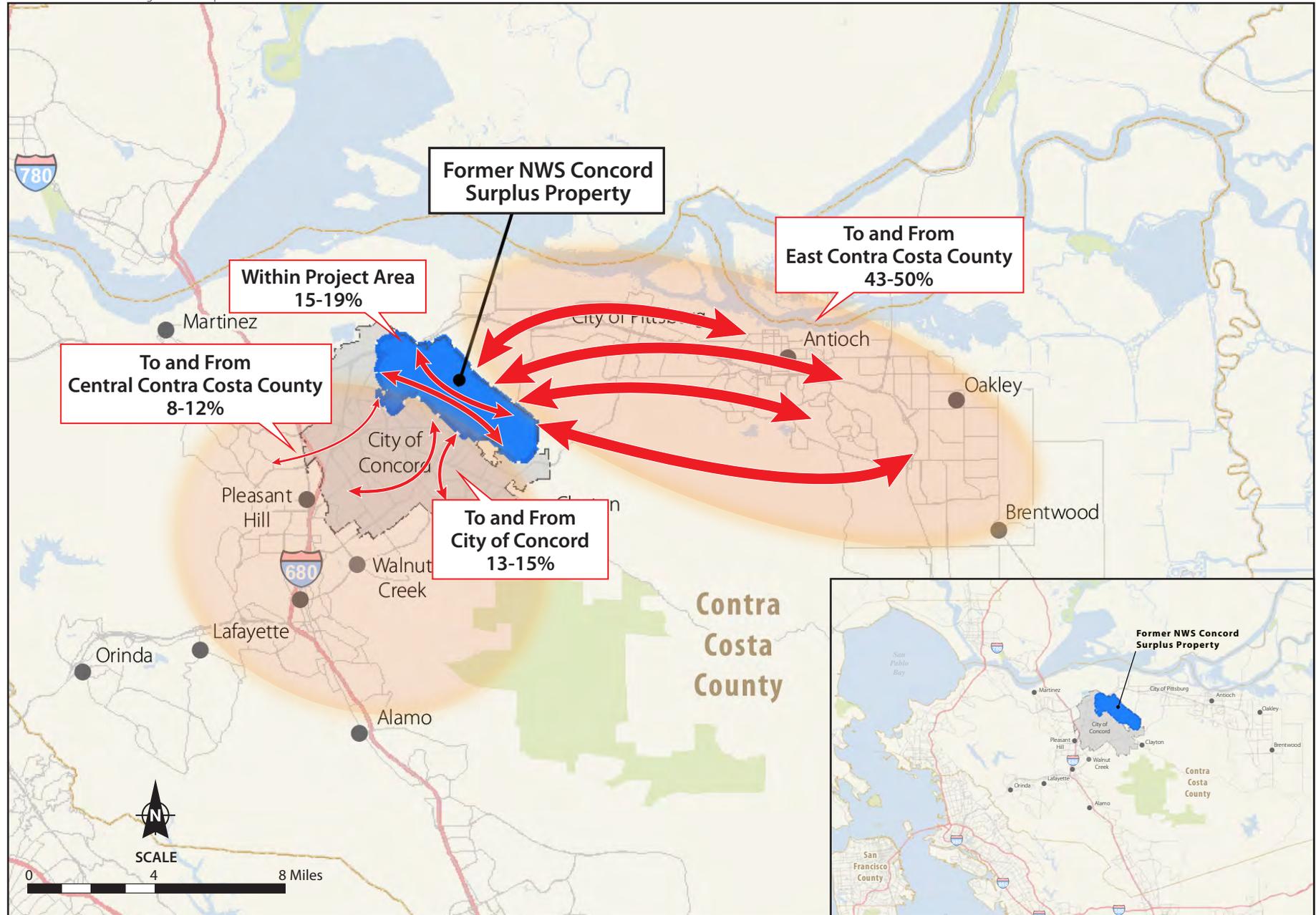
The last step of the model is trip assignment, where vehicle trips are allocated to specific routes on the roadway network within and outside of the reuse plan area.

Performance Standards

The CCTA, CalTrans, and the City of Concord have identified performance standards when evaluating changes to the roadway network. These standards are based on the programs and plans that are described in Section 3.11. Tables 4.11-6, 4.11-7, and 4.11-8 provide the specific performance standards for the Contra Costa Congestion Management Program, the Central County and East County Action Plans for Routes of Regional Significance, and the City of Concord 2030 General Plan, respectively. These performance standards are used to determine whether the transportation impacts associated with Alternative 1 or Alternative 2 are considered significant. When multiple standards are applicable, the most stringent standards are applied. As mentioned above, the current performance standards adopted by the City of Concord are based on the old CCTA LOS methodology.

4.11.2 Alternative 1

Full build-out of the former NWS Concord property under Alternative 1 is projected to add 203,205 daily trips to the new and surrounding road network (Kittelson & Associates, Inc. 2014). New roadways would be developed on the former NWS Concord as described in Chapter 2 and would connect with the existing roadway network.



Data Source: Kittelson & Associates, Inc., 2014.

Figure 4.11-2 Trip Distribution

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Table 4.11-6 Contra Costa Congestion Management Program: Performance Standards

Freeway Segment	Performance Standard
Southbound I-680	LOS F
Northbound I-680 north of SR 4	LOS F
Northbound I-680 between SR 242 and El Cerro Boulevard	LOS F
Southbound SR 242	LOS F
SR 4 east of SR 242 (both directions)	LOS F
Northbound I-680 between SR 4 and SR	LOS E
SR 4 Interstate 680 and SR 242 (both directions)	LOS E
Northbound SR 242	LOS E
Intersections	
North Main Street and Geary Road	LOS F
Bancroft Road and Treat Boulevard	LOS F
Oak Grove Road and Treat Boulevard	LOS F
Walnut Avenue-Bancroft Road and Ygnacio Valley Road	LOS F
Oak Grove Road and Ygnacio Valley Road	LOS F
Ygnacio Valley Road and Ayers Road	LOS F
Burskirk Avenue-NB I-680 off-ramp and Treat Boulevard	LOS E
Oak Road and Treat Boulevard	LOS E
I-680 northbound off ramp and Ygnacio Valley Road	LOS E

Table 4.11-7 Central County and East County Action Plans for Routes of Regional Significance: Multi-modal Transportation Service Objectives (MTSO)

Routes of Regional Significance	Performance
Freeway	MTSO
I- 680	4.0 delay index
SR 242	3.0 delay index
SR 4	5.0 delay index from Cummings Skyway to Willow Pass Road
SR 4	2.5 delay index in East County
SR 4	600 vehicle per HOV lane utilization in the peak direction at peak hour in East County
Arterial	Level of Service/Delay
North Main Street and Geary Road Intersection	LOS F
Treat Boulevard and Bancroft Road intersection	LOS F
Treat Boulevard and Oak Grove Road intersection	5 average stop delays
Ygnacio Valley Road and Bancroft Road intersection	LOS F
Willow Pass Road and Evora Road (East)-SR 4 westbound off-ramp	LOS mid-D (v/c 0.85)
San Marco Boulevard-Willow Pass Road /SR 4 eastbound ramps	LOS mid-D (v/c 0.85)
San Marcos Boulevard and W. Leland Road	LOS mid-D (v/c 0.85)
Bailey Road and Willow Pass Road intersection	LOS E
Bailey Road and SR 4 eastbound ramps-BART access	LOS E
Railroad Avenue	LOS mid-D (v/c 0.85)
Railroad Avenue-Kirker Pass Road and James Donlon Boulevard intersection	LOS mid-D (v/c 0.85)

Key:
v/c = volume to capacity ratio

Table 4.11-8 City of Concord General Plan: Performance Standards

Location/Type	Performance Standard
Outside the Central Business District ¹ , outside 0.5 mile of BART, and not on transit routes ²	LOS D (0.90 v/c)
Central Business District, within 0.5 mile of a BART station, or on transit routes	LOS E (Up to 1.0 v/c)
Congestion Management Plan (CMP) Monitoring Intersections operating at LOS F in 1991 and roadway segments connecting to one or more such intersections	LOS F (over 1.0 v/c)
All remaining CMP Monitoring Intersections and roadway segments ³ connecting to one or more of such intersections	LOS E (Up to 1.0 v/c)
For transportation facilities that fail to meet LOS standards (as defined above) under no project conditions, an increase in the v/c ratio of 0.03 or greater above	No project condition was considered to be significant.

¹ The Central Business District is generally defined as the area bound by Concord Avenue and Salvio Street to the north; Willow Pass Road, Clayton Road, and Galindo Street to the south; Port Chicago Highway, Oakland Avenue, and Mesa Street to the east; and I-680 to the west.

² Transit routes are generally defined as serving two or more transit lines

³ LOS F if roadway segment is located between LOS E and LOS F Monitoring Intersections.

Redevelopment of the former NWS Concord under Alternative 1 has the potential to have significant adverse impacts on 10 intersections, two roadway segments, seven freeway segments, and 16 freeway ramps. A significant adverse impact is one in which 1) the condition would fall below the performance thresholds if the location is within standard under existing conditions; or 2) the v/c ratio is higher than that of existing conditions if the threshold is already exceeded under existing conditions (Kittelson & Associates, Inc. 2014). The potentially impacted locations are shown in Figure 4.11-3. Since the model assumed transit- and pedestrian-oriented development would reduce the percentage of automobile trips taken, transportation conditions at several locations are slightly better than the No Action Alternative despite the number of daily trips generated. All of the traffic locations analyzed would meet MTSO standards under Alternative 1.

The projected LOS for analyzed intersections for Alternative 1 is presented in Table 4.11-9 (Operational Impacts, Intersections). Four of the intersections would operate at LOS F during both peak hours, and four intersections would operate at LOS F during one of the peak hours. An additional eight intersections would operate at LOS E, seven of which would operate at LOS E during only one peak hour. Two intersections operating at LOS E would exceed performance standards. The intersection of North Main Street/Geary Road would operate at LOS F during the PM peak hour but would not exceed that location's performance standards.

The projected LOS for roadway segments analyzed is presented in Table 4.11-10 (Operational Impacts, Roadway Segments). Port Chicago Highway north of Olivera Road would operate at LOS F during both the AM and PM peak hours. The Bailey Road segment would operate at LOS E during the AM peak hour but would exceed the performance standard for this intersection.

The projected LOS for freeway segments under Alternative 1 is presented in Table 4.11-11 (Operational Impacts, Freeway Segments). The majority of I-680 segments would experience no change in LOS under Alternative 1 compared to existing conditions, and none of these freeway segments would exceed performance standards. Only the AM peak hour LOS for SR 242 would decline under Alternative 1 when compared to existing conditions. Four of the five westbound segments of SR 4 are projected to operate at

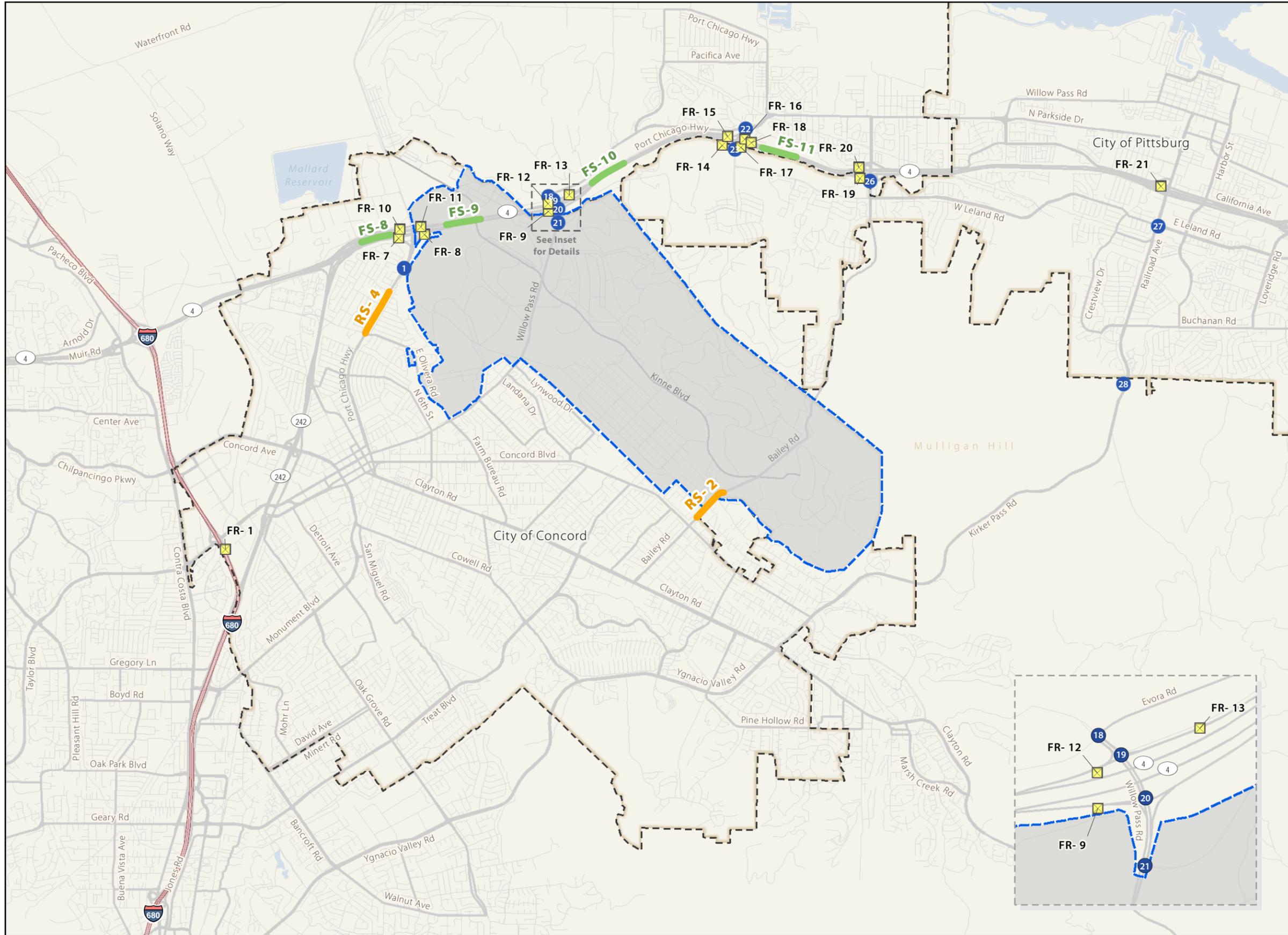


Figure 4.11-3
Impacted Traffic Locations Under
Alternative 1 and Alternative 2
 Former NWS Concord
 Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

Impacted Traffic Locations

- Freeway Ramp
- Intersection
- Study Roadways
- Freeway Segments



SCALE



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LOS F and exceed performance standards during the AM peak hour under Alternative 1, and none would exceed performance standards. Three of these segments would operate at LOS F and exceed performance standards during the PM peak hour in the eastbound direction.

The projected LOS for freeway ramps is presented in Table 4.11-12 (Operational Impacts, Freeway Ramps). During the AM peak hour, eight of the freeway ramps would operate at LOS F and exceed performance standards. All eight of these ramps provide access to and from SR 4. Six ramps would operate at LOS F during the PM peak hour. An additional three ramps would operate at LOS E during the PM peak hour.

As shown on Tables 4.11-9, 4.11-10, 4.11-11, and 4.11-12, Kittelson & Associates, Inc., identified roadway or traffic-flow improvements that could be incorporated to mitigate the impacts of the increase in traffic volume on LOS under Alternative 1. However, these measures primarily entail capacity increase, and under the city's Climate Action Plan (Book 3 of the Area Plan), the city plans to mitigate transportation impacts through implementation of the design standards in its Action Plan and other TDM strategies to reduce VMT in support of state and local policies to reduce GHGs.

Impacts on the transportation network surrounding the property are also expected as a result of construction during the redevelopment of the property. Impacts may include an increase in traffic on roadways immediately adjacent to the property, traffic delays due to slow-moving construction vehicles, and temporary road closures. However, these construction-related impacts would be temporary and minor because the construction would be phased over the build-out period.

In its Climate Action Plan, the city estimates that VMT can be reduced between 20 percent and 44 percent. The land use strategies in the Area Plan are expected to reduce VMT by 3 percent to 5 percent because residences are located near job centers, retail, and community services in these compact, mixed-use developments. The multi-modal transportation network is expected to reduce VMTs by 2 percent to 4 percent because the pedestrian, bicycle, and transit network will be well connected. The City also proposes to manage parking, which would reduce VMT by an estimated 10 percent to 20 percent, and other TDM strategies, which will include a 5 percent to 15 percent reduction in VMTs (City of Concord 2010). TDM strategies may include financial, system, and demand incentives that provide reasons for motorists to switch transportation modes, carpool, or eliminate or reduce the number of vehicle trips, and may include:

- Financial Incentives: employee travel allowance, parking cash out, and transit pass
- System Incentives: park and ride lots, shuttle service to BART, and bicyclist facilities such as secure bicycle parking and changing areas, lockers, and showers
- Demand Incentives: rideshare and vanpool programs, car- or bike-sharing programs, preferred parking for carpools, and guaranteed ride home (Kittelson & Associates, Inc. 2014)

In its MMRP, the city has stated that it will monitor intersections impacted and develop updated traffic volume forecasts based on the performance of its VMT reduction program as development occurs in the future (City of Concord 2010).

To address the costs of transportation mitigation, the city proposes in its MMRP to conduct a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures determined by the City of Concord in consultation with the affected jurisdictions (City of Concord 2010). In addition, the city will

require future developers to contribute a traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance (City of Concord 2010).

Although implementation of measures identified in the Climate Action Plan and the MMRP would mitigate impacts, the extent of the reduction in impacts is not known at the date of this analysis, prior to the establishment of specific development proposals; therefore, these impacts as they are currently defined would be significant and adverse.

4.11.3 Alternative 2

Full build-out of the former NWS Concord under Alternative 2 is projected to add 229,301 daily trips to the new and surrounding road network. New roadways would be developed on the former NWS Concord as described in Chapter 2 and would connect with the existing roadway network.

Redevelopment of the former NWS Concord under Alternative 2 has the potential to have significant impacts on the same 10 intersections, two roadway segments, seven freeway segments, and 16 freeway ramps identified in Alternative 1. Transportation impacts for these locations under Alternative 2 would be similar to impacts described under Alternative 1; impacts under Alternative 2 that would be different than those under Alternative 1 are described below. No additional traffic locations would experience significant impacts, and all of the traffic locations analyzed would meet MTSO standards under Alternative 2.

The projected LOS for analyzed intersections for Alternative 2 is presented in Table 4.11-9 (Operational Impacts, Intersections). Significant adverse LOS intersection impacts under Alternative 2 are expected to be same for nine of the 10 intersections as described under Alternative 1. Some of these intersections would see a further degradation of v/c ratio under Alternative 2, while other intersections would see an improvement in the v/c ratio compared to Alternative 1.

The projected LOS for roadway segments analyzed is presented in Table 4.11-10 (Operational Impacts, Roadway Segments). All four roadway segments assessed would operate at the same LOS under Alternative 2 as described in Alternative 1. No additional significant impacts to roadway segments are expected under Alternative 2.

The projected LOS for freeway segments under Alternative 2 is presented in Table 4.11-11 (Operational Impacts, Freeway Segments). Significant adverse LOS impacts to freeway segments under Alternative 2 would be the same as those described under Alternative 1. However, under Alternative 2, the v/c ratio on the eastbound SR 4, east of Willow Pass Road, would be worse than the v/c ratio under the No Action Alternative and would therefore require mitigation.

The projected LOS for freeway ramps is presented in Table 4.11-12 (Operational Impacts, Freeway Ramps). Significant impacts under Alternative 2 would occur at the same 16 freeway ramps described under Alternative 1, with the addition of one (SR 4: Port Chicago Highway westbound on-ramp). However, the impacts at five of these intersections would be more significant under Alternative 2. The Port Chicago Highway eastbound on-ramp and Willow Pass Road eastbound off-ramp would operate at LOS F, with a higher v/c ratio during the PM peak hour under Alternative 2, and would require mitigation. The Willow Pass Road eastbound off-ramp and westbound on-ramp and the Port Chicago Highway westbound on-ramp and off-ramp would all exceed performance thresholds during AM peak hours, and mitigation would be required for all four ramps during the PM peak hour and for two of the ramps during the AM peak hour (FR 9 and FR 10).

Table 4-11.9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Mitigation Measures
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
Int 1 Port Chicago Highway / Panoramic Drive	E	B	C	F	F	E	E	<ul style="list-style-type: none"> Widen the east leg on Panoramic Drive to add one WB right turn lane to provide two left-turn lanes, one shared through-right turn lane, and two right-turn lanes; Convert the NB exclusive right-turn lane to a shared through-right turn lane; and Widen the north leg on Point Chicago Highway to accommodate three NB receiving lanes. 	F	F	E	E	Same as Alternative 1
Int 2 Port Chicago Highway / Olivera Road	E	A	C	E	D	n/a	n/a	n/a	D	n/a	E	n/a	n/a
Int 3 Farm Bureau Road / Willow Pass Road	D	C	F	B	D	n/a	n/a	n/a	B	n/a	E	n/a	n/a
Int 4 Commerce Avenue - SR242 SB/ Concord Avenue	E	B	D	B	D	n/a	n/a	n/a	C	n/a	D	n/a	n/a
Int 5 West Street / Concord Boulevard	D	B	A	C	B	n/a	n/a	n/a	C	n/a	B	n/a	n/a
Int 6 Denkinger Road / Concord Boulevard	D	A	B	A	B	n/a	n/a	n/a	A	n/a	B	n/a	n/a
Int 7 Bailey Road / Concord Boulevard	D	C	A	C	A	n/a	n/a	n/a	C	n/a	A	n/a	n/a
Int 8 North Main Street / Sunnyvale Avenue-SB I-680 Ramps	F	F	D	E	D	n/a	n/a	n/a	E	n/a	D	n/a	n/a
Int 9 North Main Street / Geary Road	F	D	E	D	F	n/a	n/a	n/a	D	n/a	F	n/a	n/a
Int 10 Buskirk Avenue-NB I-680 Off Ramp / Treat Boulevard	E	A	B	B	B	n/a	n/a	n/a	A	n/a	B	n/a	n/a
Int 11 Oak Road / Treat Boulevard	E	B	C	A	D	n/a	n/a	n/a	B	n/a	D	n/a	n/a
Int 12 Bancroft Road / Treat Boulevard	F	D	E	D	E	n/a	n/a	n/a	D	n/a	E	n/a	n/a
Int 13 Oak Grove Road / Treat Boulevard	F	E	D	E	D	n/a	n/a	n/a	E	n/a	D	n/a	n/a
Int 14 NB I-680 Off Ramp / Ygnacio Valley Road	E	A	A	A	A	n/a	n/a	n/a	A	n/a	A	n/a	n/a
Int 15 Bancroft Road / Ygnacio Valley Road	F	D	D	D	D	n/a	n/a	n/a	D	n/a	D	n/a	n/a
Int 16 Oak Grove Road / Ygnacio Valley Road	F	E	E	E	E	n/a	n/a	n/a	E	n/a	E	n/a	n/a
Int 17 Ayers Road / Ygnacio Valley Road	F	C	B	C	A	n/a	n/a	n/a	C	n/a	B	n/a	n/a

Table 4-11.9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Mitigation Measures
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
Int 18 Willow Pass Road / Evora Road (West)	mid-D (v/c 0.85)	F (1.55)	E (0.92)	F (1.91)	F (1.56)	F (1.19)	D (0.84)	<ul style="list-style-type: none"> Widen the west leg on Evora Road to add a shared through-right lane on the EB approach to provide one shared left-through lane and one shared through-right lane; Widen the east leg on Evora Road to add one exclusive left-turn lane on the WB approach to provide two left-turn lanes and one shared through-right lane; Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the NB approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and Widen the east leg to provide a dedicated receiving lane for the free NB right-turn traffic and a receiving lane for the EB through traffic. 	F (2.58)	F (2.45)	F (1.39)	D (0.82)	<ul style="list-style-type: none"> Widen the west leg on Evora Road to add two exclusive right-turn lanes on the EB approach to provide one shared left-through lane and two right-turn lanes; Widen the east leg on Evora Road to add one exclusive left-turn lane on the WB approach to provide two left-turn lanes and one shared through-right lane Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the NB approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and Widen the east leg to provide a dedicated lane to receive free NB right-turn traffic.
Int 19 Willow Pass Road / SR 4 WB ramps	mid-D (v/c 0.85)	C (0.71)	A (0.49)	F (1.19)	C (0.73)	D (0.83)	C (0.73)	<ul style="list-style-type: none"> Widen the north leg on Willow Pass Road to add one SB through lane to provide three through lanes and one right-turn lane; Widen the east leg of the SR 4 off-ramp to add one WB left-turn lane and to convert the shared left-through lane to a shared left-through-right turn lane to provide two left-turn lanes, one shared left-through-right turn lane, and one right-turn lane; and Widen the south left on Willow Pass Road to accommodate three SB receiving lanes. 	F (1)	B (0.68)	D (0.84)	B (0.68)	Same as Alternative 1
In 20 Willow Pass Road / SR 4 EB ramps	mid-D (v/c 0.85)	A (0.48)	C (0.79)	D (0.85)	E (0.96)	D (0.85)	C (0.79)	<ul style="list-style-type: none"> Add one additional SB left-turn lane to provide two left-turn lane and two through lanes; and Modify the east leg to accommodate two EB receiving lanes. 	F (1.27)	E (0.91)	C	C	<ul style="list-style-type: none"> Add one EB left-turn lane on the SR 4 off-ramp to provide one left-turn lane, one shared left-through lane, and one right-turn lane; and Convert one SB left-turn lane to a through lane on Willow Pass Road to provide one left-turn lane and three through lanes; Widen the south leg to accommodate two SB receiving lanes.

Table 4-11.9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Mitigation Measures
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
Int 21 Willow Pass Road / Avila Road	mid-D (v/c 0.85)	F (1.09)	F (1.07)	F (1.35)	F (1.26)	F (1.03)	F (1.02)	<ul style="list-style-type: none"> Convert the WB right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane; Convert the EB right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane; and Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes on either direction. 	F (1.5)	F (1.27)	F (1.01)	D (0.89)	<ul style="list-style-type: none"> Convert the WB right-turn lane to a shared through-right turn lane on Avila Road to provide one left turn lane, one through lane, and one shared through-right turn lanes; Add an EB left-turn lane on Avila Road to provide two left turn lanes, one through lane, and one shared through-right turn lane; and Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes.
Int 22 Willow Pass Road / Evora Road (East)-SR 4 WB Off Ramp	mid-D (v/c 0.85)	F (1.2)	A (0.51)	F (1.25)	B (0.67)	E	E	<ul style="list-style-type: none"> Convert one NB through lane on Willow Pass Road to a left-turn lane to provide two left-turn lanes and two through lanes; and Convert the SB shared through-right lane on Willow Pass Road to an exclusive right-turn lane to provide three through lanes and one right-turn lane. 	F (1.26)	B (0.66)	F (1)	B	Same as Alternative 1
Int 23 San Marco Boulevard-Willow Pass Road / SR 4 EB ramps	mid-D (v/c 0.85)	D (0.81)	F (1.01)	F (1.13)	F (1.61)	D (0.85)	D (0.81)	<ul style="list-style-type: none"> Add one EB right-turn lane and convert one of the left-turn lane to a shared left-right turn lane at the SR 4 off-ramp to provide one left-turn lane, one shared left-right turn lane and two right-turn lanes; and Widen the south leg on Willow Pass Road to accommodate three receiving lanes. 	F (1.03)	F (1.59)	D (0.85)	C	Same as Alternative 1
Int 24 San Marco Boulevard / W Leland Road	mid-D (v/c 0.85)	A	A	A	A	n/a	n/a	n/a	A	A	n/a	n/a	n/a
Int 25 Bailey Road / Willow Pass Road	E	C	D	C	E	n/a	n/a	n/a	C	E	n/a	n/a	n/a
Int 26 Bailey Road / SR 4 EB ramps-BART access	E	B	F	D	F	D	F (1.11)	<ul style="list-style-type: none"> Convert the EB through lane to an exclusive left-turn lane from the BART access road and widen the SR-4 EB off-ramp to add a right-turn lane to provide one left-turn lane, one shared left-through lane, and two right-turn lanes on the WB approach; Remove one of the SB left-turn lane to provide one left turn lane, two through lanes and one right-turn lane on the SB approach; and Modify the traffic signal to provide protected left-turn phasing. 	E	F	E	F (1.01)	Same as Alternative 1

Table 4-11.9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Mitigation Measures
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
Int 27 Railroad Avenue / W Leland Road	mid-D (v/c 0.85)	D (0.88)	E (0.98)	D (0.86)	E (1)	C	D (0.81)	<ul style="list-style-type: none"> Widen the north leg on Railroad Avenue to add a SB left-turn lane to provide two left-turn lanes, two through lanes and one right-turn lanes; and Widen the west leg on W. Leland Road to add an EB right-turn lane to provide one left-turn lane, two through lanes and one right-turn lane. 	D (0.87)	E (0.99)	D (0.8)	D (0.83)	Same as Alternative 1
Int 28 Kirker Pass Road / James Donlon Boulevard	mid-D (v/c 0.85)	F (1.14)	D (0.95)	F (1.16)	F (1)	D	D	<ul style="list-style-type: none"> Convert the WB right-turn lane to a shared left-right turn lane to provide one shared left turn lane and one shared left-right turn lane on the WB approach on James Donlon Boulevard. 	F (1.16)	F (1)	D	D	Same as Alternative 1

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 Bold values represent LOS that exceeds performance standards.
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 Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and degrade LOS over the No Action Alternative.

Table 4-11.10 Operational Impacts, Roadway Segments

ID	Street Name	Performance Standards	No Action		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Mitigation Measures
			AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
			LOS		LOS		LOS			LOS		LOS		
RS 1	Ygnacio Valley Road	E	C	C	C	C	n/a	n/a	n/a	C	C	n/a	n/a	n/a
RS 2	Bailey Road	D	F	D	E	D	n/a	n/a	None Required	E	D	n/a	n/a	None Required
RS 3	Concord Boulevard	E	D	D	D	D	n/a	n/a	n/a	D	D	n/a	n/a	n/a
RS 4	Port Chicago Highway	E	C	C	F	F			Widening Port Chicago Highway to provide two travel lanes on each direction	F	F			Widening Port Chicago Highway to provide two travel lanes on each direction
RS 5	Kirker Pass Road	D	D	D	D	D	n/a	n/a	n/a	D	D	n/a	n/a	n/a

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Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and degrade LOS over the No Action Alternative.

Table 4-11.11 Operational Impacts, Freeway Segments

ID	Mainline Segment	Direction	Performance Standards	No Action		Alternative 1		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 Mitigation Measures
				AM	PM	AM	PM		AM	PM	
				LOS (v/c)		LOS	LOS		LOS	LOS	
FS 1	I-680 s/o Monument Blvd	NB	F	C	D	C	D	n/a	C	D	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 2	I-680 n/o Monument Blvd.	NB	F	C	C	C	C	n/a	C	C	n/a
		SB	F	D	C	D	D	n/a	D	D	n/a
FS 3	I-680 n/o SR 242	NB	F	B	D	B	D	n/a	B	D	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 4	I-680 n/o Willow Pass Rd	NB	F	B	C	B	C	n/a	B	C	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 5	I-680 n/o Concord Ave	NB	F	B	D	B	D	n/a	B	D	n/a
		SB	F	C	B	C	C	n/a	C	C	n/a
FS 6	I-680 n/o SR 4	NB	F	C	C	C	C	n/a	C	C	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 7	SR 242 n/o I-680	NB	F	C	D	D	D	n/a	C	D	n/a
		SB	F	D	C	D	C	n/a	D	C	n/a
FS 8	SR 4 e/o SR 242	EB	F	B	D	B	D	None Required	B	D	None Required
		WB	F	F	C	F	C	None Required	F	D	None Required
FS 9	SR 4 e/o Port Chicago Hwy	EB	F	C	F	C	F	None Required	D	F	Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
		WB	F	F	B	F	C	None Required	F	D	
FS 10	SR 4 e/o Willow Pass Rd	EB	F	B	F (1.43)	C	F (1.57)	Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.	C	F	
		WB	F	F	C	F	C		F	C	
FS 11	SR 4 e/o San Marco Blvd	EB	F	B	E	C	F	Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.	C	F	
		WB	F	F	B	F	C		F	B	
FS 12	SR 4 e/o Railroad	EB	F	C	C	C	C	n/a	C	C	n/a
		WB	F	B	B	B	B	n/a	B	B	n/a

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 Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and degrade LOS over the No Action Alternative.

Table 4-11.12 Operational Impacts, Freeway Ramps

ID	Ramp	Performance Standards	No Action		Alternative 1		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 Mitigation Measures
			AM	PM	AM	PM		AM	PM	
			LOS	LOS	LOS	LOS		LOS	LOS	
1	I-680: Willow Pass Rd NB off-ramp	D	D	E	D	E	None Required	D	E	None Required
2	I-680: Concord Av WB to NB on-ramp	D	C	D	C	D	n/a	C	D	n/a
3	I-680: Willow Pass Rd EB to SB on-ramp	D	B	C	C	C	n/a	C	C	n/a
4	SR 242: Clayton Rd NB off-ramp	D	B	C	B	C	n/a	B	C	n/a
5	SR 242: Concord Av EB to NB on-ramp	D	C	C	C	C	n/a	C	C	n/a
6	SR 242: Clayton Rd SB on-ramp	D	D	C	D	D	n/a	D	D	n/a
7	SR 4: Port Chicago Hwy EB off-ramp	D	C	F	C	F	None Required	D	F	None Required
8	SR 4: Port Chicago Hwy EB on-ramp	D	B	F (0.80)	C	F	None Required	D	F (0.93)	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
9	SR 4: Willow Pass Rd EB off-ramp	D	C	F (0.58)	D	F	None Required	F (1.04)	F	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.
10	SR 4: Port Chicago Hwy WB on-ramp	D	D	D	D	E	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities and support alternative modes.	E	F	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
11	SR 4: Port Chicago Hwy WB off-ramp	F	F	C	F	D	None Required	F	E	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
12	SR 4: Willow Pass Rd WB on-ramp	F	F	C	F	C	None Required	F	E	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.
13	SR 4: Willow Pass Rd WB off-ramp	F	F	C	F	E	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.	F	E	
14	SR 4: San Marco Blvd EB off-ramp	D	B	F	C	F	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.	C	F	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
15	SR 4: SB San Marco Blvd WB on-ramp	D	F	B	F	C		F	C	
16	SR 4: NB San Marco Blvd WB on-ramp	D	F	C	F	C		F	C	
17	SR 4: NB San Marco Blvd EB on-ramp	D	C	D	C	F		C	F	

Table 4-11.12 Operational Impacts, Freeway Ramps

ID	Ramp	Performance Standards	No Action		Alternative 1		Alternative 1 Mitigation Measures	Alternative 2		Alternative 2 Mitigation Measures
			AM	PM	AM	PM		AM	PM	
			LOS	LOS	LOS	LOS		LOS	LOS	
18	SR 4: San Marco Blvd WB off-ramp	D	F	C	F	C		F	B	
19	SR 4: SB Bailey Rd EB off-ramp	D	B	D	C	F		C	F	
20	SR 4: Bailey Rd WB on-ramp	D	F	B	F	B		F	B	
21	SR 4: Railroad Ave WB on-ramp	D	F	C	F	C		F	C	

Note:

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Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and degrade LOS over the No Action Alternative.

Mitigation measures are identified in Tables 4.11-9, 4.11-10, 4.11-11, and 4.11-12. However, as discussed in Alternative 1, these measures primarily entail capacity increase, and under the city's Climate Action Plan (Book 3 of the Area Plan), the city plans to mitigate transportation impacts through implementation of the design standards in its Action Plan and other TDM strategies to reduce VMT in support of state and local policies to reduce GHGs. Mitigation measures would be the same for the majority of traffic locations under both alternatives, with the exception of three intersections (Int 18, 20, and 21), one freeway segment (FS 9), and four freeway ramps (FR 8, FR 9, FR 11, and FR 12) that would require new or greater mitigation under Alternative 2.

Although implementation of measures identified in the Climate Action Plan and the MMRP would mitigate impacts that would occur under Alternative 2, the extent of the reduction in impacts is not known as the date of this analysis, prior to the establishment of specific development proposals; therefore, these impacts as they are currently defined would be significant and adverse.

4.11.4 No Action Alternative

The No Action Alternative would not result in any development or new transportation infrastructure on the former NWS Concord. The model used in this analysis considered future development and transportation improvements around the property, and, therefore, the No Action Alternative has the potential to have significant adverse impacts on eight intersections, one roadway segment, six freeway segments, and 13 freeway ramps. Impacts on transportation locations under the No Action Alternative are presented in Tables 4.11-9 through 4.11-12.

4.12 Utilities and Infrastructure

This section summarizes the potential environmental impacts on utilities and infrastructure resulting from implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord. It includes a discussion of water supply systems, stormwater collection systems, sanitary sewage collection and treatment systems, and other utilities and infrastructure, along with mitigation measures.

The level of detail provided in this EIS covers the basic infrastructure that would be needed to serve new development within the former NWS Concord. More detailed utility system planning will occur as development takes place. The timing and phasing of development, as well as more specific information on the types of development, are likely to affect utility planning and design, as will future advances in technology and changing federal and state requirements. The level of detail about each alternative as presented in Chapter 2 is broad enough to allow developers to respond to such changes and focuses on basic principles intended to ensure that utilities and infrastructure are adequate, available when development occurs, and consistent with the project's sustainability goals.

For additional information regarding the methodology and assumptions used to project utility demand, please refer to Appendix F.

4.12.1 Alternative 1

4.12.1.1 Water

Water Supply and Demand

Upon disposal of the former NWS Concord, CCWD would assume responsibility for providing water supply to any future developments located within the site. Reuse of the site consistent with Alternative 1 is anticipated to result in a water demand of approximately 3.2 mgd at full build-out (see Table 4.12-1).

Water demand was projected using planning multipliers for various land uses based on appropriate units of measure (i.e., square footage and number of units) (Nelson 2004). Note: The projected water demand as outlined in Table 4.12-1 does not account for irrigational water needs because planning multipliers were not available for that use (Nelson 2004). For more information on the methodology and assumptions used to estimate water demand, see Appendix F. As indicated in Table 4.12-1, the Village Neighborhoods district would require the most water because of its composition of single-family homes and townhomes. Single-family homes have the highest water demand (Nelson 2004).

Table 4.12-1 Projected Water Demand (gpd) at Full Build-out for Alternatives 1 and 2

Development District	Water Demand (gpd) Alternative 1	Water Demand (gpd) Alternative 2
North Concord TOD Core	560,250	434,250
North Concord TOD Neighborhoods	405,000	766,620
Central Neighborhoods	541,000	546,800
Village Centers	78,240	111,000
Village Neighborhoods	1,530,000	1,514,040
Commercial Flex	122,925	122,925
Campus	48,000	48,000
First Responders Training Center	360	N/A
Greenways, Citywide Parks, and Tournament Facilities	3,960	3,960
Conservation Open Space	N/A	N/A
Total	3,290,135	3,547,595

The CCWD estimates that the existing average daily demand in the City of Concord is approximately 20.6 mgd, or 23,104 acre-feet per year (afy), based on 2013 usage data from the CCWD. Most of this water is supplied via a contract with the U.S. Bureau of Reclamation. CCWD's contract with the U.S. Bureau of Reclamation currently allows delivery of up to 195,000 afy within the district (CCWD 2011). The 2013 usage total should contain a caveat due to the influence of drought and economic conditions during that year. Therefore, it reflects a lower annual total usage. The typical CCWD maximum annual usage for the CCWD service area as a whole is 37.5 mgd, or 42,000 afy (Quimby 2014). Using that number, the future water demand associated with the reuse of the former NWS Concord under Alternative 1 represents approximately 8.5 percent of the CCWD typical maximum annual water usage.

To illustrate the ability of future development to be supported by the existing water supply, in June 2010, the CCWD completed a water supply assessment for the site. According to the water supply assessment, proposed development under Alternative 1 would fall within the level of growth assumed for the CCWD service area as identified in its 2005 Urban Water Management Plan. The water supply assessment notes that there may be potential supply shortfalls in the latter years of a multiple-year drought period. In order to meet demands in drought years, the CCWD would obtain supplemental supplies through short-term conservation measures, expansion of Los Vaqueros Reservoir, and water transfers and exchanges, such as those under the agreement with the East Contra Costa Irrigation District (City of Concord January 2012c).

The projected total future water demand of 3.2 mgd could be reduced with the implementation of water conservation measures, namely in the form of reuse of raw and recycled water as an irrigation supply. Efficient use of raw or recycled water is a key component of CCWD's long-term sustainable water supply strategy. The use of CCCSD treated wastewater for approved uses would reduce the demand for potable water and is something that the City of Concord has committed to in the MMRP, where feasible, in preference to untreated or raw water (City of Concord 2010). The anticipated irrigation demand upon full build-out would be based on the assumption that parks and recreational facilities; portions of parks; and

residential, commercial, and other development would be irrigated by untreated or recycled water. The CCCSD has provided the City of Concord a “will serve” letter indicating the district’s intent to supply 5.3 mgd of recycled water for use at the site (CCCSD 2009).

Additionally, as outlined in the MMRP, the CCWD and the City of Concord will implement demand-side management strategies to reduce water demand, in accordance with General Plan Policy PF-1.1.2, prior to development of the former NWS Concord (City of Concord 2010). Examples include utilizing high-efficiency fixtures and appliances in residential units, high-efficiency irrigation systems, and water-wise landscape techniques for both residential and commercial properties.

Lastly, the city has committed in the MMRP to coordinate with the CCWD prior to development to ensure that adequate water supply, quality, and distribution infrastructure will be available before permitting new development. The city will adhere to this policy in finalizing development plans during permitting and review.

In summary, the implementation of Alternative 1 would be associated with an increase in water demand. However, because a water supply assessment has been prepared and identifies that sufficient water is currently available to support future development, development is required to ensure that additional supply is secured prior to development, and recycled water would be used as a conservation method, there would be no significant, long-term adverse impacts on water supply under Alternative 1.

Water Treatment and Distribution: Operation and Maintenance

As indicated in Section 3.12.2.1, the CCWD owns and operates two water treatment facilities that treat water for the region. The Bollman Water Treatment Plant is already operating near its full capacity, but the Randall-Bold WTP has available capacity to treat up to an additional 30 mgd if conditions warrant an expansion (CCWD n.d.). Therefore, the WTP has the existing capacity to treat the additional 3.2 mgd of potable water that would be needed to serve new development under Alternative 1. However, in order to utilize the facility at maximum capacity, the WTP would require upgrades, and the CCWD currently has no plans to expand. Thus, the increase in projected water demand would represent a moderate impact on the operation and maintenance of the Randall-Bold WTP capacity.

Upgrades to the water delivery (to the plant) and distribution (from the plant) infrastructure would also be needed in order to serve new development, as existing infrastructure is inadequate (City of Concord 2010). New infrastructure may include water storage tanks, pump stations, and other facilities, such as treated and untreated water conveyance. Alternative 1 includes plans for construction of a new water distribution system that would have two integrated components: a potable water distribution system and a recycled water distribution system. The new distribution system may also include the construction of a third component that would convey raw or untreated water directly from the Contra Costa Canal to supply new development with untreated water for uses such as irrigation. Existing infrastructure at the former NWS Concord is not adequate to deliver and distribute untreated water to new development for irrigation and other purposes, thus requiring the construction of the third component of the distribution system.

Ground disturbance would be associated with laying new distribution lines, and the developer(s) will be required to comply with local and state regulations to minimize disturbance. All new distribution systems will be constructed to ensure that they are adequately sized.

As noted previously, the City of Concord has committed to work with CCWD to ensure that adequate water supply, quality, and distribution infrastructure will be available before permitting new development. In accordance with the MMRP, additional water treatment and distribution infrastructure would need to be constructed prior to permitting new development that would exceed the existing capacity.

Recycled Water Distribution System

To facilitate the use of recycled water to reduce overall water demand upon full build-out, a new distribution system would be needed. Alternative 1 incorporates one of the mitigation measures that the City of Concord committed to in the MMRP, which requires developers to install “purple pipe” in outdoor irrigation systems throughout the project area to maximize the potential use of recycled water to reduce demand on the potable water and raw water supplies (City of Concord 2010).

To facilitate construction of the “purple pipe,” a connection would either be constructed from the existing CCCSD recycled water facilities adjacent to the WWTP and running east along SR 4 to Port Chicago Highway or an onsite option would be implemented. Construction of a new main would require the CCCSD to increase the current recycled water production capacity at the WWTP, which is currently 3 mgd (Leavitt 2013) and would result in the need for additional transmission, pumping, and storage facilities associated with the main for distribution.

Alternatively, a new recycled water facility would be developed as part of Alternative 1 within the former NWS Concord site area that would allow for the treatment and conveyance of up to 3.4 mgd and at least 2.5 mgd of wastewater for non-potable reuse (City of Concord 2010). This would eliminate the need to expand capacity at the CCCSD WWTP.

To incorporate recycled water into the overall plan for water supply at full build-out, the City of Concord would cooperate with CCCSD and other service providers to develop a wastewater reclamation program as a supplement to water supplies, as per General Plan policy PF-1.2.3. Additionally, the City of Concord has committed to additional mitigation measures in the MMRP, including the provision of data to the CCCSD regarding future demand for untreated or raw water supplies so that it can demonstrate adequate supply, and coordinating with CCWD to ensure that future development includes construction of the untreated water distribution system, storage tanks/ponds, filtering systems, and other facilities needed to supply recycled water in accordance with CCWD standards.

In summary, Alternative 1 would result in an increase in water demand and a need for infrastructure updates. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on water treatment and treated-water distribution under Alternative 1.

4.12.1.2 Stormwater and Collection Systems

Disposal and reuse of the former NWS Concord consistent with Alternative 1 would increase the impervious surface throughout the site area by introducing new hard surfaces (i.e., structures, roads, and parking). This would increase the rate and amount of surface runoff because the majority of the existing site is considered pervious area. Full build-out under Alternative 1 is estimated to result in a total of approximately 1,442 acres of impervious area, an increase of 301 percent above existing conditions. For more information on the methodology and assumptions used to calculate existing and future impervious surface, see Appendix F.

In accordance with the city’s municipal code, Chapter 86, “Stormwater Management and Grading and Erosion Control,” new development would be required to submit a grading permit and a Stormwater Control Plan that meets the requirements of the most recent version of the Contra Costa Clean Water Program Stormwater C.3 Guidebook (City of Concord 2013b). C.3 is a provision in the Joint Municipal NPDES permit that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP [Contra Costa Clean Water Program] 2012). Therefore, any proposed development will be required to comply with the CCCWP’s Joint Municipal NPDES permit. Additionally, the Joint Municipal NPDES Permit requires that a LID approach be employed in site design. LID techniques include a variety

of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. LID design strategies include preserving natural drainage features, minimizing impervious surface, using bioretention facilities (vegetated depressions that collect runoff and facilitate infiltration), permeable pavement, and dispersal of runoff to pervious areas.

In addition, in accordance with General Plan Policy PF-1.3.1, new development would be required to include any needed storm drains that are not part of the city's master storm drain system and to incorporate features into site improvement plans that would minimize surface runoff, such as additional landscaped areas and/or swales, permeable paving, parking area design that minimizes runoff, or stormwater detention basins (City of Concord 2010). As outlined in the MMPP, the developer(s) will also be required to consult with the CCCFC&WCD to manage any additional stormwater generated at the site. The CCCFC&WCD maintains and oversees maintenance of surface waterbodies within its service area, including Mt. Diablo Creek and the Holbrook Channel, and ensures that there is adequate capacity to manage stormwater runoff from development.

In summary, because development is required to comply with local regulations adopted by the city in the General Plan and municipal code, as well as requirements in the Joint Municipal NPDES permit, the implementation of Alternative 1 would not result in significant, long-term adverse impacts attributable to an increase in the rate and volume of surface runoff from the increase in impervious surfaces.

Operation and Maintenance

As discussed in Section 3.12.3.2, stormwater from the site drains to Mt. Diablo Creek, the Holbrook Channel and connected urban drainages, and Willow Creek. Additionally, during the wet season, the Contra Costa Canal also acts as a drainage channel within the site.

The city will require that storm drainage systems for the redeveloped site be designed to safely convey runoff from developed areas of the site in accordance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3 Guidebook is required. C.3 is a provision in the Joint Municipal NPDES permit¹⁸ that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). Refer to Section 4.14.2.1 for a complete discussion of the C3 provisions for stormwater design.

Under Alternative 1, the property would be transferred to the City of Concord, and the city or property developer(s) would be responsible for integrating stormwater features into the design of specific development plans; these features may include stormwater ponds, swales, and detention facilities. Increases in runoff would be mitigated through adherence to the provisions in local codes as well as through the implementation of the type of measures outlined in the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) prepared by the City of Concord to support the reuse plan. The specific measures outlined in the *Conceptual Plan for Restoration and Flood Management* are discussed in detail in Section 4.14.2.1.

In summary, Alternative 1 would result in a 301-percent increase in impervious surface area, and new stormwater infrastructure would be required; however, with mitigation, the impact would not be significant. The city's mitigation includes required compliance with state and local regulations and permit conditions regarding stormwater management.

¹⁸ The joint municipal NPDES permit for stormwater discharges is coordinated by the CCCWP, which consists of the City of Concord, the Contra Costa County Flood Control and Water Conservation District, Contra Costa County, and eighteen other Contra Costa cities.

4.12.1.3 Sanitary Collection and Treatment Systems

Wastewater Volume

The former NWS Concord is currently vacant, and, therefore, no wastewater is being produced at this time. At full occupancy, wastewater generation is expected to be approximately 3.7 mgd; this total is based on standard multipliers for various land uses (Nelson 2004). Volumes for both alternatives are shown in Table 4.12-2. For more information on the methodology and assumptions used to estimate wastewater generation, see Appendix F.

Table 4.12-2 Projected Wastewater Volume (gpd) at Full Build-Out for Alternatives 1 and 2

Development District	Wastewater Flow (gpd) Alternative 1	Wastewater Flow (gpd) Alternative 2
North Concord TOD Core	552,550	439,150
North Concord TOD Neighborhoods	442,200	2,280,900
Central Neighborhoods	536,640	548,942
Village Centers	251,716	281,200
Village Neighborhoods	1,261,080	1,248,312
Commercial Flex	599,845	599,845
Campus	95,200	95,200
First Responders Training Center	288	N/A
Greenways, Citywide Parks, and Tournament Facilities	3,168	3,168
Conservation Open Space	N/A	N/A
Total	3,742,687	5,496,717

The CCCSD WWTP has a permitted effluent discharge limit of 53.8 mgd average dry-weather flow. In 2012, the district treated approximately 33.2 mgd (Leavitt 2013). Therefore, there is currently capacity for treatment at the WWTP to accommodate build-out of the former NWS Concord site under Alternative 1.

The effluent discharges from the CCCSD WWTP are regulated by the California RWQCB, San Francisco Bay Region, under the NPDES permit for the WWTP. The effluent discharge limitations were based on projections to allow for anticipated growth identified in land use plans prepared by jurisdictions within the CCCSD's service area through 2035, as understood in the year 2000. Therefore, redevelopment of the former NWS Concord was not assessed in these projections. However, since sewer connections are issued on a first-come, first-served basis, there may be sufficient capacity to comply with the discharge limit at the time wastewater utility service is needed for new development at the former NWS Concord site. While this could cause CCCSD to reach its effluent discharge limit sooner than 2035 if all other development projects analyzed are also realized, CCCSD has indicated that due to the decrease in average gpd of wastewater generated within the service area, build-out of Alternative 1 is unlikely to cause the district to request approval from the water board to increase its discharge limits in order to treat additional wastewater (Leavitt 2013). Additionally, as outlined in the MMRP, the City of Concord has committed to reaching an agreement with CCCSD such that it commits to improving its collection system and treatment process and to pursuing a sufficient discharge limit, as needed in the future, to accommodate redevelopment at the former NWS Concord.

Collection System

The CCCSD and City of Concord are currently building a new gravity connection to the CCCSD's A-Line relief interceptor. This project will increase the wet-weather flow capacity of the district A-line interceptor, which receives the majority of CCCSD's sewage and transports it to the CCCSD WWTP facility (Mountain Cascade, Inc. 2009). Once built, the interceptor will provide sufficient capacity to accept wastewater flow anticipated due to build-out of Alternative 1 on the former NWS Concord site. However, depending on the split of wastewater flow between CCCSD and the city's collection systems, improvements may be needed to one or both systems, such as the city's existing Willow Pass Road and Concord Boulevard pipelines, and upgrade/relocation of CCCSD's Concord Industrial Pumping Station and associated gravity lines serving the North Concord area (City of Concord 2010). In addition, CCCSD's WWTP, which receives all wastewater from the City of Concord and the CCCSD, may need improvements to its solids-handling facilities and primary sedimentation processes in order to treat the increased flow of wastewater.

Therefore, in summary, Alternative 1 would result in an increase in demand for wastewater capacity and a potential need for new or upgraded infrastructure. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term, adverse impacts on sanitary collection and treatment under Alternative 1.

4.12.1.4 Other Utilities and Infrastructure

Solid Waste and Recycling Management

For simplicity, this analysis assumes that the construction portion of the proposed action would consist primarily of the generation and management of C&D waste, and the operational portion of the proposed action would consist primarily of the generation and management of non-C&D waste. Appendix F contains calculations and other information supporting this analysis.

Construction and demolition activities under Alternative 1 would generate large quantities of C&D waste. About 709,000 square feet of building space (ALH 2013) and 221 weapons magazines, as well as other infrastructure, would be demolished at the former NWS Concord in preparation for development of the property. To build the facilities required by Alternative 1, about 19 million square feet of residential floor space and 6.1 million square feet of commercial floor space would be constructed, as well as associated roads, parking areas, and other facilities. As shown in Appendix F, it is estimated that 181,000 tons of C&D waste would be generated by demolition and construction activities.

In accordance with the California Integrated Waste Management Act of 1989 (AB 939), 50 percent of solid waste is required to be diverted from state landfills via methods such as source reduction and recycling. As a result of the state requirement and because components of the standard C&D waste stream, such as metal, have appreciable recycled value, Contra Costa County has many C&D recyclers (Central Contra Costa Solid Waste Authority 2014). For the proposed action, the city also expects that C&D waste will be reused onsite during construction as hard fill and for other purposes, which would reduce disposal costs and contribute to waste diversion. It is assumed for this analysis that onsite reuse of C&D waste is included in the 50 percent diversion. Assuming the 50 percent diversion rate goal is met, about 90,500 tons would require landfilling during the build-out period. Demolition and construction likely will not be spread evenly throughout the build-out period and would tend to be concentrated in earlier years, when large portions of the former NWS Concord property would be demolished and cleared for development. Therefore, to be conservative for this analysis, it is assumed that 75 percent of the 90,500 tons (equaling 68,000 tons) of C&D waste would require landfilling in the first 10 years of the 25-year build-out period. That reduces to about 26 tons per day of C&D waste requiring landfilling in those first 10 years (see Appendix F).

During operation of Alternative 1, it is estimated that 49,884 tons of non-C&D solid waste would be generated per year at full build-out by the new commercial, residential, industrial, and recreational activities (City of Concord 2010). In addition to the statewide 50-percent diversion rate, a mandatory commercial recycling measure was adopted in AB 32 in 2012 (CalRecycle 2013). Assuming a 50-percent diversion rate, about 25,000 tons of non-C&D solid waste would be landfilled each year once full build-out has been achieved. To be conservative for this analysis, it is assumed that non-C&D solid waste is generated at full build-out rates during the last 10 years of development of the 25-year build-out period. That reduces to about 68 tons per day of non-C&D waste requiring landfilling during the last 10 years of the build-out period (see Appendix F).

The permitted tonnages for the Potrero Hills Landfill (PHL) and Keller Canyon Landfill (KCL)—the two landfills used by the City of Concord—are 3,400 and 3,500 tons per day, respectively (Solano County Department of Resource Management 2012; Contra Costa Environmental Health 2009). In 2012, PHL received about 1,075 tons of waste per day (CalRecycle 2014c), and KCL received about 2,000 tons of waste per day (CalRecycle 2014d)—well below what each landfill may accommodate by permit.

Solano County has twice approved the expansion of the PHL to its current capacity of 83.1 million cy, extending the landfill's anticipated life by 35 years through approximately the year 2048 (San Francisco Bay RWQCB 2011).¹⁹ The PHL is at 83-percent capacity according to CalRecycle (CalRecycle 2014a). In 2009, Keller Canyon Landfill Company filed a notice of preparation of a supplemental EIR to analyze the effects of an amendment to its current land use permit to increase the allowable daily tonnage permitted for disposal at the landfill from 3,500 to 4,900 tons (Contra Costa County n.d [b]). According to the KCL permit (Facility/Permit Number 07-AA-0032), which expires on December 14, 2014, and CalRecycle, the allowable permitted tons per operating day are still 3,500 (Contra Costa Environmental Health 2009; CalRecycle 2014b). The KCL is at 15 percent of its 75-million cy capacity according to CalRecycle (CalRecycle 2014b) and has an anticipated closure date of 2050 according to its permit (Contra Costa Environmental Health 2009). Other CalRecycle records list the KCL closure date as 2030 (CalRecycle 2014b).

The solid waste requiring landfilling during the first 10 years of the build-out period is assumed to be dominated by the 26 tons per day of C&D waste calculated to be generated during that time, which would represent a 1-to-2-percent increase over the waste received at the PHL or KCL in 2012. The solid waste requiring landfilling during the last 10 years of the build-out period is assumed to be dominated by the 68 tons per day of non-C&D waste calculated to be generated during that time, which would represent a 3-to-6-percent increase over the waste received at the PHL or KCL in 2012. Under these assumptions, solid waste generated during the middle 5 years of the build-out period would be no greater than 68 tons per day and would likely be much less because demolition and construction would be more than 75 percent completed, and the developed areas would be less than 100 percent operational. The projected closure dates for both PHL and KCL would likely be affected because the 1-to-6-percent increases, although small on a daily basis, would compound when experienced over 10-year periods. The current permitted disposal footprints for both PHL and KCL are a fraction of the land owned by the disposal companies at those locations, and presumably the landfill companies could apply to expand their disposal footprints as necessary.

Therefore, under Alternative 1, there would be a minor impact on the environment from small increases in the amount of solid waste requiring disposal in a landfill compared to current conditions. The impacts would not be significant because the C&D waste and non-C&D waste would be generated over long

¹⁹ Landfills are permitted on the basis of weight, i.e., allowable tons per day; however, landfill capacities are established on the basis of volume, i.e., cubic yards. Solid waste has varying densities; therefore, heavy waste will fill up the landfill less quickly.

segments of the build-out, a 50-percent diversion rate from landfilling is required by law, and the small increases in landfilled waste could be accommodated by the PHL and KCL, which operate below capacity.

Electricity

PG&E would provide electricity for development within the former NWS Concord site. Under Alternative 1 at full build-out, total electricity demand is projected to be approximately 62 MW (City of Concord 2010). Future electricity demand and the ability of PG&E to accommodate that demand will be addressed through coordination between the City of Concord and PG&E, as discussed further below.

Because there is no existing major electricity distribution infrastructure on the site, additional infrastructure would need to be built in order to accommodate new development. New offsite electrical infrastructure would be also required to connect the development's distribution system to the existing transmission infrastructure, and a new substation would need to be developed within the site area. From the substation, electrical distribution infrastructure would span out to serve the development.

A typical PG&E distribution substation site with a footprint of approximately 5 acres could be located near one of the following (see Figure 4.12-1):

1. South of the intersection of SR 4 and Willow Pass Road
2. West of Willow Pass Road near the southerly boundary of the project
3. East of Willow Pass Road near the southerly boundary of the project
4. The southeast corner of the project near Concord Boulevard and West Street

For options 1 through 3, the overhead transmission line to serve the substation would tie into PG&E's existing Pittsburg-Tidewater 230kV transmission line near San Marco Boulevard and SR 4 in Pittsburg and run southwesterly to the project site. For location 4 near Concord Boulevard and West Street, the transmission line would tie into the Pittsburg-Tidewater 230kV near Bailey Road, south of West Leland Road in Pittsburg, and run west to the project site or the Pittsburg-Clayton 115kV near Kirker Pass Road (City of Concord 2010).

Ground disturbance would be associated with the construction of necessary infrastructure, such as overhead transmission lines and a new substation, and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

The existing PG&E Tidewater Substation located adjacent to the former NWS Concord may serve a portion of the area that would be developed under Alternative 1, while the proposed new substation may serve some of PG&E's current customers in Martinez (City of Concord 2010).

In accordance with the MMRP, the City of Concord has committed to coordinate with PG&E and provide data for PG&E to assess the future electricity demand, and developers are required to study the environmental impacts of such facilities in their approval process prior to the city approving development at the site. The City of Concord has also committed to requiring PG&E to demonstrate that it can upgrade its existing electrical supply infrastructure and construct new electrical substations either onsite or offsite to meet potential energy demand for the development.

In summary, because future development at the former NWS Concord is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on energy infrastructure or the availability of electricity under Alternative 1.

Natural Gas

Natural gas would continue to be provided by PG&E. It is anticipated that a total of approximately 6 megatherms of natural gas would be needed annually at full build-out under Alternative 1 (City of Concord 2010). PG&E has confirmed that there is sufficient capacity in the adjacent existing gas transmission systems to serve the proposed reuse of the site in a manner consistent with Alternative 1 (City of Concord 2010). However, additional infrastructure would need to be developed in order to distribute the gas to the redeveloped site because no gas distribution system currently exists onsite.

Although the specific location of additional infrastructure has not yet been determined, a new distribution feeder main would likely be built to tap into the existing gas transmission line near Port Chicago Highway and SR 4. The main would then run south, below ground, and within a roadway or public utility easement to a gas regulator site that would be approximately 1 acre in size. The location of the gas regulating station will be determined during the future design process; however, two potential locations include a site at the southeast border of the planned TOD near the North Concord/Martinez BART Station or a site on Willow Pass Road near the planned community facilities (see Figure 4.12-1; City of Concord 2010). Distribution mains would radiate out from the gas regulator station to serve the development (City of Concord 2010). Ground disturbance would be associated with the construction of necessary infrastructure for the gas transmission lines and a potential new gas regulator site, and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

As outlined in the MMRP, the city has committed to coordinate with PG&E and provide data for PG&E to assess future natural gas demand. Additionally, the city is required to withhold development approvals until PG&E has demonstrated that it can supply the required natural gas service to support development of Alternative 1 and that the new facilities and infrastructure have been assessed by the developer with respect to environmental impacts (City of Concord 2010).

In summary, because future development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on natural gas infrastructure or the availability of natural gas under Alternative 1.

Telecommunications

AT&T, Comcast, and/or Astound are the current communications providers in the City of Concord and would continue to provide services in the future, including at the former NWS Concord (City of Concord 2010). However, because minimal information technology/communication services and facilities are at the site currently, Alternative 1 would require additional services and the development of new facilities.

As outlined in the MMRP, the City of Concord has committed to requiring communication providers to demonstrate they can supply sufficient additional services to support the development of Alternative 1.

Therefore, because development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on information technology/communications infrastructure under Alternative 1.

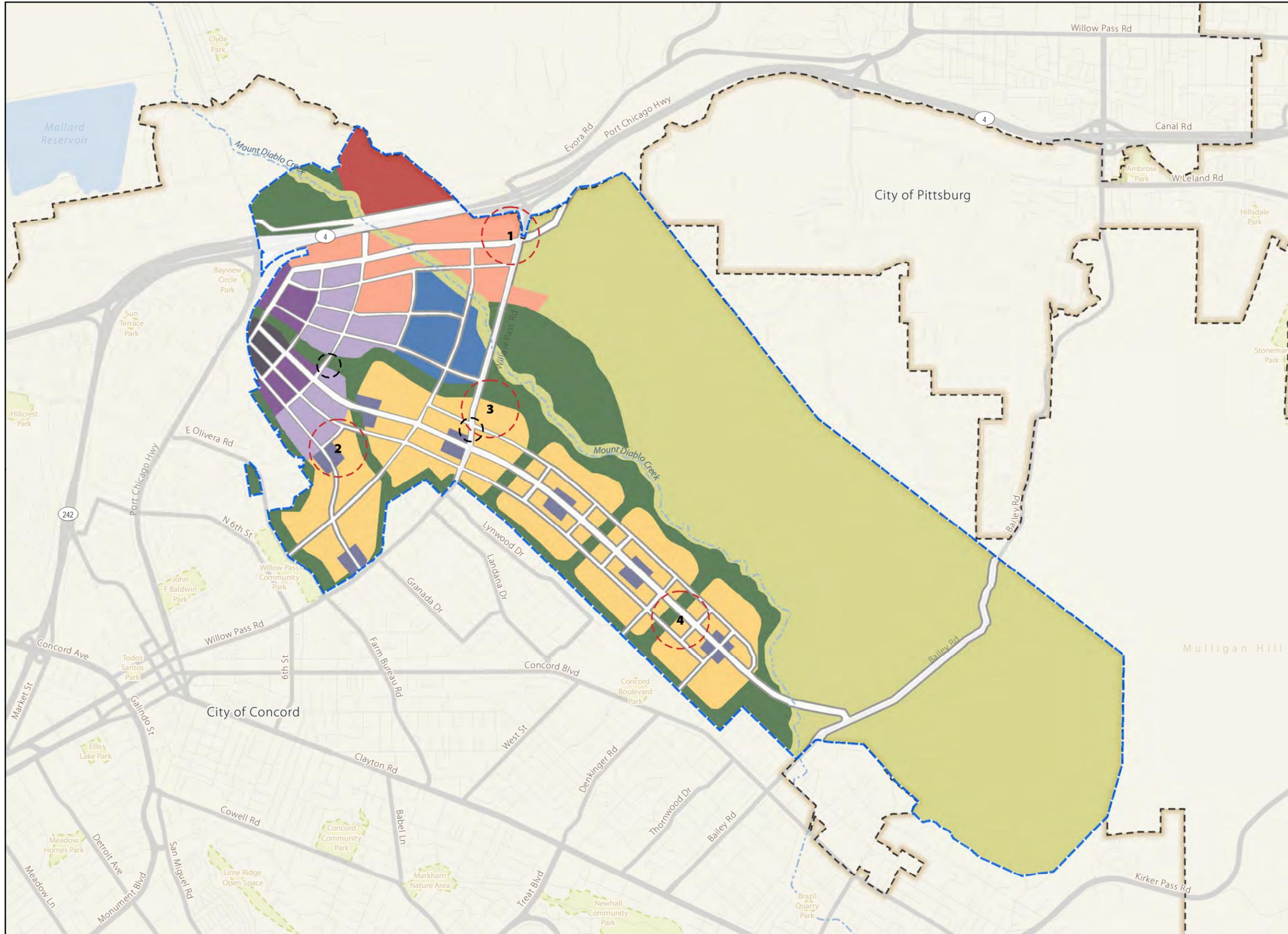


Figure 4.12-1
Potential Locations of the Electrical
and Natural Gas Facilities
 Former NWS Concord
 Concord, California

Legend

- Former NWS Concord
- City Limits
- Illustrative Future Gas Regulator Locations
- Illustrative Future Substation Locations

***Alternative 1 Development Districts**

- | | |
|---------------------------------|---|
| Campus | Greenways, Citywide Parks and Tournament Facilities |
| Central Neighborhood | North Concord TOD Core |
| Commercial Flex | North Concord TOD Neighborhood |
| Conservation Open Space | Roadways |
| First Responder Training Center | Village Center |
| | Village Neighborhood |



0 0.5 1 Miles

SOURCE: City of Concord, 2010.

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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4.12.2 Alternative 2

4.12.2.1 Water

Water Supply and Demand

As discussed for Alternative 1, upon disposal of the former NWS Concord, CCWD would assume responsibility for providing water supply to any future developments located within the site. Reuse of the site consistent with Alternative 2 is anticipated to result in a water demand of approximately 3.5 mgd at full build-out (see Table 4.12-1). Using the typical annual maximum water usage for the CCWD water service area, the future water demand associated with Alternative 2 represents approximately 9 percent of that total (Quimby 2014). The North Concord TOD Neighborhoods district would have the greatest water demand because of its number of residential units, specifically those designated as high-density, multi-unit housing. Similar to Alternative 1, the projected total future water demand (3.5 mgd) could be reduced with the implementation of water-conservation measures, namely in the form of reuse of raw and recycled water as irrigation supply.

Thus, like Alternative 1, reuse under Alternative 2 would be associated with an increase in water demand. However, because a water supply assessment has been prepared that identifies that sufficient water is currently available to support future development, development is required to ensure that additional supply is secured prior to development, and recycled water would be used as a conservation method, there would be no significant, long-term adverse impacts on water supply under Alternative 2.

Water Treatment and Distribution: Operation and Maintenance

Impacts on water treatment and distribution under Alternative 2 would be similar to those discussed for Alternative 1. Alternative 2 would result in an increase in water demand and a need for infrastructure updates. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on water treatment and treated water distribution under Alternative 2.

4.12.2.2 Stormwater and Collection Systems

Similar to Alternative 1, disposal and reuse of the former NWS Concord consistent with Alternative 2 would increase the impervious surface throughout the site area by introducing new hard surfaces. This would increase the rate and amount of surface runoff because the majority of the existing site is considered pervious area. Full build-out under Alternative 2 is estimated to result in a total of approximately 1,369 acres of impervious area, an increase of 281 percent above existing conditions. For more information on the methodology and assumptions used to calculate existing and future impervious surface, see Appendix F.

Impacts on stormwater and collection systems under Alternative 2 would be similar to those under Alternative 1. Because development is required to comply with local regulations adopted by the City in the General Plan and municipal code, as well as requirements stipulated in the Joint Municipal NPDES permit, development under Alternative 2 would not result in significant, long-term adverse impacts attributable to an increase in the rate and volume of surface runoff from the increase in impervious surfaces.

Alternative 2 would result in a 281-percent increase in impervious surface area, and new stormwater infrastructure would be required; however, with mitigation, the impact would not be significant. The city's mitigation includes required compliance with state and local regulations and permit conditions regarding stormwater management.

4.12.2.3 Sanitary Collection and Treatment Systems

Wastewater Volume

The former NWS Concord is currently vacant, and, therefore, no wastewater is being produced at this time. At full occupancy, wastewater generation under Alternative 2 is expected to be approximately 5.5 mgd (see Table 4.12-2); this total is based on standard multipliers for various land uses (Nelson 2004). For more information on the methodology and assumptions used to estimate wastewater generation, see Appendix F.

The CCCSD WWTP has a permitted effluent discharge limit of 53.8 mgd average dry-weather flow. In 2012, the district treated approximately 33.2 mgd (Leavitt 2013). Therefore, there is currently capacity for treatment at the WWTP to accommodate build-out of the former NWS Concord site under Alternative 2.

Collection System

Similar to Alternative 1, Alternative 2 would result in an increase in demand for wastewater capacity and a potential need for new or upgraded infrastructure. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on sanitary collection and treatment under Alternative 2.

4.12.2.4 Other Utilities and Infrastructure

Solid Waste and Recycling Management

Similar to Alternative 1, this analysis assumes that the construction portion of the proposed action would consist primarily of the generation and management of C&D waste and the operational portion of the proposed action would consist primarily of the generation and management of non-C&D waste. Appendix F contains calculations and other information supporting this analysis.

The C&D waste generated during demolition activities of Alternative 2 would be the same as for Alternative 1. Alternative 2 differs slightly from Alternative 1 in the estimate of C&D waste generated from construction, which would be greater for the intensified reuse alternative because there would be more residential development in the project area—nearly 25 million square feet, compared to 19 million square feet for Alternative 1. The amount of commercial floor space to be built under Alternative 2 is the same as for Alternative 1. As shown in Appendix F, it is estimated that 194,000 tons of C&D waste would be generated by demolition and construction activities. Assuming a 50-percent diversion rate, about 97,000 tons would require landfilling during the build-out period, with 73,000 of those tons expected to require landfilling in the first 10 years of the 25-year build-out period. That reduces to about 28 tons per day of C&D waste requiring landfilling in those first 10 years (see Appendix F), which is only marginally greater than for Alternative 1.

Similarly, the non-C&D solid waste generated by the new commercial, residential, industrial, and recreational activities of Alternative 2 would be greater than for Alternative 1 because of the additional residential population, which would be about 30 percent greater under Alternative 2 than Alternative 1. The non-C&D waste requiring landfilling during the last 10 years of the build-out period is estimated to be 77 tons per day (see Appendix F), which is greater than for Alternative 1.

Accordingly, solid waste requiring landfilling during the first 10 years of the build-out period, which is assumed to be dominated by the C&D waste, would represent a 1-to-3-percent increase over the waste received at the PHL or KCL in 2012 (see Appendix F). The solid waste requiring landfilling during the last 10 years of the build-out period is assumed to be dominated by the non-C&D waste and would represent a 4-to-7-percent increase over the waste received at the PHL or KCL in 2012. Solid waste

generated during the middle 5 years of the build-out period would be no greater than that of the first or last 10-year segments of the 25-year build-out period and would likely be less, as described for Alternative 1. Similar to Alternative 1, the projected closure dates for both PHL and KCL would likely be affected because the 1-to-7-percent increases, although small on a daily basis, would compound when experienced over 10-year periods. PHL and KCL are able to expand their disposal footprints as necessary, as discussed under Alternative 1.

Therefore, under Alternative 2, there would be a minor impact on the environment from small increases in the amount of solid waste requiring disposal in a landfill compared to current conditions. The impacts would not be significant because the C&D waste and non-C&D waste would be generated over long segments of the build-out, a 50-percent diversion rate from landfilling is required by law, and the small increases in landfilled waste could be accommodated by the PHL and KCL, which operate below capacity.

Electricity

PG&E would provide electricity for development within the former NWS Concord site. Under Alternative 2 at full build-out, total electricity demand would be projected to be similar to that under Alternative 1. Future electricity demand and the ability of PG&E to accommodate that demand will be addressed through coordination between the City of Concord and PG&E, as discussed further below.

Because there is no existing major electricity distribution infrastructure on the site, additional infrastructure would need to be built in order to accommodate new development. New offsite electrical infrastructure would be also required to connect the development's distribution system to the existing transmission infrastructure, and a new substation would need to be developed within the site area. From the substation, electrical distribution infrastructure would span out to serve the development. Potential locations for a PG&E distribution substation site discussed previously for Alternative 1 would be the same for Alternative 2 (see Figure 4.12-1), as would the associated options for an overhead transmission line.

Ground disturbance would be associated with the construction of necessary infrastructure—overhead transmission lines and a new substation—and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

In summary, impacts would be similar to those discussed for Alternative 1. Future development at the former NWS Concord under Alternative 2 would also be required to comply with mitigation measures adopted by the city in the MMRP; therefore, there would be no significant, long-term adverse impacts on energy infrastructure or the availability of electricity under Alternative 1.

Natural Gas

Natural gas would continue to be provided by PG&E. It is anticipated that the future annual natural gas demand at full build-out under Alternative 2 would be similar to that under Alternative 1. Although there is sufficient capacity in the adjacent existing gas transmission systems to serve the proposed reuse of the site in a manner consistent with Alternative 2, additional infrastructure would need to be developed in order to distribute the gas to the redeveloped site because no gas distribution system currently exists onsite.

The two potential locations for a new gas regulating station would be the same as those discussed previously under Alternative 1 and illustrated in Figure 4.12-1. Distribution mains would radiate out from the gas regulator station to serve the development (City of Concord 2010). Ground disturbance would be associated with the construction of necessary infrastructure—gas transmission lines and a potential new

gas regulator site—and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

Impacts under Alternative 2 would be similar to those under Alternative 1. Because future development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on natural gas infrastructure or the availability of natural gas under Alternative 1.

Telecommunications

Impacts on information technology/communications infrastructure under Alternative 2 would be similar to those discussed previously for Alternative 1. Because development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on information technology/communications infrastructure under Alternative 2.

4.12.3 No Action Alternative

The No Action Alternative is retention of the former NWS Concord by the U.S. government in caretaker status. Since no development would occur on the property there would be no demand for water, electricity, or natural gas, and wastewater or solid waste would not be routinely generated. Stormwater runoff from the existing 359,000 square feet of impervious surface area would continue to drain into Mt. Diablo Creek and the Holbrook Channel.

4.13 Visual Resources and Aesthetics

This section describes the potential direct and indirect impacts to visual resources and aesthetics resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative.

Disposal and redevelopment of the former NWS Concord will change the current visual condition of the installation to include a variety of urban uses and park and recreational facilities, as well as maintaining existing open spaces. A transitional green buffer of varying distances would be developed around the majority of the site, and a network of green corridors are proposed in strategic locations (ridgelines, between districts/villages) that offer opportunities for view corridors from existing neighborhoods and view points around the City of Concord toward Mount Diablo and the Los Medanos Hills. In addition, redevelopment of the site would maintain open space areas that help minimize view obstruction and maintain the existing visual character of parts of the site, particularly east of Mt. Diablo Creek and south of Bailey Road.

The following presents a discussion of the methodology used to assess potential impacts to visual resources and aesthetics, and potential impacts to the study area, based on KOPs identified in Section 3.13. The study area in which the KOPs were selected comprises a noncontiguous area that includes the former NWS Concord and adjacent areas from which public views of the installation can be seen. This includes adjacent roadways such as SR 4, certain neighborhoods within the City of Concord (including the Sun Terrace and Dana Estates neighborhoods), and the City of Concord's downtown, as presented in Section 3.13. Mount Diablo is a prominent landscape feature in the region, and views of it are also included in the discussion below because the former NWS Concord provides an unobstructed foreground for views of Mt. Diablo from the City of Concord.

Upon completion of the BRAC disposal process under both Alternatives 1 and 2, the former NWS Concord property would be under the jurisdiction of the City of Concord. The use of the land and the development of new buildings or structures on the site would be regulated by the City of Concord, the city's zoning code, and other applicable plans and regulations.

All development would include measures to incorporate visual screening, landscaping, and streetscaping—including street tree and shrub planting—that will appear similar to existing tree cover in the City of Concord and will conform to the city’s zoning code, as amended. In addition, the City of Concord’s General Plan policies (see Table 4.13-1) would apply to development on the former NWS Concord, and some of these policies would serve to reduce and minimize the visual impact of development on the site through techniques such as clustering development or transferring density from one part of the site to another, incorporating natural creekways within developments, promoting wildlife corridors as a means of maintaining the character of visible hillsides and open space, designing buildings and facilities in parks and open space areas in a context-sensitive manner to complement natural settings, and using open space as a way to delineate the edge of urban development. Measures adopted as part of the Area Plan, including mitigation measures identified in the city’s FEIR and City of Concord development review procedures (such as review for consistency with the City of Concord municipal code) were considered in the analysis below.

4.13.1 Methodology

BLM Manual Handbook 8431-1 and Form 8400-4 were used to assess the description of the proposed action and contrast it with the existing scenic quality of the former NWS Concord (Section 3.13.3). This methodology is based on the principle that the degree that development adversely affects the scenic quality of the existing environment is directly related to the amount of visual contrast between basic elements—form, line, color, and texture—for major landscape features and landforms (including water), vegetation, and structures that are introduced. Landscape elements that are dominant in the identified KOPs are also considered within this assessment. Standard guidance and definitions from the BLM methodology are presented in Tables 4.13-1 and 4.13-2.

Table 4.13-1 BLM Guidance for Assessing Contrast

Element	Guidance for Assessing Contrast
Form	Contrast in form results from changes in the shape and mass of landforms or structures. The degree of change depends on how dissimilar the introduced forms are to those continuing to exist in the landscape.
Line	Contrasts in line results from changes in edge types and interruption or introduction of edges, bands, and silhouette lines. New lines may differ in their subelements (boldness, complexity, and orientation) from existing lines.
Color	Changes in value and hue tend to create the greatest contrast. Other factors such as chroma, reflectivity, and color temperature, also increase the contrast.
Texture	Noticeable contrast in texture usually stems from differences in the grain, density, and internal contrast. Other factors such as irregularity and directional patterns of texture may affect the rating.

Source: BLM 1986

Table 4.13-2 Degree of Contrast Definitions

Degree of Contrast	Definition
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Source: BLM 1986

This analysis is programmatic in nature because specific plans for development of the former NWS Concord have not yet been approved by the City of Concord, and details such as the location, height, mass, and appearance of buildings, and location and nature of greenspace, have not yet been determined.

4.13.2 Alternative 1

4.13.2.1 Impacts on Scenic Quality of KOPs

KOP 1: Salvio Street and Mt. Diablo Street

From KOP 1 in downtown Concord, some aspects of development that would take place on the former NWS Concord over the 25-year period for build-out of Alternative 1, including Village Neighborhood and Village Center development districts, greenways, and parks, may be visible. Due to shielding from trees and buildings in the near distance, development is not likely to be visible from KOP 1 during spring, summer, and fall when full foliage cover is on trees. If development is in view during these seasons, it may appear to rise slightly above the level of the existing trees in the distant view. During winter conditions (when trees are bare), development may be more visible and may appear to rise slightly above current buildings. The Los Medanos Hills would remain in the distant view.

The existing scenic quality of KOP 1 is defined by the prominent form, line, color, and texture of foreground structures and vegetation; these characteristics would not change under Alternative 1. If development of the former NWS Concord is in view from this KOP, the color and texture of distant views could weakly contrast with existing views because open space and the Los Medanos Hills would be less visible. New sources of lighting on the former NWS Concord would be associated with Alternative 1 and would be visible from this KOP at night, creating a minor change in the existing view. Overall contrast between current conditions and proposed development under Alternative 1 would be none to weak for KOP 1 and would not be discernible to the average viewer.

KOP 2: Concord High School

Under Alternative 1, views from KOP 2 would include the Neighborhood Frame greenway and Village Neighborhood and Village Center development districts. Development under Alternative 1 would be highly visible from this KOP because it would take place in the foreground and would be slightly below eye level. Low-rise development is anticipated to be one to two stories in height and from this KOP is generally not expected to extend higher than the lowest point of the Los Medanos Hills. Therefore, any obstruction of views of Los Medanos Hills and ridgelines would likely be minor.

Development under Alternative 1 would contrast with the existing scenic character of KOP 2. Greenway and park vegetation in the foreground of the view would strongly contrast in form, line, color, and texture with the current open space character of the view. Substantial contrast would be introduced in the foreground, but prominent landforms that occur in the middle and background distance (Los Medanos Hills and ridgelines) would remain unchanged; therefore, the proposed development for the former NWS Concord under Alternative 1 would result in a moderate contrast with the current view of the form, line, and texture of landforms. Development under Alternative 1 would also result in a moderate contrast with the current view of the form and line of structures because houses built under Alternative 1 would be more numerous within the view than current structures. New sources of lighting on the former NWS Concord would be highly visible from this KOP at night, creating a potentially major change in the existing nighttime view. The overall contrast between current conditions and proposed development under Alternative 1 would be strong for the average viewer.

KOP 3: State Route 4

From KOP 3 on SR 4, views of the former NWS Concord would include the Commercial Flex district, which would be developed in the foreground. The Central and North Concord TOD Neighborhood

districts would be visible in the middle ground and in more distant views. Development under Alternative 1 would be highly visible from KOP 3 because it would occur in the foreground and be slightly below eye level. However, views would typically occur over short timeframes from vehicles traveling along SR 4. Development within the foreground view would consist of low-rise commercial buildings (from one to three stories in height) on largely level or gently sloping ground. The Central Neighborhood district is anticipated to include a combination of mid-rise mixed-use development (from three to four stories in height) and low- to mid-rise residential development. The North Concord TOD Neighborhood district is anticipated to include a combination of mid-rise mixed-use development (from five to six stories in height) and low to mid-rise residential development (from three to four stories in height). The anticipated heights and density of the proposed development indicate that views of Mount Diablo would be largely if not completely obstructed from this KOP.

The existing scenic quality of KOP 3 is defined by the prominent open space in the foreground, rolling hills in the middle ground and distance, and the form and line of Mount Diablo in the distance; these characteristics would change under Alternative 1. The entire viewshed from this observation point is likely to be altered by the proposed development. Views of foreground, middle, and distant landforms would change substantially because the majority of the landforms within the viewshed would not be visible under Alternative 1. Vegetation is also anticipated to contrast strongly with existing conditions in form, line, color, and texture because the vegetation visible under current conditions would be completely altered under Alternative 1 to include street trees and other landscaped features associated with urban development. Buildings would become the prominent features within the view, creating further strong contrast with the existing view. In addition, new sources of lighting on the former NWS Concord would be visible from this KOP at night, creating a major change in the existing nighttime view. Overall contrast between current conditions and Alternative 1 would be strong.

KOP 4: Bailey Road

Views of the former NWS Concord from the Bailey Road KOP under Alternative 1 would include most of the development districts on the site, which would appear in the middle ground and in distant views. Little to no changes to the views from this KOP of the foothills in the foreground would take place under development of Alternative 1. Over the 25-year build-out period of Alternative 1, the building located in the foreground of this view would likely be demolished, consistent with conservation open space designations in the Area Plan. Ultimately, greenways and parks as well as Village Neighborhood and Village Center districts would be developed in the middle distance, where bunkers are currently visible from this KOP. Distant views toward the northwest of this KOP may include Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core districts. In general, development viewed from this KOP would appear to be similar to the City of Concord (currently in distant views from this KOP) but would extend further east toward the KOP.

Prominent landforms and vegetation, as well as the simple and uniform colors in the foreground of this view, would not change under Alternative 1. In the middle distance, the distinct transition between the appearance of structures and complexity of vegetation on the former NWS Concord and in the City of Concord would be reduced in intensity. Distant views would to a great extent change little or remain unchanged. In part because the districts would be distant from this KOP, the contrast or change in the views of the area in which the Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core districts would be developed would be weak or minor. New sources of lighting on the former NWS Concord would be visible from this KOP at night, creating a minor change in the existing nighttime view. Overall contrast between current conditions and proposed development under Alternative 1 would be moderately weak for KOP 4.

KOP 5: Panoramic Drive

From KOP 5 on Panoramic Drive in the Sun Terrace neighborhood, views of the former NWS Concord would include the Central Greenway, North Concord TOD Neighborhood, and North Concord TOD Core districts. Development of Alternative 1 would be highly visible because it would take place in the middle ground, is at and above eye level, and would take place over a prolonged period of time. The Central greenway, a vegetated linear park that would contain active gathering spaces and sports fields, would be developed in the middle ground to provide a connection between the North Concord/Martinez BART Station, TOD districts, village neighborhoods, and the adjoining existing communities. The North Concord TOD Core is anticipated to include a combination of mid-rise mixed-use office, retail, and multi-unit housing development (from five to seven stories in height). The scale of buildings would step down adjacent to the Sun Terrace neighborhood, in the vicinity of KOP 5. The North Concord TOD neighborhoods are anticipated to be a combination of mid-rise mixed-use development (from five to six stories in height) and low- to mid-rise residential development (from three to four stories in height). Due to the nature and the heights of the proposed development, views of the Los Medanos Hills and ridgelines may be seen above some of the rooflines, in between buildings at roadways, and above and in between vegetative plantings in the Central greenway.

The view of the roadway and the prominent vegetation in the foreground of this view would not change under Alternative 1. In the middle distance, the form and line of structures that would be built would strongly contrast with the existing view. The color and texture of structures that would be built under Alternative 1, along with the form and line of street trees and vegetative plantings that would be part of the Central greenway, would also result in a modified view from this vantage point and in moderate contrast. The heights of the buildings in the North Concord TOD Core district in the middle ground would be lower than five to seven stories in order to provide a transition to the Sun Terrace neighborhood. However, taller buildings in the distance may modify or obscure views of the Los Medanos Hills and ridgelines. While the rolling terrain of the hills in the distance may be within partial view, the view of gentle slopes and rolling hills in the middle distance would be altered under Alternative 1, resulting in a moderate contrast in the form and line of landforms. In addition, new sources of lighting on the former NWS Concord would be highly visible from this KOP at night, creating a major change in the existing nighttime view. Overall contrast between current conditions and Alternative 1 would be moderate to strong for KOP 5.

KOP 6: Beechwood Drive

From KOP 6, views of development under Alternative 1 would include the Neighborhood Frame greenway and Village Neighborhood and Village Center districts. Development under Alternative 1 would be highly visible because it would occur in the foreground and be at and above eye level, and views of development would occur over a prolonged period of time. The Neighborhood Frame greenway, a vegetated linear park and open space, would be developed in the foreground to provide a transition between the adjacent existing neighborhood and the Village Neighborhood development districts. Low-rise development of the Village Neighborhood and Village Center districts are anticipated to be one to two stories in height; from this KOP, these districts are not expected to extend higher than the base of the Los Medanos Hills. Therefore, views of the Los Medanos Hills and ridgelines would not be obstructed. The Los Medanos Hills would be seen above building rooflines, within roadway viewsheds, and above and in between vegetative plantings in the Neighborhood Frame greenway.

Development under Alternative 1 would contrast with the existing scenic character of KOP 6. Greenway vegetation in the foreground of the view would strongly contrast in form, line, color, and texture with the current character of the view. With regard to landform, there would be substantial contrast in the foreground but prominent landforms that occur in the background distance (the Los Medanos Hills and ridgelines) would remain, for the most part, unchanged in appearance. Therefore, development of Alternative 1 is anticipated to result in a moderate contrast in line and form of landform. Development of

Alternative 1 would result in a moderate contrast in form, line, color, and texture of structures because houses would be developed in the foreground and middle ground. New sources of lighting on the former NWS Concord, however, would result in a major contrast with existing conditions; lighting associated with the development of Alternative 1 would be highly visible from this KOP at night, creating a substantial change in the existing nighttime view. Overall contrast between current conditions and development Alternative 1 would be moderate to strong.

4.13.2.2 Impacts to Views of the Los Medanos Hills, Mount Diablo, and Open Space

Views of the Los Medanos Hills would remain the same or only slightly altered from KOPs 1 (Downtown Concord), 2 (Concord High School), 4 (Bailey Road), and 6 (Beechwood Drive). Therefore, Alternative 1 would not substantially degrade views of the Los Medanos Hills from these KOPs. Views of open space would remain the same or only somewhat altered at KOP 4 (Bailey Road) under Alternative 1. Changes in views of open space would be moderate at KOP 2 (Concord High School) and KOP 6 (Beechwood Drive). The lower foothills and open space surrounding the Los Medanos Hills cannot be seen from KOP 1 (Downtown Concord), and, therefore, no impact would be created from this vantage point.

The proposed action would impact the views of the Los Medanos Hills or Mount Diablo and open space from KOP 3 (SR 4) and KOP 5 (Panoramic Drive). The existing scenic quality of KOP 3 is defined by the prominent open space in the foreground and the form and line of Mount Diablo in the distance. The majority of the landforms within the viewshed, including Mount Diablo, may not be visible after the proposed development under Alternative 1. Development of the Commercial Flex district would be highly visible because it would occur in the foreground and would be slightly below eye level. The anticipated heights and density of the proposed development would obstruct views of Mount Diablo from this observation point. Overall contrast between current conditions and Alternative 1 would be strong. Views would occur in short timeframes from vehicles traveling along SR 4; however, due to the high degree of alteration of the view from KOP 3 and the overall strong contrast between current conditions and Alternative 1, the view from KOP 3 on SR 4 would be substantially changed.

The view from KOP 5 of open space and rolling hills in the foreground and middle ground would be obstructed by the more intensively developed districts (North Concord TOD Neighborhood and North Concord TOD Core) within the viewshed. The heights of the buildings in the North Concord TOD Core district that would be located in the middle ground of KOP 5 would be lower than five to seven stories in order to provide a visual transition to the Sun Terrace neighborhood. However, taller buildings seen in the distance from KOP 5 may partially modify or obscure views of the Los Medanos Hills and ridgelines, and the change from existing views would be substantial.

In accordance with mitigation measures in the Area Plan, future developers of the former NWS Concord will be required to incorporate design BMPs into site development plans that would minimize impacts to views from SR 4 (KOP 3) and the Sun Terrace neighborhood (KOP 5) (City of Concord 2010). Through the implementation of design BMPs, potential impacts would be mitigated, and views from KOP 3 and KOP 5 would be significantly altered but not substantially degraded, and no significant long-term adverse impacts would result.

Development of Alternative 1 would result in new lighting from recreation facilities as well as residential, commercial, and other uses. Views from all KOPs could be affected by new sources of light under this alternative, and development under Alternative 1 could result in moderate to substantial impacts to adjacent nighttime views from KOPs 2 (Concord High School), 3 (SR 4), 5 (Panoramic Drive), and 6 (Beechwood Drive). In accordance with the Area Plan, future developers of the former NWS Concord will be required to incorporate light-reducing and light-controlling measures into site development plans. With the implementation of these measures, adverse impacts would not be significant.

4.13.3 Alternative 2

The full implementation of Alternative 2 would differ from Alternative 1 in that Alternative 2 would include residential development areas that would have a slightly smaller footprint but greater density, and buildings would generally be taller. For example, the Area Plan includes descriptions of building heights in the TOD and Central Neighborhood districts as ranging from three to six stories; in general, the implementation of Alternative 2 would result in building heights at the higher end of this range.

However, the impact of the implementation of Alternative 2 on visual resources and aesthetics would be similar to that described for Alternative 1 at the programmatic level analyzed.

4.13.4 No Action Alternative

The No Action Alternative would include continued Navy ownership of NWS Concord in caretaker status. Therefore, implementation of the No Action Alternative would not result in an increase in contrast in form, line, color, or texture as viewed from the KOPs and is not assessed in detail below. The No Action Alternative would not result in a significant impact because views of Mount Diablo and the Los Medanos Hills and open space surrounding them, as well as views from SR 4, would not be substantially degraded.

4.14 Water Resources

This section summarizes the potential environmental impacts on water resources resulting from implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord. It includes a discussion of impacts on surface water, water quality, groundwater, and floodplains and describes proposed mitigation measures.

4.14.1 Alternative 1

4.14.1.1 Surface Water

Surface water features at the former NWS Concord would be affected directly by the proposed new construction and indirectly by impacts to surface water quality. The following provides a discussion of both construction impacts and operational impacts following build-out under Alternative 1.

The primary surface water feature within the former NWS Concord is Mt. Diablo Creek. Other surface water features include drainages, canals, and ponds. Implementation of Alternative 1 would have both beneficial and negative impacts on surface water. The primary beneficial impact would be the development of the Central Greenway along Mt. Diablo Creek. The designation and preservation of this minimum 300-foot-wide riparian corridor along Mt. Diablo Creek would facilitate the protection of the stream's water quality as well as moderation of flood flows. It would also facilitate the improvement of in-stream habitat through the provision of shading, moderation of temperature, and input of leaf litter and other natural materials for foraging. These improvements would improve benthic macroinvertebrate assemblages in the creek, which were indicated as being reflective of poor conditions in the Mt. Diablo Creek watershed (refer to Section 3.14.5.1 for further discussion).

Negative impacts on surface water features would occur during and following construction of the Area Plan. Construction activities at the former NWS Concord would affect surface waters from demolition, site grading and clearing activities, construction of buildings and associated infrastructure, and generation of runoff from new impervious surfaces. Implementation of Alternative 1 would disturb approximately 2,467 acres of land, based on the assumption that 5 percent of the Conservation Open Space development district would be disturbed during construction, and all land within the other development districts would be disturbed during construction. Construction activities would result in removal of vegetation and disturbance of soils, increasing the potential for erosion and sedimentation. Drainage patterns also could

be altered, and impacts to the beds and banks of streams would occur where crossings would be implemented. Surface waters would also be directly impacted by filling as a result of the development footprint. (Note: riparian area impacts are discussed in detail in Section 4.5, Biological Resources.) Development would result in 1,442 acres of impervious surface, which would increase the potential for stormwater runoff and impacts to water quality. Each of these impact types is discussed in detail in the subsections below.

Site Disturbance, Erosion, and Sedimentation

Implementation of Alternative 1 would involve clearing and grading activities in approximately 2,467 acres of land. This would include disturbance of Mt. Diablo Creek and its riparian corridor during construction activities. Riparian vegetation functions not only in stabilizing stream banks but also in capturing and filtering rainwater and runoff. Removal of riparian vegetation during site development activities (i.e., clearing and grading) can increase erosion and sedimentation rates.

Through the development and implementation of a SWPP to control erosion in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, as required by law, disturbance can be minimized. The SWPP will establish requirements that may include developing the site in phases, so as to limit areas of disturbance and allow existing vegetated areas to remain undisturbed until that portion of the site is ready for development, and collecting runoff in vegetated swales or detention areas. Additionally, the stream and its riparian corridor would be restored following completion of construction activities, including restoring the stream banks and channel to pre-construction contours, and re-establishing riparian vegetation.

Additionally, the developer must adhere to BMPs and standards stipulated in Section 86-39 of the city's Stormwater Management and Discharge Control Ordinance, which include compliance with the following:

- *California Stormwater Best Management Practices Handbook for Construction Activities and New Development and Redevelopment*
- ABAG Manual of Standards for Erosion and Sediment Control Measures
- City of Concord Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71)

In summary, through the implementation of the project-specific SWPPs and BMPs, site disturbance can be minimized, and the associated impacts on surface waters can be minimized.

Drainage Patterns and Streambed and Bank Disturbance

Based on the location of the tributaries that drain the Los Medanos Hills on the eastern portion of the site and within the easternmost portion of the large Conservation Open Space development district, these channels would not be disturbed during construction activities (see Figure 4.14-1). This is due to their distance away from any development district that would require active construction and disturbance (i.e., the Commercial Flex development district and the Greenways and Citywide Parks district that border the Conservation Open Space district on the west), coupled with their location within the eastern portion of the site to be designated as Conservation Open Space. Similarly, the area surrounding Rattlesnake Creek in the southeastern portion of the site is currently undeveloped and would be designated as a Conservation Open Space development district in the future. Therefore, the drainage patterns associated with the eastern and southeastern portions of the site would not be expected to be altered. Cistern Pond would also remain undisturbed because it is located in the eastern portion of the site designated as Conservation Open Space.

However, the drainage patterns associated with the remainder of the site have the potential to be altered with the proposed Alternative 1 development footprint, as the majority of the development would occur on the western and northwestern portions of the former installation. Temporary disturbance to the drainage patterns of the western half of the site could occur during construction, including periods of disturbance to Mt. Diablo Creek during culvert installation to facilitate road crossings and the implementation of stream restoration activities. Removal of riparian vegetation during site development activities (i.e., clearing and grading) could increase the amount of runoff flowing into the creek, thereby increasing flows that, in turn, could result in erosion and downcutting of the channel and destabilization of the stream. However, through the development and implementation of a SWPP to control erosion in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, as required by law, disturbance can be minimized. Additionally, the stream and its riparian corridor would be restored following completion of construction activities, including restoring the stream banks and channel to pre-construction contours and re-establishing riparian vegetation. These measures would help to mitigate any temporary impacts to drainage patterns, specifically those associated with Mt. Diablo Creek.

Culvert placements can also contribute to the alteration of existing drainage patterns and stream flow if they are not designed appropriately. Culverts can interrupt the natural drainage characteristics of a stream and may impede flow through poor culvert placement (i.e., not in line with the centerline of the channel), by becoming plugged with debris, and by not being sized correctly for anticipated flows. Mt. Diablo Creek within the former NWS Concord contains 17 existing culverts in its channel. These culverts are largely corrugated steel and reinforced box culverts that were constructed primarily to pass large flood flows (H.T. Harvey and Associates 2012).

Under Alternative 1, development is proposed on both sides of Mt. Diablo Creek, thereby creating the need for stream crossings to allow pedestrians, vehicles, or utilities to cross the creek. Alternative 1 proposes seven crossings of Mt. Diablo Creek, which would result in a reduction of 10 crossings from existing conditions.

Under Alternative 1, the linear footage of stream with culverts would be reduced. This would be a beneficial impact to Mt. Diablo Creek generally, improving its ability to flow, as well as a specific beneficial impact to the in-water habitat of the creek, namely by a return to a natural substrate wherever culverts are removed (see Section 4.5 for an additional discussion on habitat impacts). However, where new culverts are installed, impacts would include the loss of the natural drainage course and the existing substrate being permanently replaced with an artificial hard surface. A streambed alteration agreement will be required to be obtained from the CDFW for any activity that would result in an adverse impact on streams at the former NWS Concord.

Culvert design should be done by the developer(s) according to established guidance, such as the FHA's *Hydraulic Design of Highway Culverts* (FHA 2001). As per the City of Concord's Master 404 Permit for the Concord Area Plan, any new culvert crossings should be designed to span the channel or to allow a low-flow channel to be maintained.

In summary, through the implementation of the project-specific SWPP and BMPs, coupled with appropriate culvert design, the impacts related to altered drainage patterns and the construction of new crossings would not be significant, and no additional mitigation is proposed.

Filling of Streams

In addition to surface water impacts caused by stream crossings, three streams would be filled because of the proposed development footprint. Approximately 1,824 linear feet of Mt. Diablo Creek would be permanently impacted by road crossings as well as features associated with the Greenways, Citywide

Parks, and Tournament Facilities development district (see Figure 4.14-1 and Table 4.14-1). Willow Pass Creek would be filled to facilitate the development of the Commercial Flex development district, west of Willow Pass Road (see Figure 4.14-1). This would result in the loss of approximately 2,013 linear feet of stream. Lastly, approximately 4,878 linear feet of an unnamed stream would be filled as a result of future Greenways, Citywide Parks, and Tournament Facilities and Village Neighborhood development districts, as well as roads (see Table 4.14-1). A total of approximately 8,716 linear feet of jurisdictional waters would be permanently impacted under Alternative 1.

Table 4.14-1 Summary of Jurisdictional Stream Impacts under Alternative 1

Development District	Mount Diablo Creek (linear feet)	Willow Pass Creek (linear feet)	Unnamed Stream (linear feet)
Commercial Flex	--	2,013	--
Greenways, Citywide Parks, and Tournament Facilities	61.1	--	1,994
Roads	1,763	--	1,216
Village Neighborhood	--	--	1,668
Total¹	1,824.1	2,013	4,878

¹ These totals are conservative because the specific locations and descriptions of recreation and interpretive center facilities proposed in the greenways and open space areas are not known at this time. The GIS analysis of impacts included full disturbance for the Greenways, Citywide Parks, and Tournament Facilities development district and no disturbance for the Conservation Open Space development district.

Permanent impacts to surface waters resulting from filling would be mitigated through adherence to the USACE- and EPA-issued regulations governing compensatory mitigation for authorized impacts on streams; these are codified in 40 CFR Part 230 as the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources*. Specific requirements for future development would be determined in coordination with the USACE and RWQCB. A site-specific mitigation plan will be developed as part of the Section 401/404 permitting process. It would build upon the *Conceptual Habitat Mitigation Plan for Wetland, Aquatic and Riparian Habitats* (H.T. Harvey and Associates 2012) as a reference, as submitted as part of the City of Concord's 2012 BA package (City of Concord 2012). Therefore, Alternative 1 would result in a potentially significant impact on surface waters, but mitigation would reduce this impact to not significant.

Increasing Impervious Surfaces

Existing site drainage at the former NWS Concord occurs primarily as sheet flow; therefore, with the addition of new sources of impervious surface associated with development, the quantity of sheet flow would increase in the absence of appropriate stormwater controls. Impervious surface can be defined as an impenetrable surface, primarily constructed surfaces, such as asphalt and concrete. Impervious surfaces repel water and prevent it from infiltrating soils. Thus, when stormwater washes over impervious surfaces, it is not absorbed and causes an increase in the amount of stormwater runoff generated. These increased runoff rates can lead to higher peak stream discharges within Mt. Diablo Creek and also within the Holbrook Channel. Under Alternative 1, the total impervious surface area would be approximately 1,442 acres, compared to the approximately 359 acres that currently exist. Because of the increase in impervious surface, concerns exist regarding adverse impacts on the EBMUD aqueduct, located west-northwest of the former NWS Concord, if post-development flows are not properly managed.

Stormwater discharges would be managed in accordance with the City of Concord's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, developers would be required to prepare a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3 Guidebook. C.3 is a provision in the joint municipal NPDES

permit²⁰ that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). In summary, the C.3 provisions require that certain new developments accomplish the following (CCCWP 2012):

- Design the site to minimize imperviousness; detain runoff; and infiltrate, reuse, or evapotranspire runoff, where feasible;
- Cover or control sources of stormwater pollutants;
- Treat runoff prior to discharge from the site;
- Ensure runoff does not exceed pre-project peaks and durations; and
- Maintain treatment and flow-control facilities.

Additionally, the developer must adhere to BMPs and standards stipulated in Section 86-39 of the Stormwater Management and Discharge Control Ordinance. The information regarding the storm drainage system would be required as part of any development application.

The joint municipal NPDES permit also requires that a Low Impact Development (LID) approach be employed. LID techniques include a variety of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. As discussed in Section 4.12.2.2, LID design strategies include preserving natural drainage features, minimizing impervious surface, using bioretention facilities (i.e., vegetated depressions that collect runoff and facilitate infiltration) and permeable pavement, and dispersal of runoff to pervious areas.

Increased levels of runoff can exacerbate flood flows during wet weather by increasing base flows in onsite drainage features (i.e., streams and canals). The *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) was commissioned by the City of Concord to support the reuse plan. It discusses potential projects or design concepts to accommodate both existing flood flows and flood flows attributable to redevelopment as described in the reuse plan. These concepts are focused on appropriately managing flood hazards while restoring existing aquatic, riparian, and wetland habitats. These projects would help to manage and direct increased flows caused by development. The conceptual plan was based on an understanding of the current and anticipated future hydrologic and geomorphic conditions in the watershed and within the former NWS Concord, and it resulted in the development of a conceptual design for Mt. Diablo Creek. The conceptual plan calls for the design of low-flow channels connected to a large floodplain area for additional flood storage; selective grading to reduce high, steep banks; and revegetation of the banks of Mt. Diablo Creek (ESA PWA 2011).

Construction of these flood-control and stream-restoration concepts would temporarily disturb Mt. Diablo Creek. These temporary physical disturbances cannot be avoided, but disturbance to the substrate would be minimized through proper construction and installation techniques. Additionally, as indicated below under Section 4.4.2.4, Water Quality, BMPs would be used to minimize erosion, sedimentation, and turbidity, all of which can adversely affect stream habitat.

²⁰ The joint municipal NPDES permit for stormwater discharges is coordinated by the CCCWP, which consists of the City of Concord, the CCCFC&WCD, Contra Costa County, and eighteen other Contra Costa County cities.

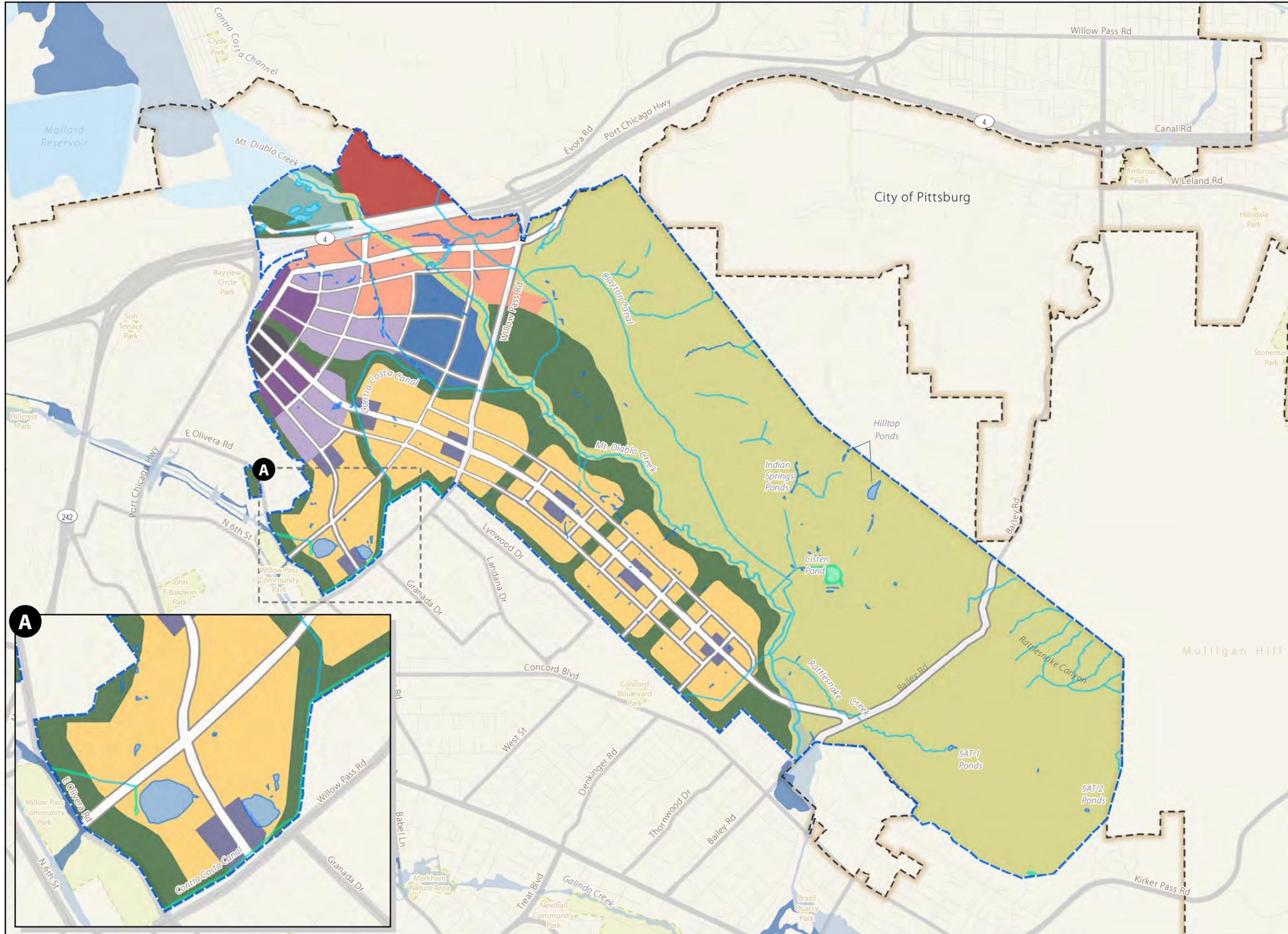


Figure 4.14-1
Alternative 1 Redevelopment
and Potential Surface Water Impacts
 Former NWS Concord
 Concord, California

Legend

	Major Highway		City Limits
	Local Road		Waterbody
	Former NWS Concord		Local Park

	Seasonal Wetlands		Flood Zone A
	Creeks / Drainages / Canals / Ponds		Flood Zone AE
	Freshwater Marsh		Flood Zone AO

Zone A- 100-year floodplain in which no base flood elevations or depths exist.
 Zone AE- 100-year floodplain in which base flood elevation exists.
 Zone AO- Subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow).

***Alternative 1 Development Districts**

	Campus		North Concord TOD Core
	Central Neighborhood		North Concord TOD Neighborhood
	Commercial Flex		Roadways
	Conservation Open Space		Village Center
	First Responder Training Center		Village Neighborhood
	Greenways and Citywide Parks		



0 0.5 1 Miles

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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In addition to the stream restoration concept designs discussed above (i.e., low-flow channels connected to floodplain areas, selective grading, and bank revegetation), the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) also includes a consideration of detention facilities that would be needed to detain site runoff and creek flows so that offsite flood flows would not be increased as a result of redevelopment of the former NWS Concord. The onsite flood detention would work in concert with the channel restoration, which has the potential to increase flood flows that would be delivered downstream of the project site with redevelopment (ESA PWA 2011). Thus, flood hazards would be managed through a combination of improved flow conveyance with channel restoration and the design and installation of detention facilities to divert and detain creek flows onsite.

The detention concept plan was based on hydrologic modeling that compared runoff rates under existing conditions as well as future conditions and incorporated proposed land uses. The concept plan for detention indicates that in areas that drain toward the Holbrook Channel, flood management would consist of onsite detention before flows are released to storm drainage facilities. Small detention basins would be distributed throughout the former NWS Concord to detain runoff from developed areas. This detainment of flows would offset increases in peak flows caused by development (ESA PWA 2011). Larger, centralized detention basins would be utilized in the Mt. Diablo Creek drainage area (78 percent of the site), as well as in the Holbrook Channel drainage area, to help manage flood flows for the overall project area. Centralized detention facilities were considered for the open space areas of the site. One such potential location is on the east side of Mt. Diablo Creek, opposite the former Bunker City, and would be approximately 40 acres in size (ESA PWA 2011).

Following the development of the conceptual restoration plans and detention concept elements outlined above, modeling was completed of both existing and proposed conditions, with redevelopment. The model was used to simulate flow conditions within Mt. Diablo Creek, taking into account the proposed conceptual designs above as well as the 40-acre detention basin. Two flood events were modeled: 10-year and 100-year events. Model results indicated that the conceptual design elements proposed for Mt. Diablo Creek would reduce the water surface elevation for both flood events when compared to existing conditions and would provide enough capacity to contain the 100-year flood event (ESA PWA 2011). Therefore, the model illustrated that sufficient capacity and storage are provided as a result of the conceptual design elements coupled with the 40-acre detention basin (ESA PWA 2011).

The modeling was also used to assess whether the post-development flows would impact the EBMUD aqueduct. EBMUD owns and operates an aqueduct and associated right-of-way (ROW) located west-northwest of the former NWS Concord. The aqueduct runs parallel to State Highway 242, in a northerly direction, and crosses under SR 4, continuing north along the Mallard Reservoir before turning east and running parallel to the Port Chicago Highway (EBMUD 2003). Mt. Diablo Creek crosses the aqueduct north of the Mallard Reservoir. Therefore, EBMUD expressed concerns regarding the potential for increased flows in Mt. Diablo Creek attributable to the increase in impervious surface to adversely impact the aqueduct and other EBMUD infrastructure if post-development flows from the former NWS Concord are not managed appropriately. However, as discussed above, modeling completed of both existing conditions and proposed conditions, with redevelopment and inclusive of the conceptual plans and detention concepts outlined in the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011), indicated that for the portion of Mt. Diablo Creek that is closest to the aqueduct, the conceptual design elements proposed would reduce the water surface elevation by approximately 4 feet on average for both flood events. Additionally, the modeled results indicated that Mt. Diablo Creek would have sufficient capacity to contain the 100-year flood event (ESA PWA 2011). The proposed 40-acre detention basin would also contribute to a reduction of overall stream water surface elevations. These measures, coupled with adherence to the C.3 provisions of the joint municipal NPDES permit, would mitigate any

potential operational impacts on increased flood flows in Mt. Diablo Creek, thereby minimizing the potential for any adverse impacts on the EBMUD infrastructure.

In summary, the concepts described above would serve to increase the conveyance capacity of Mt. Diablo Creek while also providing other benefits, such as habitat restoration. These measures coupled with adherence to the City’s Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit would mitigate potential operational impacts on drainage patterns and increased flood flows. Therefore, impacts on surface water would not be significant.

4.14.1.2 Wetlands

The implementation of Alternative 1 could result in potential impacts to wetland habitat from direct filling or alteration of hydrology. Loss of wetlands could occur through placement of fill as new development occurs within the proposed development districts. These permanent, adverse impacts are potentially significant.

Approximately 16.1 acres of jurisdictional wetlands (including freshwater marsh and seasonal wetlands) would be impacted by the implementation of Alternative 1, based on an overlay of the jurisdictional wetlands with the development footprint (see Figure 4.14-2). Additionally, approximately 6.1 acres of non-jurisdictional wetlands would be impacted by the implementation of Alternative 1 (see Table 4.14-2). The majority of wetlands that would be affected by Alternative 1 are located in historically and currently grazed rangeland. Such moderate levels of livestock grazing have resulted in a degradation of the functions and values of these wetlands at the former NWS Concord to levels below their full potential. However, the onsite wetlands do serve ecological functions as foraging habitat and watering areas. Any loss of wetland function would be addressed through mitigation, discussed below.

Table 4.14-2 Summary of Wetland Impacts under Alternative 1

Development District	Jurisdictional Wetland Impacts (acres)	Non-Jurisdictional Wetland Impacts (acres)
Campus	0.1	--
Central Neighborhood	0.7	--
Commercial Flex	2.8	0.01
First Responder Training Center	0.04	--
Greenways, Citywide Parks, Tournament Facilities	1.5	5.4
Roads	1.9	0.5
Village Center	0.4	--
Village Neighborhood	8.7	0.2
Total¹	16.1	6.1

¹ These totals are conservative because the specific locations and descriptions of recreation and interpretive facilities proposed in the greenways and open space areas are not known at this time. The GIS analysis of impacts included full disturbance for the Greenways, Citywide Parks, and Tournament Facilities development district and no disturbance for the Conservation Open Space development district.

Section 404 of the CWA authorizes the USACE to issue permits regulating the discharge of dredged or fill materials into waters of the U.S., including wetlands. The USACE and EPA issued regulations governing compensatory mitigation for authorized impacts on wetlands; these are codified in 40 CFR Part 230 as the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources*. Compensation requirements typically vary based on the impacted wetland communities. Specific requirements for redevelopment would be determined in coordination with the USACE as part of the City of Concord’s Master 404 Permit for the Concord Area Plan. The master 404 permit approach will facilitate a coordinated approach to redevelopment, permitting, and mitigation.

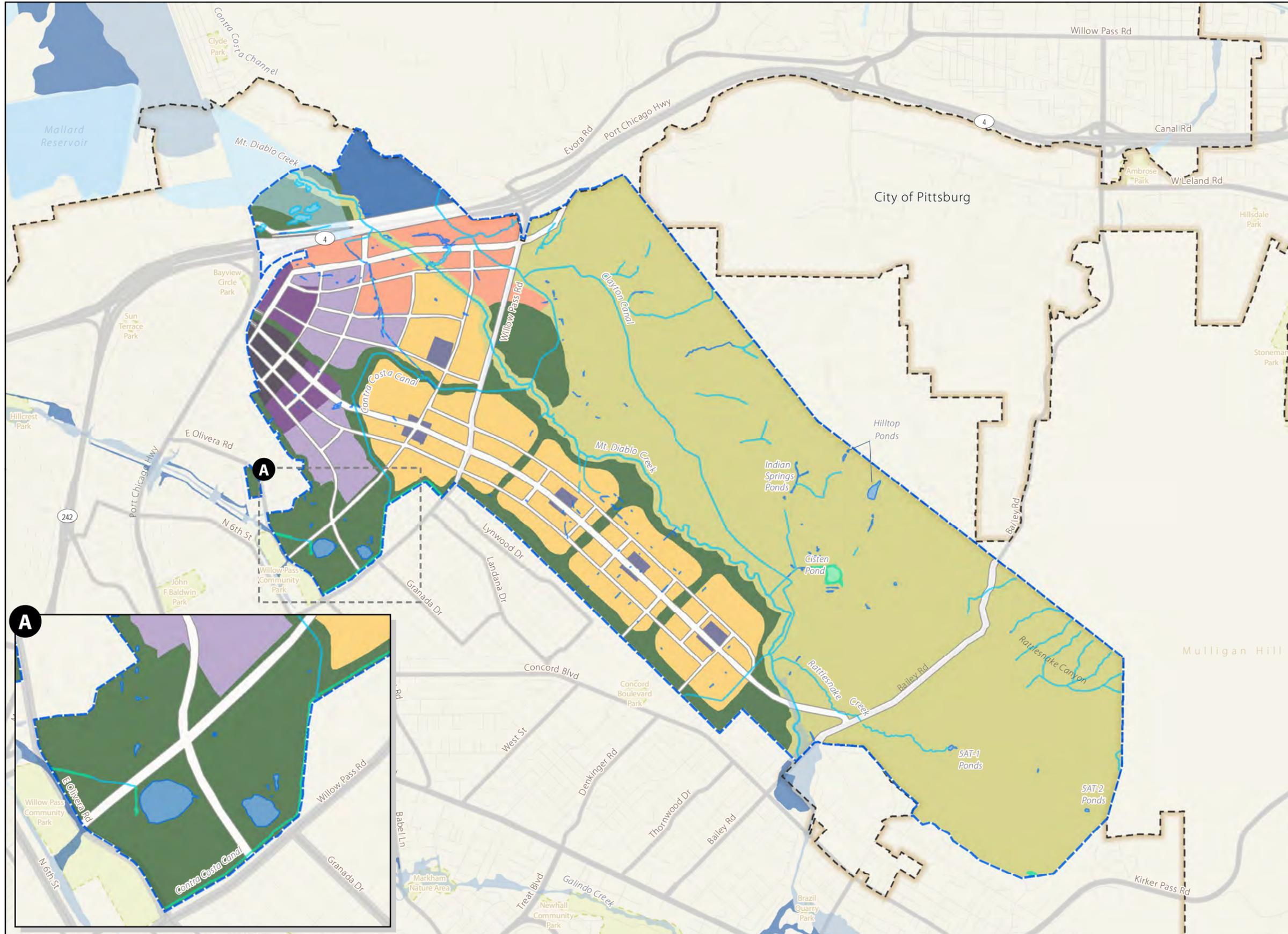


Figure 4.14-2
Alternative 2 Redevelopment
and Potential Surface Water Impacts
 Former NWS Concord
 Concord, California

Legend

- Major Highway
- Local Road
- Former NWS Concord
- City Limits
- Waterbody
- Local Park

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- Freshwater Marsh
- Flood Zone
- A
- AE
- AO

Zone A- 100-year floodplain in which no base flood elevations or depths exist.
 Zone AE- 100-year floodplain in which base flood elevation exists.
 Zone AO- Subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow).

***Alternative 2 Development Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Roadways
- Village Center
- Village Neighborhood



0 0.5 1 Miles

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

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As per federal guidance, measures in the Area Plan, and City of Concord policies, wetland impacts will be avoided to the maximum extent practicable during final design. The City of Concord will require project proponents to demonstrate avoidance of wetland filling to the extent practicable and agree to mitigate unavoidable temporary impacts to wetlands by restoration in place following construction; mitigate permanent fill of wetlands at a minimum acreage ratio of 1:1; and provide the city with evidence of the purchase of credits in a mitigation bank or with a habitat mitigation and monitoring plan for creation of wetlands coupled with proof that the mitigation site will be preserved in perpetuity and that an endowment has been established to fund the long-term management and monitoring of the mitigation site.

Additionally, prior to construction, a SWPP will be prepared that will include appropriate BMPs to minimize impacts on wetlands from erosion and sedimentation in all areas of construction.

Therefore, Alternative 1 would result in a potentially significant impact on wetlands, but mitigation would reduce this impact to not significant.

4.14.1.3 Groundwater

Groundwater would not be used for any construction activities, such as dust control or watering of vegetated erosion-control features. Additionally, no groundwater wells would be developed as part of Alternative 1, and no existing wells (i.e., those used to water livestock and to irrigate the Concord Municipal Golf Course) would be used for water supplies.

As indicated above, groundwater in the low-lying valley portions of the former NWS Concord is found at depths of 30 to 50 feet under semi-confined to confined conditions. In other areas, such as at IRP Site 13 (Burn Area) and Site 22, which are within low-lying flat areas, groundwater has been encountered at depths of about 20 to 25 feet bgs under semi-confined to confined conditions. Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely. However, if it does occur, dewatering and subsequent discharges would be done in accordance with applicable permits and conditions stipulated by the San Francisco Bay Regional Water Quality Control Board. Construction dewatering, if necessary, would be short-term in nature and would have an associated minor and short-term impact on the underlying groundwater.

Because a large portion of the former NWS Concord is designated as Conservation Open Space, much of the existing open space would remain undeveloped, and the existing natural, pervious surfaces would allow for continued infiltration of surface water and contribution to groundwater recharge where the underlying groundwater is present in semi-confined conditions.

Therefore, construction activities would not substantially deplete groundwater supplies or interfere with groundwater recharge, and impacts would not be significant.

Groundwater would not be used as a water supply source following completion of construction activities; therefore, groundwater supplies would not be depleted by the proposed land uses under the Area Plan. Implementation of Alternative 1 would result in an increase in impervious surface from the 359 acres that currently exist to approximately 1,442 acres. By increasing the imperviousness of the project site, there would be less infiltration of rainfall, limiting the potential for groundwater recharge. However, as discussed previously, the groundwater underlying the former NWS Concord is present in semi-confined to confined conditions, approximately 30 to 50 feet bgs. Semi-confined aquifers are those that are partially confined by soil layers with low permeability, through which recharge can occur but would do so more slowly and with less certainty. Confined aquifers are overlain by relatively impermeable rock or

clay that limits recharge. Therefore, the addition of impervious surface is not likely to affect groundwater recharge.

4.14.1.4 Water Quality

Surface Water Quality

During construction, ground disturbance can result in sedimentation and erosion. As discussed above, implementation of Alternative 1 would involve clearing and grading activities within a total of 2,467 acres. Clearing and grading activities would cause short-term impacts to water quality, primarily through exposure of soils leading to erosion and sedimentation. Suspended sediments from disturbed areas can then be carried in stormwater runoff. With the implementation of proper erosion and sedimentation control measures during construction, impacts to surface water resulting from sediment-laden runoff can be minimized. Erosion and sedimentation control measures would be implemented in compliance with the City's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the City's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71).

Temporary adverse impacts would also occur to water quality during construction and implementation of the in-stream conceptual restoration design concepts discussed above (i.e., bank grading, implementation of grade control structures, etc.). Stream bank grading and the installation of in-stream structures would generate short-term increases in sediment loads and turbidity within Mt. Diablo Creek that would be minor. To mitigate for these potential impacts, the following general practices would be incorporated consistent with the city's grading and erosion control ordinance:

- Straw-mulching and vegetating disturbed surfaces;
- Minimizing the duration of cleared land/riparian areas;
- Directing surface flow away from denuded areas; and
- Use of appropriate erosion and sediment control measures.

Additionally, measures to protect water quality and biological resources during construction of these channel improvements would be specified in the Section 404 permit and 401 Water Quality Certification.

Over the long term, implementation of Alternative 1 and the channel restoration measures would result in beneficial impacts to water quality within and downstream of Mt. Diablo Creek. Through stream bank grading, the floodplain connection would be restored with the stream, allowing for sediment and other fines to settle out onto the floodplain. Additionally, the enhancement of the riparian area through plantings would increase the functionality of the riparian area for filtering of sediment and nutrients entering the stream through surface runoff and overland flow.

Construction activities on land and in-stream could also result in the incidental release of construction materials or the accidental spill of substances commonly used in construction (i.e., fuels for vehicles and equipment, paints, solvents, and other substances). Incidental releases and spills would be minimized through the implementation of the SWPP required under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The SWPP would specify BMP requirements and measures to ensure that all pollutants and their sources are controlled, that all non-stormwater discharges are identified and eliminated or treated, and that appropriate spill-prevention measures are implemented.

As discussed above, the addition of impervious surface area can lead to an accumulation of a variety of pollutants that are then picked up by stormwater as it is washed over the impervious surfaces. Impervious surfaces accumulate various pollutants as a result of the overlying land uses. Urban areas are associated

with pollutants such as oil, grease, and toxic chemicals from motor vehicles; pesticides and nutrients (nitrogen and phosphorus) from residential lawns and gardens; bacteria and nutrients from pet waste; and heavy metals from sources such as roof shingles and motor vehicles (EPA 2003). Therefore, developed areas at the former NWS Concord have the potential to provide additional sources of non-point pollution to receiving waters such as Mt. Diablo Creek and Rattlesnake Creek. However, as discussed above, the City of Concord will require that a storm drainage system for the redeveloped site be designed to safely convey runoff from developed areas of the site in accordance with the City's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3. Guidebook is required. C.3 is a provision in the joint municipal NPDES permit that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). Therefore, any proposed development will be required to comply with the CCCWP's joint municipal NPDES permit. Additionally, the joint municipal NPDES permit also requires LID approaches be employed in site design. LID techniques include a variety of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. Lastly, surface water quality impacts would be minimized through compliance with specific measures within the CWA 401/404 permits, which will be required for work within the stream channel, such as the construction of stream crossings and the implementation of flood-control structures.

Therefore, with the mitigation measures discussed above and compliance with C.3 provisions, no significant impacts on surface water quality during construction and operation of Alternative 1 for the former NWS Concord would be anticipated.

Groundwater Quality

As described in Section 3.14.3, groundwater in the low-lying valley portions of the former NWS Concord is found at depths of 30 to 50 feet under semi-confined to confined conditions. In other areas, such as at IRP Site 13 (Burn Area) and Site 22, which are within low-lying flat areas, groundwater has been encountered at depths of about 20 to 25 feet bgs under semi-confined to confined conditions. Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely.

If groundwater is encountered, dewatering and short-term discharges of dewater effluent (groundwater) would be required; these discharges would likely be to the separate storm sewer system. If dewatering would be necessary, dewatering activities would be regulated by the San Francisco Bay Region Regional Water Quality Control Board. An NPDES permit—general or individual—would likely be required. These permits would be associated with the requirement to prepare and implement a SWPP, as discussed above. Impacts on groundwater quality would thus be minimized with adherence to applicable permit conditions and other measures specified above under surface water quality.

As discussed above, the primary concern with respect to surface water quality is the introduction of increased areas of impervious surface and the associated pollutants that would accumulate on those surfaces. These water-quality concerns are also applicable to groundwater quality. However, the mitigation measures discussed above are coupled with the fact that the groundwater underlying the former installation is present at 30 to 50 feet bgs in semi-confined or confined conditions. Semi-confined aquifers are those that are partially confined by soil layers with low permeability through which infiltration can occur but would occur slowly and with less certainty. Confined aquifers are overlain by relatively impermeable rock or clay that limits the ability of water to go in or out of the aquifer. Therefore, the addition of impervious surface is not likely to affect the quality of the groundwater because any surface runoff not managed (i.e., from a quantity and quality perspective) with the mitigation measures detailed above would not be infiltrating to any substantial degree. As with surface water quality, no significant

impacts on groundwater quality would result during the operation of the redeveloped site, and any impacts that would result would be minor.

4.14.1.5 Floodplains

As discussed in Section 3.14.5, flood hazard areas have not been mapped for the majority of the former NWS Concord. Only two small areas of the former NWS Concord, one north of SR 4 and near the golf course and the other west of Bailey Road near the former installation boundary, have been mapped. These areas are both associated with the floodplain of Mt. Diablo Creek (see Figure 3.14-1). The development proposed under Alternative 1 for the areas mapped as a FEMA 100-year flood hazard area would take place within the Conservation Open Space and Greenways and Citywide Parks development districts (see Figure 4.14-1). Structures and/or fill in those development districts would be limited to trails, picnic areas, an interpretive area, and shaded seating areas in the Conservation Open Space development district, and trails, picnic areas, shaded seating, athletic fields and sports facilities, parking lots, meeting facilities, and other similar uses in the Greenways and Citywide Parks development district. Placement of these structures and/or fill within the mapped 100-year flood hazard area has the potential to impede or redirect flood flows within that hazard area. Approximately 49 acres of Zone A floodplains north of the Port Chicago Highway would be designated as Greenways, Citywide Parks, and Tournament Facilities and would be developed with the uses outlined above. Additionally, roads connecting the developed site would be located in the two areas of mapped floodplains at the former NWS Concord. Approximately 7.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. A total of approximately 57.7 acres of 100-year floodplains would be impacted under Alternative 1.

As discussed in Section 3.14.5, FEMA is currently in the process of developing a detailed hydraulic model of Mt. Diablo Creek that is reflective of existing conditions. This model will then be used to delineate and map the 100-year floodplain within the former NWS Concord boundaries. Once the revised 100-year floodplain boundaries within the former NWS Concord are completed, they would be compared to the modeled post-development hydrologic and hydraulic conditions associated with Alternative 1 to determine whether a modification to the existing regulatory floodway, the effective base flood elevations (if established), or the 100-year special flood hazard area would result from redevelopment. The City of Concord will then require an approved Conditional Letter of Map Revision (CLMR) from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that none of the aforementioned modifications would be necessary.

However, based on the discussions included above in Section 4.14.2.1, preliminary modeling of both the 10-year and 100-year flood events for the proposed conditions indicated that the conceptual design elements for Mt. Diablo Creek would provide enough capacity with the stream to contain the 100-year flood event (ESA PWA 2011). Additionally, the model indicated that the proposed conceptual design elements within the creek itself, coupled with the proposed 40-acre detention basin, would reduce surface water levels within the creek, thereby preventing flooding. Modeling would be conducted again, once the development plans have been finalized and detailed site plans exist, but the data available to date, coupled with the requirement to prepare a CLMR, indicate that through the implementation of these mitigation measures, the implementation of Alternative 1 would not increase the risks from flooding or inundation. Therefore, impacts to water resources would not be significant.

4.14.2 Alternative 2

4.14.2.1 Surface Water

Site Disturbance, Erosion, and Sedimentation

Similar to Alternative 1, Alternative 2 would involve clearing and grading activities in a large portion of the site, including disturbance to Mt. Diablo Creek and its riparian corridor. Mitigation for impacts on surface waters resulting from site disturbance would be the same as those discussed for Alternative 1, including adherence to an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity and adherence to the provisions of the city's Stormwater Management and Discharge Control Ordinance.

Drainage Patterns and Streambed and Bank Disturbance

Disturbance to drainage patterns and streambeds and banks under Alternative 2 would be similar to that discussed for Alternative 1, given the similarities in location of developed and conservation areas. Tributaries on the eastern portion of the site would not be disturbed during construction, nor would Rattlesnake Creek or Cistern Pond.

However, the drainage patterns associated with the remainder of the site have the potential to be altered with the proposed Alternative 2 development footprint, as the majority of the development would occur on the western and northwestern portions of the former installation. These impacts would be the same as those discussed for Alternative 1.

Culvert placements can also contribute to the alteration of existing drainage patterns and stream flow if they are not designed appropriately. Similar to Alternative 1, development under Alternative 2 is proposed on both sides of Mt. Diablo Creek, thereby creating the need for stream crossings to allow pedestrians, vehicles, or utilities to cross the creek. Alternative 2 proposes seven crossings of Mt. Diablo Creek, which would result in a reduction of 10 crossings from existing conditions; this is the same number of crossings proposed under Alternative 1. Thus, similar to Alternative 1, the linear footage of stream with culverts would be reduced under Alternative 2. This would be a beneficial impact to Mt. Diablo Creek. However, where new culverts are installed, impacts would include the loss of the natural drainage course and the existing substrate being permanently replaced with an artificial hard surface. A streambed alteration agreement will be required to be obtained from the CDFW for any activity that would result in an adverse impact on streams at the former NWS Concord.

Culvert design should be done by the developer(s) according to established guidance, such as the FHA's Hydraulic Design of Highway Culverts (FHA 2001). As per the City of Concord's Master 404 Permit for the Concord Area Plan, any new culvert crossings should be designed to span the channel or to allow a low-flow channel to be maintained.

In summary, through the implementation of the project-specific SWPP and BMPs, coupled with appropriate culvert design, the impacts related to altered drainage patterns and the construction of new crossings would not be significant, and no additional mitigation is proposed.

Filling of Streams

Approximately 1,763 linear feet of Mt. Diablo Creek would be permanently impacted by road crossings (see Figure 4.14-2 and Table 4.14-3). Willow Pass Creek would be filled to facilitate the development of the Commercial Flex development district, west of Willow Pass Road (see Figure 4.14-2). This would result in the loss of approximately 2,013 linear feet of stream, the same as under Alternative 1. Lastly, approximately 4,863 linear feet of an unnamed stream would be filled as a result of future Greenways, Citywide Parks, and Tournament Facilities and Village Neighborhood development districts, as well as

roads (see Table 4.14-3). A total of approximately 8,639 linear feet of jurisdictional waters would be permanently impacted under Alternative 2.

Permanent impacts to surface waters resulting from filling would be mitigated through adherence to the USACE- and EPA-issued regulations governing compensatory mitigation for authorized impacts on streams. Specific requirements for future development would be determined in coordination with the USACE and RWQCB. A site-specific mitigation plan will be developed as part of the Section 401/404 permitting process. It would build upon the Conceptual Habitat Mitigation Plan for Wetland, Aquatic and Riparian Habitats (H.T. Harvey and Associates 2012) as a reference, as submitted as part of the City of Concord's 2012 BA package (City of Concord 2012). Therefore, Alternative 2 would result in a potentially significant impact on surface waters, but mitigation would reduce this impact to not significant.

Table 4.14-3 Summary of Jurisdictional Stream Impacts under Alternative 2

Development District	Mount Diablo Creek (linear feet)	Willow Pass Creek (linear feet)	Unnamed Stream (linear feet)
Commercial Flex	--	2,013	--
Greenways, Citywide Parks, and Tournament Facilities	--	--	2,205
Roads	1,763	--	1,216
Village Neighborhood	--	--	1,442
Total¹	1,763	2,013	4,863

¹ These totals are conservative because the specific locations and descriptions of recreation and interpretive facilities proposed in the greenways and open space areas are not known at this time. The GIS analysis of impacts included full disturbance for the Greenways, Citywide Parks, and Tournament Facilities development district and no disturbance for the Conservation Open Space development district.

Increasing Impervious Surfaces

Under Alternative 2, the total impervious surface area would be 1,369 acres, compared to the approximately 359 acres that currently exist. Future stormwater discharges would be managed as described above for Alternative 1, including compliance with the City of Concord's Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit.

If Alternative 2 were selected, the City of Concord would likely commission a study similar to the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) which discusses potential projects or design concepts to accommodate both existing flood flows and flood flows attributable to redevelopment, to guide mitigation measures necessary to address increased flows that would result under Alternative 2 at full build-out. The implementation of design concepts and detention measures outlined in a conceptual plan like the one prepared for Alternative 1, coupled with adherence to the City's Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit, would mitigate potential operational impacts on drainage patterns and increased flood flows. Therefore, impacts on surface water would not be significant.

4.14.2.2 Wetlands

Similar to Alternative 1, the implementation of Alternative 2 could result in potential impacts to wetlands from direct filling or alteration of hydrology.

Approximately 16.1 acres of jurisdictional wetlands (including freshwater marsh and seasonal wetlands) would be impacted by the implementation of Alternative 2, based on an overlay of the jurisdictional wetlands with the development footprint (see Figure 4.14-2). Additionally, approximately 5.9 acres of non-jurisdictional wetlands would be impacted by the implementation of Alternative 1 (see Table 4.14-4).

The majority of wetlands that would be affected by Alternative 2 are located in historically and currently grazed rangeland. Thus, similar to Alternative 1, these wetlands have functions and values below their full potential; however, any loss of wetland function would be addressed by requirements specified through the Section 404 permitting process.

Table 4.14-4 Summary of Wetland Impacts under Alternative 2

Development District	Jurisdictional Wetland Impacts (acres)	Non-Jurisdictional Wetland Impacts (acres)
Campus	0.03	--
Central Neighborhood	0.8	--
Commercial Flex	2.7	0.01
Greenways, Citywide Parks, Tournament Facilities	10	5.2
Roads	1.9	0.5
Village Center	0.03	--
Village Neighborhood	0.6	0.2
Total¹	16.1	5.9

¹ These totals are conservative because the specific locations and descriptions of recreation and interpretive facilities proposed in the greenways and open space areas are not known at this time. The GIS analysis of impacts included full disturbance for the Greenways, Citywide Parks, and Tournament Facilities development district and no disturbance for the Conservation Open Space development district.

As discussed for Alternative 1, impacts to wetlands under Alternative 2 will be mitigated through the CWA Section 404 permitting process. Specific requirements for development would be determined in coordination with the USACE as part of the City of Concord’s Master 404 Permit for the Concord Area Plan. The master 404 permit approach will facilitate a coordinated approach to development, permitting, and mitigation.

The City of Concord will require project proponents to demonstrate avoidance of wetland filling to the extent practicable and agree to mitigate unavoidable temporary impacts to wetlands by restoration in place following construction; mitigate permanent fill of wetlands at a minimum acreage ratio of 1:1; and provide the city with evidence of the purchase of credits in a mitigation bank or with a habitat mitigation and monitoring plan for creation of wetlands coupled with proof that the mitigation site will be preserved in perpetuity and that an endowment has been established to fund the long-term management and monitoring of the mitigation site.

Therefore, Alternative 2 would not result in a significant adverse impact on wetlands.

4.14.2.3 Groundwater

Similar to Alternative 1, groundwater would not be used for any construction activities, such as dust control or watering of vegetated erosion-control features. Additionally, no groundwater wells would be developed as part of Alternative 2 and no existing wells would be used for water supplies.

Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely. However, if it does occur, dewatering and subsequent discharges would be done in accordance with applicable permits and conditions stipulated by the San Francisco Bay Regional Water Quality Control Board. Construction dewatering, if necessary, would be short-term in nature and would have an associated minor and short-term impact on the underlying groundwater.

Because a larger portion of the former NWS Concord is designated as Conservation Open Space under Alternative 2, much of the existing open space would remain undeveloped and pervious surfaces would allow for continued infiltration of surface water and contribution to groundwater recharge.

Implementation of Alternative 2 would result in an increase in impervious surfaces from the 359 that currently exist to approximately 1,369 acres. By increasing the imperviousness of the project site, there would be less infiltration of rainfall, limiting the potential for groundwater recharge. However, as discussed for Alternative 1, the addition of impervious surface is not likely to affect groundwater recharge.

4.14.2.4 Water Quality

Surface Water Quality

Impacts on surface water quality under Alternative 2 would be similar to those discussed for Alternative 1, and would include sedimentation and erosion from clearing and grading activities, short-term increases in sediment loads and turbidity during construction and implementation of in-stream restoration, and the incidental release of construction materials or an accidental spill of substances commonly used in construction. These impacts would be mitigated through the implementation of mitigation measures in compliance with the City's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the City's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71), as well as SWPP as required under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity.

Lastly, the addition of impervious surface area can result in surface water quality impacts. However, as discussed under Alternative 1, the City of Concord will require that a storm drainage system be designed in accordance with the C.3 provisions, and that redevelopment complies with the CCCWP's joint municipal NPDES permit. Additionally, surface water quality impacts would be minimized through compliance with specific measures within the CWA 401/404 permits, which will be required for work within the stream channel, such as the construction of stream crossings and the implementation of flood-control structures.

Therefore, with the mitigation measures discussed above, no significant impacts on surface water quality during construction and operation of the Area Plan for the former NWS Concord would be anticipated.

Groundwater Quality

Impacts on groundwater quality under Alternative 2 would be similar to those discussed for Alternative 1, and could include the potential for construction dewatering and the introduction of pollutants associated with impervious surfaces. Mitigation measures such as the adherence to permit conditions for dewatering and implementation of LID techniques and other stormwater BMPs as indicated in the joint municipal NPDES permit would prevent significant impacts on groundwater quality and any impacts that would result would be minor.

4.14.2.5 Floodplains

The reuse proposed under Alternative 2 for the areas mapped as a FEMA 100-year flood hazard area would be Conservation Open Space and Greenways and Citywide Parks development districts (see Figure 4.14-2). Structures and/or fill in those development districts would be limited to trails, picnic areas, an interpretive area, and shaded seating areas in the Conservation Open Space development district, and trails, picnic areas, shaded seating, athletic fields and sports facilities, parking lots, meeting facilities, and other similar uses in the Greenways and Citywide Parks development district. Placement of these structures and/or fill within the mapped 100-year flood hazard area has the potential to impede or redirect

flood flows within that hazard area. Approximately 47 acres of Zone A floodplains north of the Port Chicago Highway would be designated as Greenways, Citywide Parks, and Tournament Facilities and would be developed with the uses outlined above. Additionally, roads connecting the redeveloped site would be located in the two areas of mapped floodplains at the former NWS Concord. Approximately 8.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. A total of approximately 57 acres of 100-year floodplains would be impacted by redevelopment under Alternative 2.

Similar to the discussions for Alternative 1, when FEMA has completed a formal delineation of floodplains onsite, they would be compared to modeled post-development hydrologic and hydraulic conditions associated with Alternative 2 to determine whether a modification to the existing regulatory floodway, the effective base flood elevations (if established), or the 100-year special flood hazard area would result from the implementation of Alternative 1. The City of Concord will then require an approved CLMR from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that none of the aforementioned modifications would be necessary. A series of mitigation measures similar to those discussed above for Alternative 1 would be implemented. Therefore, the implementation of Alternative 2 would not increase the risks from flooding or inundation.

4.14.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The potential impacts on water resources associated with the proposed action would also not occur. The property would be maintained in accordance with the BRAC PMO Building, Vacating, Facility Layaway, and Caretaker Maintenance Guidance (March 2007), and only conditions adversely affecting public health, the environment, and safety would be corrected. Adverse impacts on water resources are not anticipated under the No Action Alternative.

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5 Cumulative Effects

This chapter provides an analysis of cumulative effects, which are impacts from the proposed action that might not be significant when considered alone but could contribute to significant impacts when considered in conjunction with impacts from past, present, or reasonably foreseeable future actions. As defined by the CEQ, “Cumulative effects are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR Section 1508.7). This cumulative effects analysis was completed in accordance with CEQ guidance (January 1997 and June 2005) and EPA guidance (May 1999).

5.1 Methodology

The approach used in this chapter to assess cumulative impacts includes the following elements:

1. Establishment of the geographic scope and timeframe for each resource area as discussed in Section 5.2 below.
2. Identification of potentially significant cumulative impacts associated with the proposed action, based on the direct and indirect effects of it. If the incremental impacts were deemed to be inconsequential or unimportant in the region, no analysis of cumulative effects is needed (see Table 5-1).
3. Characterization of the existing resources and definition of baseline conditions, including past actions that have affected resources in the cumulative study area.
4. Identification of other reasonably foreseeable present and future actions affecting the resources in the cumulative study area.
5. Identification of the important cause-and-effect relationships between human activities and resources in the geographic or study area and how these relationships could result in potentially significant cumulative effects.
6. If necessary, identification of measures to avoid, minimize, or mitigate any potentially significant cumulative effect.

In accordance with CEQ guidance, if a proposed action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated.

5.2 Geographic Scope and Timeframe

Cumulative impacts most likely occur when a proposed action is related to actions that could occur in the same or an overlapping geographic location and at the same or similar time. Therefore, cumulative effects are considered within specific geographic scopes and timeframes.

The geographic scope (i.e., cumulative study area) used in this analysis varies by resource area. Generally, the cumulative study area is the study area identified in Chapter 3 within which direct and indirect impacts for each resource area could occur, but it also can include a larger geographic area depending on the characteristics and locations of affected resources, ecosystems, and human communities.

The timeframe used in this analysis considers the past, present, and reasonably foreseeable future conditions within the cumulative study area. In addition, the timeframe reflects the resource concerns, the cumulative study area, the proposed action, and the interrelationship of other resources.

Past and present conditions reflect conditions generated from the end of World War II to the present. Reasonably foreseeable conditions extend to 2040 based on the assumed 25-year build-out of the approved Area Plan.

5.3 Past, Present, and Reasonably Foreseeable Actions

This section reviews past and present conditions, and reasonably foreseeable projects, actions, and trends, that could contribute to cumulative impacts. Reasonably foreseeable actions include projects that have been formally proposed and/or approved by relevant local jurisdictions. This analysis uses a combined “lists and plans” approach and includes a review of specific development proposed, approved, or completed, as well as an analysis of development projected in regional and local plans, to determine the context for the proposed action’s effects on sensitive resources and the magnitude of the impacts in conjunction with impacts from other development affecting the same resources.

Two regional agencies, ABAG and the MTC, prepare and oversee regional plans for the nine-county Bay Area. In 2013, ABAG and the MTC published a program-level EIR for Plan Bay Area, in accordance with CEQA. Plan Bay Area, the first of its kind for the region, updates the 2009 Regional Transportation Plan and includes a new Sustainable Communities Strategy for the San Francisco Bay Area. Because most cumulative impacts are likely to occur at a more local level, the identification of past, present, and reasonably foreseeable actions included in this section is based not only on information contained in Plan Bay Area and the EIR prepared for the plan but also the following sources:

- General plans for the cities of Concord, Clayton, Martinez, and Pittsburg
- The EBRPD Master Plan
- Information provided by the Navy, U.S. Coast Guard, and Army regarding other BRAC actions that have taken place or will take place in Contra Costa County
- Other federal, state, and local actions in Contra Costa County
- State and regional air quality management plans
- Lists of reasonably foreseeable (proposed, approved, and under construction) development in the cumulative study area provided by the cities of Concord, Clayton, Martinez, and Pittsburg; Caltrans; and CEQAnet, the online searchable environmental database of the California State Clearinghouse within the California Office of Planning and Research.

Because of the programmatic characteristics and the uncertain nature of the timeline and location of the development associated with the proposed action, information from the plans listed above is presented in summary fashion and at a qualitative level. Specific projects identified by the jurisdictions listed above are also included and discussed in this section to present more concrete information about projects within the City of Concord, adjacent cities, and in the region as a whole. This information will be used to better define the context for development that is reasonably foreseeable in the cumulative study area within the 25-year build-out period of the proposed action.

5.3.1 Past and Present Conditions

The present-day Bay Area has been shaped by growth that has taken place since World War II, and it reflects sometimes rapid bursts of urbanization near the urban centers of San Francisco, Oakland, and San Jose, in a region previously characterized by agriculture. Large areas of agricultural uses, especially in Contra Costa, Alameda, and Santa Clara counties, have undergone conversion to urban and suburban uses in the past 50 to 60 years.

The Bay Area is the fastest-growing area in the state (California Department of Finance 2014). In the past decade, however, and partly as a result of the 2007-2010 recession, growth and development in the Bay Area has slowed to a rate that is more consistent with the rest of the country (ABAG and the MTC 2013). The region continues to suffer from a severe shortage of affordable housing for the workers in the region (ABAG and the MTC 2013).

Although the region has over one million acres of parks and open space (ABAG and the MTC 2013) as well as approximately 200,000 acres of permanent plant and wildlife reserves in private lands, the effects of urbanization have also led to the degradation of many regional resources, including air resources, plants and wildlife, wetlands, rivers, streams, and the San Francisco Bay itself. For example, many streams in the Bay Area have been developed for flood control and been channelized, reducing the ecological value of these resources and their ability to provide habitat for riparian and aquatic vegetation and wildlife.

Contra Costa County

In the 1950s, developers built large suburban housing developments in areas like Concord that were farther from urbanized centers such as San Francisco and Oakland. Commercial, office, and industrial development followed in these areas in the 1960s and 1970s, resulting in the establishment of new urban centers. The extension of BART and highway developments, including the expansion of the Caldecott Tunnel and the widening of SR 4, allowed Contra Costa County residents to commute to Silicon Valley and other industrial and commercial centers. Residential development and regional highway and mass transit projects have resulted in a degradation of both air quality and traffic levels of service throughout the Bay Area, as well as increased noise pollution. Central Contra Costa County residents who drive to other parts of the Bay Area on a daily basis can experience significant rush hour delays. Rapid urbanization in rural or agricultural areas has affected plant and wildlife resources throughout the county, as well as sensitive ecosystems such as wetlands, waterways, and riparian areas. To address these impacts, Contra Costa County has undertaken natural resources preservation, restoration, and enhancement projects, including the expansion of lands held by the EBRPD, and large-scale wetland and shoreline restoration projects, many of which are located adjacent to San Francisco Bay.

Other notable development trends in Contra Costa County include the establishment of energy projects, including the Los Vaqueros, Altamont Pass, and Buena Vista wind projects, and the construction and expansion of refineries in Richmond, Martinez, and unincorporated Contra Costa County. Wind energy projects generally have a lower level of environmental impact, although they can adversely impact bird and bat species. Refinery projects, including those built by Chevron, Tesoro, Conoco Phillips, and Shell, impact air quality and visual resources.

Former NWS Concord

As discussed in Chapter 1, the former NWS Concord was a major munitions depot for the Pacific Coast during World War II and was one of the oldest naval ordnance bases located there. It was active from World War II through the Vietnam War, but by 1999, a minimal contingent of military personnel was stationed at NWS Concord, and the Navy formally placed the facility into a reduced operational status. In 2005, NWS Concord was designated for closure by the BRAC Commission.

Approximately 59 acres of the former NWS Concord that supported military housing were transferred to the U.S. Coast Guard in April 2007.

The portion of the former NWS Concord adjacent to Suisun Bay was transferred to the U.S. Army in 2008 and is now the MOTCO. The MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility, is the primary West Coast

common-user ammunition terminal, and is home to the SDDC's 834th Transportation Battalion (Department of the Army 2013).

5.3.2 Reasonably Foreseeable Future Actions

Reasonably foreseeable future growth in the region is likely to include further development of urban and suburban housing. By 2040, housing developed in the region is likely to include a greater percentage of high-density and transit-oriented residential development than in the past (ABAG and the MTC 2013)²¹. Job growth in the area is forecasted to slow from 2020 to 2040 (ABAG and the MTC 2013); even with the slowing of job growth, however, it is likely the region will continue to experience a potentially severe shortage of affordable housing through 2040. Development trends for the region include further development of jobs at regional centers, the expansion and enhancement of downtown areas and transit corridors to serve residents, and new development potential for industrial and agricultural land (ABAG and the MTC 2013), as well as continued reuse of former military properties with mixed uses and housing.

Specific types of regional development and anticipated impacts are discussed below. This discussion does not encompass all projects in the region; rather, the discussion below includes known projects that are likely to be developed that could contribute to cumulative impacts in conjunction with the proposed action.

Table 5-1 includes a list of reasonably foreseeable projects in the vicinity of the former NWS Concord that were considered in the cumulative analysis. Relevant jurisdictions include cities adjacent or nearly adjacent to the former NWS Concord (Concord, Clayton, Martinez, and Pittsburg), unincorporated Contra Costa County, and the East Bay region as a whole. In the City of Concord, any residential project of six or more units was included in the assessment if it was recently approved, under review, or approved in the past but not yet constructed. Other non-residential projects were included, as well, if they exceeded 10,000 square feet of construction. Outside of the City of Concord, any residential project in a relevant city jurisdiction was listed if it included 25 or more units. In unincorporated Contra Costa County, a residential project was only considered if the proposed development had potential to interrupt contiguous wildlife habitat. Regarding industrial and other non-residential projects, any proposed action that triggered review under CEQA within the past five years was investigated. Finally, land use plans in the relevant city jurisdictions and parks and air quality plans for the East Bay were included because of their potential impact on the region.

Figures 5-1 through 5-3 illustrate the location of the most relevant foreseeable projects in the vicinity of the former NWS Concord site. All recently proposed, permitted, or constructed projects within one mile of the site were mapped in Figure 5-1. Projects located beyond one mile of the former NWS Concord were included in the figures depending on their size, proposed activity, and proximity to the former NWS Concord. Of residential projects in the City of Concord, those proposing 10 or more units were added to the figure. Of residential projects in the City of Pittsburg, subdivisions proposed in the undeveloped region along the city's southern extent were mapped because of their proximity to the former NWS Concord and their potential impacts on wildlife habitat. A few other residential projects in the region were mapped because of their size and potential to disturb contiguous wildlife habitat. Industrial projects were mapped if their size or activity indicated they could have potential effects on air quality and transportation in the vicinity of the former NWS Concord. Operating refineries in the vicinity were mapped because of their ongoing impacts on air quality in the region.

²¹ Projections 2013 Technical Report.

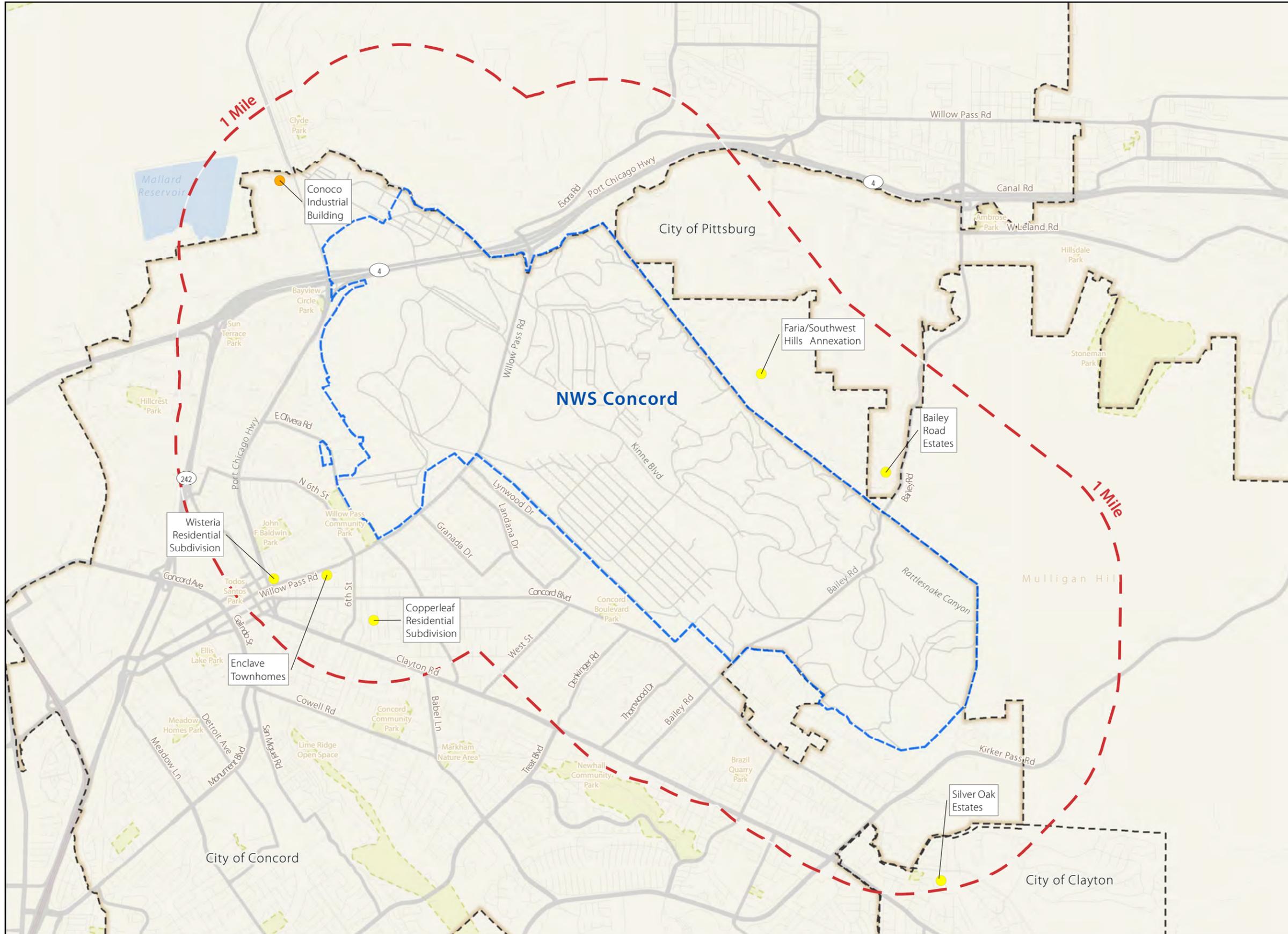


Figure 5-1
Existing and Reasonably Foreseeable
Projects within 1 Mile of the Project
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- Former NWS Concord, 1-Mile Buffer
- City Limits
- Local Park
- Waterbody

Project Locations

- New Industrial Project
- New Residential Project



SCALE



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5.3.2.1 Navy and Department of Defense Actions

Foreseeable development of DOD properties in Contra Costa County includes reuse and redevelopment of former military installation land that will include new housing and improvements to existing Navy facilities.

The Army prepared an EIS to evaluate the proposed modernization and repair of Piers 2 and 3 at MOTCO to fully meet current and future mission requirements. This project is estimated to require as many as 87 workers during construction and demolition of the inoperable pier. Impacts were identified in the draft EIS, and steps to address them include these goals:

- No net loss of wetlands
- Minor air emissions but no effect on air quality
- No adverse impacts to amphibians
- Consistency, to the maximum extent practicable, with the Bay Conservation and Development Commission (BCDC) coastal management program.
- Negligible short-term construction traffic impacts
- Only minor, short-term, adverse noise impacts (Department of the Army 2013)

Other BRAC projects are planned for the region, such as the reuse of the former Naval Air Station Alameda, Hunter's Point Naval Shipyard, and the Naval Station at Treasure Island, but these are over 20 miles from the proposed action and are unlikely to have a significant contribution to cumulative impacts.

5.3.2.2 Non-Industrial Development

A summary of the types of non-industrial development projects currently proposed or approved by the cities of Concord, Pittsburg, Clayton, and Martinez and unincorporated Contra Costa County is presented in Table 5-1. The table includes some existing approved and pending projects that are anticipated to be operational by the time of the completion of the proposed action.

Table 5-1 Summary of Development Proposed and Approved by Local Jurisdictions

Development Characteristics	Unincorporated				
	City of Concord	Contra Costa County	City of Clayton	City of Pittsburg	City of Martinez
Number of Projects	11	5	1	14	4
Single Family Residential (Units)	87	611		4,232	212
Multi-Family Residential (Units)	233	235		1,817	
Townhouse Residential (Units)			52		82
Commercial (Square Feet)		44,000		11,000	
Open Space Development		Three projects, including a trail and 600+ acres of open space	8 acres of open space		
Public and Community Services ¹	School	Sheriff substation, fire station, school			

Table 5-1 Summary of Development Proposed and Approved by Local Jurisdictions

Development Characteristics	Unincorporated				
	City of Concord	Contra Costa County	City of Clayton	City of Pittsburg	City of Martinez
Office and Warehouse Space (Square Feet)		1.2 million			
Industrial (Square Feet)	13,000				

Notes: 1 = School, police, and fire protection facilities

The majority of development proposed or approved locally is residential development and mostly consists of single-family housing, although a significant amount of multi-family housing is also proposed or approved. In comparison to past decades, housing development in Central Contra Costa County anticipated in the near to long term is likely to be predominantly higher density. New single-family housing is anticipated to be on smaller lot sizes with narrow setbacks, and higher-density urban housing is anticipated to be located around mass transit or transit corridors.

Several large-scale residential subdivisions are proposed for the City of Pittsburg. Two that are proposed immediately adjacent to the east boundary of the former NWS Concord are described below.

Faria/Southwest Hills Annexation: The proposed location for this annexation is a 607-acre unincorporated tract abutting the former NWS Concord and the City of Pittsburg. The City of Pittsburg proposes to annex the land and amend part of their pre-zoning designations. The proposed development would include a maximum build-out of 1,500 single family units. A notice of preparation (NOP) of an EIR has been issued but the impacts of this project have not been fully analyzed. The NOP acknowledged that there could be adverse impacts to air quality during construction, and there could be conflicts with the locally adopted Habitat Conservation Plan (City of Pittsburg 2014).

Bailey Estates Subdivision: This subdivision would include 249 single-family homes on 103.5 acres of an undeveloped 265-acre tract in the City of Pittsburg adjacent to the southeast corner of the former NWS Concord. The City of Pittsburg approved the project, and the U.S. Bureau of Reclamation issued a draft finding of no significant impact in 2006 that included adding the future subdivision into the Contra Costa Water District (U.S. Bureau of Reclamation 2006). The EIR includes measures to mitigate any associated road congestion and addresses air quality degradation that may result from increased traffic (City of Pittsburg 2003). The EIR also includes mitigation to avoid or offset the loss of habitat and biological resources that would result from project development. To date, this development has not begun construction (City of Pittsburg 2003).

5.3.2.3 Transportation Projects

Multiple transportation and transit projects are planned for the Bay Area region and include improvements to interstate and state roads, extension of BART service, and local projects that would relieve congestion. Transportation projects included in this analysis were defined in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc. 2014). These include interchange modifications, road widening, installation of connector ramps, and the extensions of roads throughout the City of Concord and into the City of Pittsburg.

5.3.2.4 Refinery Retrofit and Expansion Projects

Several projects that would result in the expansion and retrofitting of existing oil refineries in Contra Costa County are anticipated to take place over the 25-year build-out of the City of Concord’s Area Plan. Although these projects will include greater air emissions controls than past refinery development,

increased volumes of harmful emissions such as sulfur dioxide could result from this type of development, and emissions of GHGs will increase.

Impacts from the refineries and marine terminals in the closest proximity to the proposed action would likely contribute most significantly to cumulative impacts, particularly to air quality impacts. These are described below:

Tesoro Amorco Marine Oil Terminal and Tesoro Golden Eagle Refinery. Tesoro Refining and Marketing Company applied for and received a 30-year lease renewal in 2014 for its Tesoro Amorco Marine Oil Terminal on the Suisun Bay, 5.3 miles from the former NWS Concord. Although no change in operation was requested, an EIR was required for the marine oil terminal lease renewal because of the hazards inherent in receiving and transporting crude oil. The connected Tesoro Golden Eagle Refinery is approximately 2.5 miles from the marine terminal and 1.5 miles from the former NWS Concord (CSLC 2014a). The refinery occupies 2,206 acres and has a crude oil capacity of 166,000 barrels per day (Tesoro Corporation 2014). Because operations would not change, this analysis assumes that the refinery's and the terminal's emissions are included in the inventory for the SIP.

In addition, Tesoro is applying for a new 30-year lease and will also be conducting upgrades on the Avon Terminal to meet the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS). The project scope will include:

- Decommissioning of Berth 1;
- Construction of a new berthing area, Berth 1A; repairs, retrofits, and the existing approach trestle; and
- Demolition and removal of existing Berth 5.

This project also includes periodic dredging activities (CSLC 2014b).

Shell Martinez Marine Oil Terminal and Shell Martinez Refinery. Shell Oil Company applied for and received a 30-year lease renewal in 2011 for its marine oil terminal on the Suisun Bay, approximately 5.8 miles from the former NWS Concord. Although no change in operation was requested, an EIR was required for the marine oil terminal lease renewal because of the hazards inherent in receiving and transporting crude oil (CSLC 2014b). Collocated with the terminal is the Shell Martinez Refinery, which occupies 1,000 acres and has a refining capacity of 165,000 barrels per day (Shell 2014). Its nearest border is 4.0 miles from the former NWS Concord. Similar to the Tesoro operations described above and because operations would not change, this cumulative analysis assumes that the refinery's and the terminal's emissions are included in the inventory for the SIP.

WesPac Pittsburg Energy Infrastructure Project. WesPac Energy-Pittsburg LLC (WesPac) proposes to reactivate and modernize a dormant oil storage and transfer facility at the NRG Energy, Inc. (formerly GenOn Delta, LLC), Pittsburg Generating Station in the City of Pittsburg, located approximately 4.5 miles from the former NWS Concord. The WesPac Pittsburg Energy Infrastructure Project would facilitate importation of crude or partially refined oil by rail, ship, barge, or pipeline and then distribution of the products to local refineries through existing pipelines. The proposed project consists of upgrading the marine and onshore storage terminals, installing a new rail trans-load facility and other operation facilities, and installing and repairing pipeline connectors to complete the distribution network. Construction is estimated to last 25 months, with operation of the rail facility and

partially completed storage terminal beginning 12 months into construction. The project would employ up to 250 construction workers and 35 to 40 workers during operation and maintenance. Originally, the applicant projected that all permits would be secured by the third quarter of 2013, followed by construction in the fourth quarter 2013 (WesPac Energy-Pittsburg LLC n.d.). However, that timeline has been delayed, and the EIR has not yet been completed (Sbranti 2014).

Local Area Pipeline Network Project. To make cleaner-burning fuels, Air Products and Chemicals, Inc., is planning to construct and install a 2.6-mile pipeline that consists of two 8-inch-diameter pipes for movement of hydrogen and refinery fuel gas between the Tesoro Golden Eagle Refinery and Shell Martinez Refinery. The pipeline is proposed to be located on various parcels and ultimately connect to existing Air Products and Chemicals, Inc., hydrogen plants. Both hydrogen and refinery gas fuel pipelines would be placed within the same trench using open-cut trenching, conventional boring, and horizontal drilling techniques. The FEIR was certified in March 2011 (Contra Costa County 2011a).

5.3.2.5 Natural Resources Preservation, Restoration, and Enhancement Projects

Several projects that would preserve, restore, or enhance regional natural resources would take place during the 25-year build-out period for the City of Concord's Area Plan. These include the implementation of the Black Diamond Mines Regional Preserve expansion, approximately three miles east-southeast of the former NWS Concord, and the implementation of the Bay Delta Conservation Plan. The Bay Delta Conservation Plan includes a conservation strategy for the Sacramento-San Joaquin Delta, a large area located east of San Francisco Bay and south of Sacramento; it includes the municipalities of Pittsburg, Isleton, Brenton, and others (Bay Delta Conservation Plan 2014). These projects will provide regional environmental benefits, such as the provision and protection of parklands and open space, and will address impacts to wildlife and wetland resources.

In addition, the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCCHCP/NCCP) is intended to provide a framework to protect natural resources in eastern Contra Costa County and improve the environmental permitting process for impacts on endangered species (East Contra Costa County Habitat Conservancy 2006, USFWS 2006). Since this plan covers the eastern portion of Contra Costa County, the City of Concord and the former NWS Concord are not included, but the area immediately east of the former NWS Concord is included. This plan is intended to protect many of the same species that are found on the former NWS Concord. As of December 31, 2013, 25 properties had been acquired for the ECCCHCP/NCCP preserve system, which now totals more than 9,210 acres and is planned to reach 30,300 acres by 2037. The additional land to be acquired would connect a number of parks and preserves within Contra Cost County, including Mount Diablo State Park. All acquisitions to date have been completed in partnership with the EBRPD, which is expected to be a primary landowner and land manager of the preserve system (East Contra Costa County Habitat Conservancy 2014).

5.4 Cumulative Effects Analysis

To assess cumulative effects, this section evaluates the extent to which the proposed action could, in combination with other projects, contribute to a cumulatively significant impact.

5.4.1 Methodology

The initial step is the identification of the resources to be considered in the analysis, which are those resources that would be positively or adversely impacted, despite mitigation, by the proposed action. The analysis also includes resources currently in poor or declining health, if project impacts are relatively minor. Per CEQ guidance, if a proposed action would not cause either a direct or indirect effect on a

particular resource, a related cumulative impact is not required to be evaluated. The analysis of cumulative impacts in this section therefore does not include a discussion of impacts that were found to have no effect on the resource, as presented in Chapter 4. The resource area impacts resulting from the proposed action are identified in Table 5-2.

Effects of a particular action or group of actions must meet the following criteria to be considered a cumulative impact:

- The effects must be from several similar actions that would occur in the same geographic area;
- The effects would not be localized (i.e., they could contribute to effects of an action in a different location);
- The effects on a particular resource would be similar (i.e., the same specific element of a resource would be affected); and
- The cumulative effects would be identified by other analyses in the area as cumulative.

The purpose of the cumulative impact analysis is to determine whether the direct, indirect, and contributed impacts of the proposed action on nearby resources, ecosystems, and human communities would result in a cumulative impact. For any adverse cumulative impacts, it must be determined whether the proposed action's contribution to the cumulative impact would be significant (if not, the cumulative impact would be minor). To determine whether a proposed action's contribution would be cumulatively significant, several factors must be considered: the absolute size of the contribution; the relative size of the contribution; the comparative size of the other contributors; the effect of the contribution, or the effect combined with other contributors, on the environment; and whether the impact could be mitigated if this type of contribution were not mitigated.

As part of this analysis, this section identifies resources that will not be affected by cumulative impacts. For instances in which the analysis presented in Chapter 4, Environmental Consequences, determined that the proposed action would result in no effect, the effect could be fully mitigated, or the effect was so localized that it could not contribute to cumulative effects, the resource area discussed is not carried forward for analysis in this section. In addition, resource areas that could be affected by the proposed action but do not have the potential to be affected by a significant cumulative effect are not carried forward for further analysis (see Table 5-2). Based on the analysis shown in Table 5-2, the following resource areas have not been carried forward for a more detailed analysis:

- Land Use
- Cultural Resources
- Topography, Geology, and Soils
- Noise
- Utilities and Infrastructure
- Visual Resources and Aesthetics

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Land Use				
Potential incompatibility of new land uses onsite with existing character of adjacent land uses.	No	No	No	No
Potential conflict of new land uses onsite with existing land use plans or policies	No	Yes	Yes	No, other development projects would be required to be consistent with land use plans and policies
Socioeconomics				
Economy, employment, and income	Yes; beneficial	Yes; beneficial	No	Yes
Population	No	No	No	No
Housing and commercial property	No	No	No	No
Taxes and revenues	Yes; beneficial	Yes; beneficial	No	Unlikely because increased tax revenues would be accompanied by increased expenditures
Environmental Justice	No	No	No	No
Air Quality				
Planning Thresholds	No	Yes	No	No
Criteria Air Pollutants	Yes	Yes	No	Yes, the air basin is classified non-attainment, and both Alternatives 1 and 2 would contribute emissions that exceed thresholds
Protection of Sensitive Receptors	No with implementation of the Area Plan (development restrictions)	No with implementation of the Area Plan (development restrictions)	No	No
Nuisance Odors	No	No	No	No
GHG Emissions	No with implementation of the Area Plan	No with implementation of the Area Plan	No	Yes, because of the growth in the area

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Biological Resources				
Grassland habitat	No	No	No	No
Coyote Brush Scrub/Coastal Sage Scrub	No	No	No	No
Oak Woodland/Savannah Habitat and Heritage Trees	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	No
Riparian Woodlands	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	No
Wetland and non-wetland waters	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	Potentially, because there will be an irreversible loss of specific wetlands
Ruderal/Urban	No	No	No	No
Orchard and Plantation Habitat	No	No	No	No
Fish and Wildlife without Special Status	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No
California Red-Legged Frog (Federally Threatened)	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	Yes
California Tiger Salamander (Federally Threatened)	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	Yes
Alameda Whipsnake (State Threatened)	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	No, because no Alameda whipsnakes have been documented onsite

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Bald and Golden Eagle	No with implementation of the Area Plan and codes and regulations	No with implementation of the Area Plan and codes and regulations	No	No
Cultural Resources				
Non-NRHP-Eligible Archaeological Resources	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No, impacts will be mitigated through implementation of the Area Plan
Non-NRHP-Eligible Architectural or Built Resources	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No, impacts will be mitigated through implementation of the Area Plan
Native American Resources	No	No	No	No
NRHP-Eligible Archaeological Resources	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	No, impacts will be mitigated through implementation of the Area Plan and compliance with Section 106
NRHP-Listed or Eligible Historic Properties	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	No, impacts will be mitigated through implementation of the Area Plan and compliance with Section 106
Topography, Geology, and Soils				
Alteration of topography	No	No	No	No
Seismically Induced Ground Shaking and Associated Ground Failure	No with implementation of the Area Plan and building codes	No with implementation of the Area Plan and building codes	No	No, all other new structures in the area would have to comply with similar building codes
Seismically Induced Landslides or Slope Failures	No	No	No	No

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Surface Fault Rupture	No with implementation of the Area Plan and building codes	No with implementation of the Area Plan and building codes	No	No, all other new structures in the area would have to comply with similar building codes
Erosion and Loss of Topsoil	No with implementation of the Area Plan and SWPP	No with implementation of the Area Plan and SWPP	No	No, all other new projects in the area would have to comply with a SWPP.
Hazards and Hazardous Substances				
Environmental Restoration Program Sites	No significant impacts	No significant impacts	No	No significant impacts were identified for the proposed action; however, residual contamination or waste could contribute to potential cumulative impacts. In addition, hazardous materials used during construction or operations of Alternative 1 or 2 or hazardous waste generated could contribute to potential cumulative impacts.
Solid Waste Management Unit Sites	No significant impacts	No significant impacts	No	
Radiological Sites	No significant impacts	No significant impacts	No	
Hazardous Waste	No significant impacts	No significant impacts	No	
Underground Storage Tanks	No significant impacts	No significant impacts	No	
Aboveground Storage Tanks	No significant impacts	No significant impacts	No	
Asbestos	No significant impacts	No significant impacts	No	
Lead-based Paints	No significant impacts	No significant impacts	No	
PCBs	No significant impacts	No significant impacts	No	
Radioactive Materials	No significant impacts	No significant impacts	No	

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Noise				
Construction-related Noise	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Operation-related Noise	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Vibration	No with implementation of the Area Plan	No with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Public Services				
Educational Facilities	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Police Protection Services	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Fire Protection and EMS	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Health Care Facilities	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Open Space, Parks, and Recreation areas	Beneficial	Beneficial	No	Yes, a beneficial impact because the conservation areas will provide connectivity to other open space

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Transportation, Traffic, and Circulation				
Intersection Level of Service: <ul style="list-style-type: none"> • Port Chicago Highway/Panoramic Drive • Willow Pass Road/Evora Road (West) • Willow Pass Road/SR 4 WB ramps • Willow Pass Road/SR 4 EB ramps • Willow Pass Road/Avila Road • Willow Pass Road/Evora Road (East)—SR 4 WB off-ramp • San Marco Boulevard—Willow Pass Road/SR 4 EB ramps • Bailey Road/SR 4 EB ramps—BART access • Railroad Avenue/W Leland Road • Kirker Pass Road/James Donlon Boulevard • Ygnacio Valley Road • Port Chicago Highway 	Yes	Yes	Yes	Yes
Roadway Level of Service: <ul style="list-style-type: none"> • Bailey Road • Port Chicago Highway 	Yes	Yes	Yes	Yes
Freeway Segment Level of Service: <ul style="list-style-type: none"> • SR 4 e/o SR 242 • SR 4 e/o Port Chicago Hwy • SR 4 e/o Willow Pass Rd • SR 4 e/o San Marco Blvd 	Yes	Yes	Yes	Yes

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Freeway Ramp Level of Service: <ul style="list-style-type: none"> • I-680: Willow Pass Rd NB off-ramp • SR 4: Port Chicago Hwy EB off-ramp • SR 4: Port Chicago Hwy EB on-ramp • SR 4: Willow Pass Rd EB off-ramp • SR 4: Port Chicago Hwy WB on-ramp • SR 4: Port Chicago Hwy WB off-ramp • SR 4: Willow Pass Rd WB on-ramp • SR 4: Willow Pass Rd WB off-ramp • SR 4: San Marco Blvd EB off-ramp • SR 4: SB San Marco Blvd WB on-ramp • SR 4: NB San Marco Blvd WB on-ramp • SR 4: NB San Marco Blvd EB on-ramp • SR 4: San Marco Blvd WB off-ramp • SR 4: SB Bailey Rd EB off-ramp • SR 4: Bailey Rd WB on-ramp • SR 4: Railroad Ave WB on-ramp 	Yes	Yes	Yes	Yes
Utilities and Infrastructure				
Water Supply and Demand	No, with compliance with the General Plan, Area Plan, municipal code, and Joint NPDES Permit	No, with compliance with the General Plan, Area Plan, municipal code, and Joint NPDES Permit	No	No, all other similar projects would have to comply with the Concord General Plan, municipal code, and other relevant regulations for utilities and infrastructure
Water Treatment and Distribution				
Recycled Water Distribution System				
Stormwater and Collection Systems				
Sanitary Collection and Treatment Systems				
Solid Waste and Recycling Management	No	No	No	

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Electricity	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
Telecommunication services	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
Visual Resources and Aesthetics				
Impacts on Scenic Quality of KOPs: KOP 1: Salvio Street and Mt Diablo Street	No	No	No	No, although there would be visual impacts, these will be largely mitigated. Most of the large-scale planned development in the area would be in the City of Pittsburg and not visible from the KOPs
KOP 2: Concord High School	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
KOP 3: SR 4	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
KOP 4: Bailey Road	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
KOP 5: Panoramic Drive	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
KOP 6: Beechwood Drive	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
Impacts to Views of the Los Medanos Hills, Mount Diablo, and Open Space	No with compliance with the Area Plan	No with compliance with the Area Plan	No	
Water Resources				
Surface Water	No with implementation of the Area Plan	No with implementation of the Area Plan	No	Potentially, because there will be an irreversible loss of specific streams

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Wetlands	No with implementation of the Area Plan and mitigation	No with implementation of the Area Plan and mitigation	No	Potentially, because there will be an irreversible loss of specific wetlands
Groundwater	No	No	No	No
Water Quality	No with implementation of the Area Plan and mitigation (groundwater)	No with implementation of the Area Plan and mitigation (groundwater)	No	No

5.4.2 Cumulative Effects by Resource Area

The following resource areas were identified for further or more detailed analysis of potential cumulative impacts:

- Socioeconomics
- Air Quality and Greenhouse Gases
- Biological Resources
- Transportation, Traffic, and Circulation
- Hazards and Hazardous Substances
- Public Services
- Water Resources

Analysis of potential cumulative impacts to these resource areas is presented below. For each of the discussions below, the geographic study area and timeframe are identified as well as impacts. Past and existing conditions relevant to the analysis are summarized, and reasonably foreseeable projects that could contribute to cumulative impacts are specified.

5.4.2.1 Socioeconomics

Two areas of the socioeconomic impact analysis described in Section 4.3 had significant impacts to:

- The economy, employment, and income; and
- Taxes and revenue.

All others had minor or no impacts. While increased taxes and revenues from the implementation of Alternatives 1 and 2 would be a beneficial impact, these would be accompanied by increased expenditures. As a result, the increased taxes and revenues would contribute little to cumulative impacts and are therefore not further discussed. This cumulative analysis focuses on impacts on the economy, employment, and income.

Study Area and Timeframe

The cumulative study area for the analysis of cumulative socioeconomic impacts is the municipal jurisdictions within Contra Costa County and the unincorporated portion of Contra Costa County. These jurisdictions were selected because they are the areas where the greatest cumulative effects, adverse or beneficial, would be realized. The timeframe for cumulative effects related to socioeconomics would extend to full build-out of the project, which is anticipated to be completed by 2040, because cumulative socioeconomic effects could occur both during construction and once residences are occupied, schools filled, and commercial space utilized.

Past and Existing Conditions

The average unemployment rate in the City of Concord decreased from 12.0 percent of the labor force in 2010 to 9.7 percent in 2012. During the same time period, unemployment decreased in Contra Costa County from 11.1 percent to 9.0 percent. Total revenues for the FY ending June 30, 2012, were \$98,393,000 and \$1,638,569,000 for the City of Concord and Contra Costa County, respectively.

Reasonably Foreseeable Projects

Although most of the reasonably foreseeable projects identified earlier in this chapter could contribute positively or negatively to the economy of the City of Concord or Contra Costa County, the reasonably foreseeable projects that could contribute over the short and long term to the cumulative economic development locally and to Contra Costa County through employment and tax revenues at or near the same scale as Alternative 1 or Alternative 2 include:

WesPac Pittsburg Energy Infrastructure Project. According to the Draft EIR and a presentation to the City of Pittsburg, this project would employ a maximum of 295 construction workers during a three-year period, would have a total expenditure of \$200 million, and would generate 2,950 indirect jobs during the construction period. During operations, 40 full-time employees would operate the facility, thus generating 280 to 400 indirect jobs. Estimated property tax revenue to the City of Pittsburg would be \$350,000; a tidelands lease to the City of Pittsburg would generate \$450,000; and annual operating expenses of \$5,000,000 would be spent locally and regionally (City of Pittsburg 2013, WesPac Energy-Pittsburg LLC n.d.)

Multiple Residential and Commercial Development Projects. As presented in Table 5-2, at least 44 residential or commercial projects are planned within or near the City of Concord or in the surrounding cities. The largest residential development is proposed for the City of Pittsburg, the largest commercial development would be in Walnut Creek, and the largest office/warehouse space project would be in unincorporated Contra Costa County. Each of these projects would generate construction employment in the short term and employment as well as tax revenue in the long term.

Modernization and Repair of Piers 2 and 3 at MOTCO. According to the Draft EIS for the Modernization and Repair of Piers 2 and 3, repairs to Pier 3 would be completed within 13 months of continuous construction and demolition, and construction of Pier 2 would take approximately 27 months. For the Pier 3 repairs, the total number of workers at the job site would be approximately 35 to 37. Following repair of Pier 3, demolition and construction would begin at Pier 2, requiring 10 to 20 workers; however, at least 30 workers would be needed for construction. The short-term economic benefits were not quantified in the Draft EIS, but the document states that not all materials or labor would be procured locally (Department of the Army 2013). Tax revenues were not provided in the Draft EIS.

Alternative 1

As discussed in Section 4.3, the City of Concord has established a goal that 40 percent of total Area Plan construction workforce is local, with priority given to firms/workers from the City of Concord. If firms/workers are not available in the city, construction would be awarded to local firms/workers within Contra Costa County (City of Concord 2012). The estimated \$6.28 billion in construction expenditures would support approximately 909 total (direct, indirect, and induced) jobs, increase total regional output by \$180 million, and generate \$46 million of total employee earnings in Contra Costa County annually (see Table 4.3-1). Positive long-term economic impacts would benefit the economies of the City of Concord and Contra Costa County and would continue beyond the 25-year build-out timeframe. With full build-out and the availability of 6.1 million square feet of additional commercial space for new business enterprises, reuse under Alternative 1 would directly generate up to 14,044 new jobs in Contra Costa County.

In addition to the direct jobs generated by reuse under Alternative 1, indirect and induced employment impacts are expected to occur as the increased employment and business activity at the former NWS Concord stimulates the regional economy. An estimated additional 10,550 indirect and induced jobs are

expected to be generated by implementation of Alternative 1. In total, 24,594 direct, indirect, and induced jobs are expected to be created under this alternative. Based on existing estimates, Alternative 1 would provide more potential for long-term employment growth than most of the reasonably foreseeable projects. Given the relatively high level of unemployment and underemployment in the region, no labor shortages should result from implementing all of Alternative 1 and the reasonably foreseeable projects concurrently.

As discussed above, other reasonably foreseeable projects would contribute short- and long-term benefits to the economies of the City of Concord, to the cities in close proximity to Concord, and to Contra Costa County; however, detailed data are sparse regarding the projects' specific economic contributions to the local and county-wide economies. However, based on the available data, Alternative 1 would have a significant positive cumulative contribution to both the local and county-wide economies through employment and tax revenues.

Alternative 2

The beneficial economic and tax impacts of Alternative 2 would be similar to those of Alternative 1; thus, Alternative 2 would have a cumulatively significant positive contribution to both the local and county-wide economies and tax revenues.

5.4.2.2 Air Quality and Greenhouse Gases

The air quality analysis conducted in Section 4.4 identifies significant adverse impacts for Alternative 1 associated with annual and daily emissions of criteria pollutants; significant adverse impacts were also identified for planning thresholds and criteria pollutants for Alternative 2.

The BAAQMD is in non-attainment with the NAAQS for ozone and PM_{2.5} and with the CAAQS for ozone, PM₁₀, and PM_{2.5}. This non-attainment, in and of itself, represents a cumulatively significant impact. This analysis will examine the contributions of each alternative and other reasonably foreseeable projects in the vicinity.

Similarly, GHG emission impacts represent a cumulatively significant impact. This analysis will examine the contributions of the alternatives and other reasonably foreseeable projects in the vicinity to the impact.

As indicated in Section 4.4.1.1, Alternative 2 exceeds the planning thresholds for population and transportation, rendering Alternative 2 inconsistent with the applicable Clean Air Plan.

This cumulative analysis focuses on criteria pollutants and GHG emissions, as both Alternatives 1 and 2 would not result in significant impacts on HAPs and nuisance odors.

Study Area and Timeframe

The main geographic study area for evaluating cumulative impacts is the five miles surrounding the former NWS Concord. Air quality is managed at the city and regional (BAAQMD) level. While criteria pollutants have local and regional impacts, the effects of GHGs are global. The timeframe for this analysis begins with construction and extends through 2035.

Past and Existing Conditions

According to the Bay Area 2010 Clean Air Plan, outdoor air in the Bay Area is cleaner than it was 40 years ago. Monitoring data show ozone (O₃), CO, SO₂, NO₂, lead, and PM concentrations have been reduced by more than half in the Bay Area since 1970, when the CAA was enacted (BAAQMD 2010). The current air quality in the City of Concord not only reflects climatic and meteorological conditions as well as the level of development that has occurred over the past 50 to 60 years in the Bay Area, traffic and commuting patterns, and urban and industrial expansion, but also actions taken to reduce emissions.

The Bay Area 2010 Clean Air Plan is a multi-pollutant plan that provides a control strategy to reduce ozone, PM, TACs, and GHGs in a single, integrated plan and establishes emission-control measures to be adopted or implemented. This plan lays the groundwork for the Bay Area Sustainable Communities Strategy as a means, ultimately, to reduce GHGs. The plan proposes control strategies for stationary and mobile sources, and sources from transportation, land use and local impact; and sources related to energy and climate (BAAQMD 2010). In order to meet state GHG-reduction goals, the City of Concord established a threshold of significance for the Area Plan at full build-out of 2.8 metrics tons CO_{2e} per capita.

Reasonably Foreseeable Projects

Reasonably foreseeable projects that could, in conjunction with the proposed action, contribute to cumulatively significant impacts to air quality include residential and mixed-use development; expansion or modification of petroleum refineries; and other DOD activities. Each is described below.

Residential and mixed-use development: Increased vehicle emissions associated with residential and commercial developments would likely have the largest impact on air quality. Construction impacts would be temporary, although cumulative construction impacts could be large if the residential and mixed-use development construction occurred concurrently with the construction at the former NWS Concord site and was also in close proximity to any of the proposed or any future, but currently unforeseen, development. The currently proposed development project nearest to the former NWS Concord is the Enclave Townhomes (see Figure 5-1 and Table 5-2).

The Faria/Southwest Hills Annexation would abut the eastern boundary of the former NWS Concord site. According to the CEQA Initial Study for this project, the proposed annexation and future development on the site would be subject to the requirements of the Resource Conservation Element of the Pittsburg General Plan, which contains goals and policies designed to achieve the goals of all applicable air quality plans. Although no development is currently proposed, the allowed units within the annexation could potentially conflict with or obstruct implementation of the applicable air quality plan or air quality standards, and impacts would be considered potentially significant (City of Pittsburg 2014).

Expansion or modification of petroleum refineries: Tesoro Marine Oil Terminal (approximately 5 miles from the former NWS Concord) and Tesoro Golden Eagle Refinery (approximately 2 miles from the former NWS Concord) operate in the City of Martinez, abutting the Suisun Bay. Lease renewals are also being, or have been recently, considered for the Tesoro Amorco and Avon Marine Terminals. An upgrade of several berths is proposed for the Avon Marine Terminal.

The Shell Martinez Refinery and Shell Martinez Marine Oil Terminal occupy 1,000 acres next to the Suisun Bay in Martinez. Shell Oil Co. applied for and received a 30-year lease renewal in 2011 for the marine oil terminal. Replacement of a crude oil tank is planned. A hydrogen and refinery fuel gas pipeline is proposed between this location and the Tesoro Golden Eagle Refinery.

The largest new project proposed for the area is the WesPac Pittsburg Energy Infrastructure Project in Pittsburg. This project would involve reactivating and modernizing a dormant oil storage and transfer facility at the NRG Energy, Inc. (formerly GenOn Delta, LLC), Pittsburg Generating Station in Pittsburg, located approximately 4.5 miles from the former NWS Concord. As discussed in Section 5.3.2.4, construction is estimated to occur in two overlapping phases, for a total of 25 months (City of Pittsburg 2013).

DOD Activity: Another industrial project in the area is the Modernization and Repair of Piers 2 and 3 at MOTCO. According to the Draft EIS, Pier 3 would be repaired during 2014 and 2015. Pier 2 would be

demolished and re-built during 2016. According to the Draft EIS, construction and vehicle emissions would not exceed *de minimis* thresholds during the construction period of 2014 to 2017. Operational air emissions after construction is completed are expected to be lower than current levels (Department of the Army 2013).

Criteria Pollutants

Alternative 1

As discussed in Section 3.4, the BAAQMD is in non-attainment with NAAQS for ozone and PM_{2.5} and in non-attainment with CAAQS for ozone, PM₁₀, and PM_{2.5}. This status reflects past development and current emissions regionally. Degradation of regional air quality represents a cumulative air impact, and the non-attainment status for several pollutants signifies that there are already cumulatively significant impacts to regional air quality.

As discussed in Section 4.4, construction of the Area Plan under Alternative 1 would occur over a build-out period of 25 years. Daily and annual VOC, NO_x, PM₁₀, and PM_{2.5} emissions would exceed the significance thresholds in some years (see Tables 4.4-4 and 4.4-5). For operations, estimated annual criteria pollutant emissions (VOCs, NO_x, PM₁₀, PM_{2.5}, and CO) after full build-out are estimated to exceed daily and annual significance thresholds.

Emissions from residential and commercial development have been considered in the Area Plan, which was incorporated into the city's General Plan with its adoption in 2012. During the planning effort that resulted in the development of the Area Plan, the city made a concerted effort at all stages of the planning and environmental analysis to design and refine the Area Plan to avoid or minimize potential effects on air quality and to reduce GHG emissions. Cumulative residential and commercial expansion in the region is factored into the projections used to develop the local and regional air quality planning for the Bay Area Clean Air Plan and the SIPs for criteria pollutants, so these sources have been accounted for. However, not all industrial development is included.

Table 5-3 summarizes the anticipated impacts to air quality from the large-scale reasonably foreseeable projects that are within five miles of the former NWS Concord.

Table 5-3 Air Emissions Sources within 5 Miles of the Former NWS Concord

Project or Facility	Emissions
Air Products Hydrogen and Refinery Fuel Gas Pipeline	Daily construction emissions of PM _{2.5} and PM ₁₀ could contribute to existing violations. Construction would be for 4 months (Contra Costa County 2009).
Tesoro Amorco Marine Oil Terminal Lease Consideration	No changes to existing operations.
Tesoro Avon Marine Oil Terminal Lease Consideration	Only a Notice of Preparation has been issued. Emissions will be evaluated for the increase in vessel traffic and construction and maintenance activities (CSLC 2014b).
Shell Crude Oil Tank Replacement Project	Daily construction and operational emissions would be under BAAQMD Thresholds of Significance (Contra Costa County 2011b).
Shell Martinez Marine Oil Terminal and Refinery	No change to existing operations.

Table 5-3 Air Emissions Sources within 5 Miles of the Former NWS Concord

Project or Facility	Emissions
WesPac Pittsburg Energy Infrastructure Project	Anticipated exceedances of daily NO _x and precursor organic compound thresholds (City of Pittsburg 2013). These estimates of emissions have been called into question by the Attorney General of the State of California's Department of Justice, so they may be updated in the next version of the EIR (Harris 2014).
MOTCO Pier Modernization	No anticipated exceedances of <i>de minimis</i> thresholds during construction (Department of the Army 2013).

The modernization of the piers at the MOTCO facility would begin before construction is scheduled to begin for the proposed action. However, concurrent construction would occur during 2016. The other projects, such as the WesPac project or the pipeline installation, are likely to have concurrent construction during a portion of the Alternative 1 construction.

The BAAQMD specifies that a project's contribution to cumulative impacts should be considered significant if the project individually causes significant impacts by exceeding the BAAQMD quantitative thresholds. Because the project's individual air quality impacts would be significant, the project's contribution to any cumulative impact would also be significant.

Individually, some of the reasonably foreseeable projects would have potentially significant contributions to air quality degradation associated with criteria pollutants. The concurrent construction or the operation of Alternative 1 and some or all of the reasonably foreseeable projects could during certain periods cause significant exceedances of BAAQMD daily and annual significance thresholds for certain pollutants. Based on the growth in the area and the projected timing of projects, certain projects may not comply with the SIP for specific criteria pollutants and would have to implement mitigation measures to reduce their emissions.

Alternative 2

Based on the estimates described in Section 4.2, VOC, NO_x, PM₁₀, and PM_{2.5} emissions during construction under Alternative 2 would exceed the BAAQMD significance thresholds for criteria pollutants in some years, resulting in significant impacts to air quality during construction. During operations, all criteria pollutant emissions would exceed the daily and annual BAAQMD significance thresholds, resulting in significant impacts to air quality. Based on the BAAQMD guidance, Alternative 2, like Alternative 1, would result in a significant contribution to cumulative impacts associated with criteria pollutants.

The cumulative impact of reasonably foreseeable projects described for Alternative 1 could also have significant contributions to air quality degradation during certain time periods when combined with the impacts of Alternative 2.

Greenhouse Gases

Alternative 1

GHGs are a leading cause of climate change. GHGs contribute to climate change by slowing or preventing the loss of heat to space. The global climate change problem is the result of millions of sources, each of which contributes a relatively small addition to global atmospheric GHG concentrations.

Federal agencies are addressing emissions of GHGs through reductions mandated by EOs, most recently EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance. In addition, recent federal laws and regulations will require inventorying and tracking GHG emissions from large sources

(74 FR 56260) and CAA Prevention of Significant Deterioration (PSD) and Title V permitting (74 FR 55292).

The California Global Warming Solutions Act of 2006 (AB 32) requires a reduction in GHG emissions in California to 1990 levels by 2020. The Climate Change Scoping Plan is the state's roadmap to reach GHG-reduction goals. The BAAQMD also has a climate protection program. Contra Costa County has completed a Draft Climate Action Plan that identifies how the county can achieve a GHG reduction target of 15 percent below baseline levels by the year 2020. The City of Concord has prepared a draft citywide CAP that provides guidelines for GHG-emission reduction. Much of the growth in Concord over the coming decades will be associated with the reuse of the former NWS Concord. The Area Plan features new, sustainable development, and the CAP (i.e., Book 3 of the Area Plan) specifically focuses on reducing GHG emissions.

As discussed in Section 3.4.5, the largest source of GHG emissions in California is on-road vehicles, which accounted for approximately 35 percent of GHG emissions for the state. All the existing and reasonably foreseeable projects listed in Table 5-3 would contribute to GHG emissions. However, all new projects would have to evaluate their potential generation of GHG emissions and meet the requirements of the applicable local or regional plans.

The GHG-reduction program that would be implemented for Alternative 1 addresses the requirements of state law and includes the mitigation measures specified in the City of Concord's Area Plan. The Area Plan CAP establishes a threshold of significance for the Area Plan in 2030 of 2.8 metrics tons CO₂e per capita, considering both BAAQMD guidance and statewide emission targets for 2020 and 2030 set by EO S-3-05. Alternative 1 with planned mitigation would meet these target emissions and therefore would not have a significant contribution to cumulative impacts to GHG emissions.

Alternative 2

Alternative 2 has a slightly smaller development footprint than Alternative 1 but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development. The estimated annual per-capita GHG emissions resulting from the full implementation under Alternative 2, with planned mitigation, would not exceed the threshold established in the CAP. Therefore, emissions of GHGs under Alternative 2 would not have a cumulatively significant contribution to the generation of GHG emissions.

5.4.2.3 Biological Resources

Based on the impact analysis conducted in Section 4.5, Biological Resources, the proposed action "may affect and is likely to adversely affect" two federally listed threatened and endangered species: the California red-legged frog and the California tiger salamander. Effects to these species and their habitat are examined in this section to determine whether past, present, and reasonably foreseeable activities and projects in conjunction with Alternatives 1 or 2 could result in cumulative significant effects.

Study Area and Timeframe

The selected cumulative study area coincides with the cumulative study area used for the draft BA conducted for the Concord Community Reuse Plan (H.T. Harvey and Associates 2012). The area considered is those areas of Contra Costa County that provide similar habitat to that present at the former NWS Concord. The timeframe is the build-out period of 25 years.

Past and Existing Conditions

As described in Section 3.5.3, while approximately 508 acres of the former NWS Concord are "developed" or previously disturbed, most of the former NWS Concord is relatively undeveloped. It has eight vegetation communities: California annual grassland, coyote brush/coastal sage scrub, oak

savannah/woodland, riparian woodland, wetlands and non-wetland waters (e.g. freshwater marsh; seasonal wetlands; and creeks, drainages, canals, and ponds), orchards and plantations, and a vegetated recreational area (the golf course). Approximately 155 bird species, 23 mammal species, 15 reptile species, and seven amphibian species were observed during surveys conducted between July 1998 and September 1999 (City of Concord 2010).

The City of Concord's open space areas include Lime Ridge Open Space, Los Medanos Hills, the Mount Diablo Foothills, and the area north of Mallard Reservoir that is designated Wetlands/Resource Conservation. Grassland habitats occur in the Los Medanos Hills and the Lime Ridge Open Space. Lime Ridge and the grasslands of Los Medanos Hills and the Mount Diablo Foothills are the northern end of a continuous natural habitat extending from Mount Diablo, the Black Hills, and Briones Valley. These open spaces are components of a regional wildlife movement system (City of Concord 2010).

The City of Concord has a number of creeks, principally Walnut, Pine, Galindo, and Mt. Diablo, as well as tributaries to these creeks. Although much of the extent of these creeks has been disturbed, the waterways provide aquatic and riparian habitat, providing resources and movement corridors to flora and fauna. The water bodies within the City of Concord may provide rainy season migration routes for the California tiger salamander and California red-legged frog. Riparian habitats associated with these waterbodies may provide cover for migrating or non-migrating birds and mammals (City of Concord 2010).

The East Bay Regional Park District contains 114,000 acres of relatively undeveloped, natural open space parklands in Alameda and Contra Costa counties (EBRPD 2014). Parks in northern Contra Costa County include Briones Regional Park, San Pablo Regional Recreation Area, Carquinez Regional Park, and Black Diamond Mines Regional Preserve. Additional parkland areas within Contra Costa County include Mount Diablo State Park, Marsh Creek State Historic Park, and Los Vaqueros Reservoir. Mount Diablo State Park is located south of the City of Concord, and Marsh Creek State Historic Park and Los Vaqueros Reservoir are located southeast of the cities of Pittsburg and Antioch. Within these park areas, habitat for biological resources in the region has been preserved.

The East Contra Costa County Habitat Conservancy is responsible for implementing the ECCCHCP/NCCP. The plan covers the cities of Pittsburg, Clayton, Oakley, and Brentwood and is designed to accommodate reasonable and anticipated growth in the participating jurisdictions. The plan covers the same species found on the former NWS Concord with the exception of fish species. The conservation strategy includes preserving approximately 30,000 acres of land, preserving the habitat linkages between protected lands, and enhancing habitats for the species that are covered in the plan (East Contra Costa County Habitat Conservancy 2014, USFWS 2006).

Reasonably Foreseeable Projects

Anticipated development in Concord itself is not likely to adversely affect the California red-legged frog or California tiger salamander. Most of the reasonably foreseeable projects are small-scale residential development. The renewal of the lease at the Tesoro Amorco Marine Oil Terminal does not require any expansion. The expansion at the Tesoro Avon Marine Terminal and the pier replacement project proposed at MOTCO could temporarily adversely impact biological resources, but the biological resources, if affected, would be marine or estuarine, not upland riparian as is found at the former NWS Concord.

The City of Pittsburg General Plan's land use map depicts low-density residential development on the eastern edge of the former NWS Concord site on previously undeveloped grasslands. Two developments proposed for this area are the Faria/Southwest Hills Annexation and the Bailey Estates Development Project. This area has habitat types similar to those found on the former NWS Concord site.

Part of the conservation strategy in the ECCCHCP/NCCP is to increase the availability of burrows in grasslands for the California tiger salamander and California red-legged frog and to create habitat in areas that previously did not support these species by creating ponds. Impacts to streams in the habitat conservation plan require in-kind compensatory habitat restoration. The Pittsburg Hills, an area located immediately east of the former NWS Concord, is Zone 1 in the HCP (East Contra Costa County Habitat Conservancy 2014, USFWS 2006).

According to the ECCCHCP/NCCP, there is a plan to acquire at least 1,450 acres of annual grassland within Zone 1 in order to provide a contiguous annual grassland or oak savanna to support the western pond turtle, California tiger salamander, California red-legged frog, and other species. The Faria/Southwest Hills Annexation is located in Subzone 1a of the habitat conservation area, and the Bailey Estates Development Project is located in Subzone 1b. According to the ECCCHCP, 85 acres of annual grassland in Subzone 1a will be acquired for preservation, and this would act as linkage for California tiger salamanders between the former NWS Concord and permanently protected open space in Pittsburg. Subzone 1b is part of a connection area between the Black Diamond Mines Regional Preserve and the former NWS Concord. At the time that the ECCCHCP was written in 2006, an easement was pending for the Bailey Estates Development Project (East Contra Costa County Habitat Conservancy 2014, USFWS 2006).

The CEQA Initial Study for the proposed annexation area for the Faria/Southwest Hills Annexation concluded that the project could have a potentially significant impact on protected species and could conflict with the ECCCHCP/NCCP because the undeveloped annexation area could contain grassland habitat that could provide habitat for wildlife species, including migratory birds. As a result, the development of this project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special status species (City of Pittsburg 2014).

According to the EBRPD's Master Plan (2013a), parts of the former NWS Concord will become the Concord Hills Regional Park. The park district is also planning expansion throughout the district, including at the Black Diamond Mines Regional Preserve. There is an existing proposal to expand parkland by 575 acres (EBRPD 2013b).

California Red-legged Frog

Alternatives 1 and 2

The California red-legged frog depends on the availability of emergent vegetation to provide refugia and a lack of aquatic predators, such as crayfish, bullfrogs, and fish, for its survival. In the 1980s, California red-legged frog tadpoles were introduced into Cistern Pond within the former NWS Concord and have since expanded their range to upper Cistern Pond and several locations along Mt. Diablo Creek. Although the species has not been recorded breeding at the Diablo Creek Golf Course, the golf course ponds provide potential breeding habitat. The former NWS Concord contains upland areas with small mammal burrows adjacent to aquatic habitat that could be utilized by this species as refugia. In addition, grasslands within the former NWS Concord have the potential to support upland habitat for the California red-legged frog.

Implementation of Alternatives 1 and 2 could result in potential impacts to 2,540 acres or 2,200 acres, respectively, of habitat for the federally listed California red-legged frog. These adverse impacts would be temporary (e.g., from construction or recreational activities), permanent (e.g. from development and trails), and potentially significant. However, all documented breeding habitat on the former NWS Concord site and the majority of the documented upland and dispersal habitats (e.g., Mt. Diablo Creek) for the species would not be disturbed during construction of either alternative. Once constructed, the

Central Greenway along Mt. Diablo Creek would include a 300-foot-wide riparian corridor that should improve the overall dispersal and non-breeding habitat for the species on the site.

Because the California red-legged frog is a federally listed threatened species, any development at the former NWS Concord would require conservation measures that avoid and minimize direct and indirect effects to this species. Any permanent impacts to California red-legged frog habitats will be mitigated to avoid long-term population-level impacts. Conservation measures included in the BO and associated ITS for the City of Concord's Master CWA Section 404 Permit for the Concord Area Plan will address and include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog. As described in the city's Area Plan (MMRP, Mitigation Measure Biological Resources 5), impacts to California red-legged frog habitats will be mitigated to avoid long-term impacts.

In 2001, 4.1 million acres in California were designated as critical habitat for the California red-legged frog, including areas within Contra Costa County (Foulk 2001). According to USFWS critical habitat maps for the California red-legged frog in Contra Costa County, the critical habitat areas for this species are located:

- Near Alhambra Valley Road between SR 4 and SR 24, and San Pablo Dam Road and Highway 680
- In the southwest portion of the county east of Highway 68 and west of Marsh Creek Road (USFWS 2010a and 2010b).

These areas are protected because they are within parks; therefore, regionally important critical habitat for this species is protected.

Potential breeding and dispersal habitat is found in the currently undeveloped open-space area east and southeast of the former NWS Concord site near water bodies. More specifically, several unnamed tributaries that flow east into the Contra Costa Canal from the northeast to the southeast corner of the Los Medanos Hills area have historical occurrences of this species as well as suitable habitat. In addition, suitable habitat and historical occurrences have been documented southeast of the site toward the Black Diamond Mines Regional Preserve. As a result of these habitats, the East Contra Costa County HCP/NCCP has identified the importance of the former NWS Concord site for conservation of multiple species including the California red-legged frog and the need for habitat linkages between the site and other large open-space areas such as the Black Diamond Mines Regional Preserve (East Contra Costa County Habitat Conservancy 2006 and USFWS 2006). The conservation of approximately 2,500 acres of open space on the former NWS Concord site would be a beneficial impact on the establishment of habitat linkages for this species. In addition, it would provide an incremental beneficial contribution to the cumulative habitat conservation efforts for this species identified in the ECCCHCP/NCCP and with the planned expansion of the EBRPD.

Although potential California red-legged frog habitat would be lost during the implementation of Alternatives 1 or 2 and habitat could be lost through the proposed development to the east of the former NWS Concord site, potentially cumulatively significant adverse effects to the California red-legged frog or California red-legged frog habitat would be minimized because:

- California red-legged frog critical habitat in Contra Costa County is protected;
- All future development on the former NWS Concord site would be subject to the Master CWA Section 404 permit and the associated BO and ITS, and would be required to avoid or minimize impacts to the California red-legged frog or its habitat;

- All future development east of the former NWS Concord site would have to comply with the ECCCHCP/NCCP and would likely have to implement mitigation measures similar to those included in the *Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats* (H.T. Harvey and Associates 2012).

California Tiger Salamander

Alternatives 1 and 2

Alternatives 1 and 2 would result in the removal of California tiger salamander historical breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. California tiger salamanders breed in the southeastern portion of the site in seasonal pools or small ponds. Alternative 1 would involve the removal of 957 to 982 acres of California tiger salamander habitat and could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects; Alternative 2 would impact 898 acres. The majority of the high- and medium-quality California tiger salamander habitat is located within the conservation area, and the primary opportunity for direct mortality would be during the construction of recreational trails, picnic areas, and parking areas within this area.

Direct effects through harassment or mortality could result from increased human activity, such as traffic, in California tiger salamander habitats. The construction of roads and exclusion fencing may prevent California tiger salamanders from dispersing between breeding and upland habitat.

Because the California tiger salamander is a federally listed threatened species, any development at the former NWS Concord would require conservation measures that avoid and minimize direct and indirect effects to this species. Any permanent impacts to California tiger salamander habitats would be mitigated to avoid long-term population-level impacts. Conservation measures included in the BO and associated ITS for the City of Concord's Master CWA Section 404 Permit for the Concord Area Plan will address and include avoidance and minimization measures to limit the direct and indirect effects to the California tiger salamander. As described in the city's Area Plan (MMRP, Mitigation Measure Biological Resources 6), any permanent impacts to California tiger salamander habitats will be mitigated to avoid long-term population-level impacts.

According to the City of Concord's Draft BA (City of Concord 2013c), California tiger salamanders occur in the undeveloped open space areas east and south of the former NWS Concord, where the Faria/Southwest Hill Annexation and Bailey Road Estates are proposed. This could result in a loss of habitat for the species. When and if these areas are developed, California tiger salamanders would be vulnerable to the human activity associated with residential development, traffic, pets, new predators, and non-native plants. Therefore, development of these projects could have adverse effects. However, these impacts have been recognized in the CEQA Initial Study for the Faria/Southwest Hills Annexation, as has the potential conflict between this project and the ECCCHCP/NCCP.

Potentially cumulatively significant adverse effects to California tiger salamanders or their habitat would be minimized because all future development east of the former NWS Concord site would have to comply with the ECCCHCP/NCCP, and developers would likely have to implement mitigation measures similar to those included in the *Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats* (H.T. Harvey and Associates 2012). The conservation of the approximately 2,500 acres of open space on the former NWS Concord site would be a beneficial impact on the establishment of habitat linkages for this species. In addition, it would provide an incremental beneficial contribution to the cumulative habitat conservation efforts for this species identified in the ECCCHCP/NCCP and with the planned expansion of the EBRPD.

5.4.2.4 Transportation, Traffic, and Circulation

Potentially significant impacts would occur for intersections, roadway segments, freeway segments, and freeway ramps. All are analyzed in this cumulative analysis.

Study Area and Timeframe

For the purposes of this analysis, the study area includes the area defined in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc. 2014). The study area for the transportation impact analysis included 28 intersections, five roadway segments, 12 freeway segments, and 21 freeway ramps from west to east throughout the City of Concord and into the City of Pittsburg. The analysis was conducted through 2040.

Methodology

The traffic analysis is based on the latest travel demand model for the CCTA. The model includes future development throughout the region. Population and socioeconomic forecasts used in the model are consistent with regional totals for growth projected by ABAG. Because the future regional development included in the model also includes traffic impacts, the No Action Alternative is used as a baseline to identify traffic impacts related to the action alternatives.

The CCTA model also includes roadway improvements that have been planned or programmed for Concord and neighboring communities and those that are part of the Concord General Plan and/or the City's Capital Improvement Program. These improvements are listed in Section 4.11.

It was also assumed that as the former NWS Concord site is developed, the onsite roadway and transit networks would be refined; however, the planned connections to existing roadways outside the project site would not be altered. Therefore, by taking into account the combination of known potential developments and background growth with the project-specific traffic volumes, cumulative impacts have already been accounted for in the impacts presented in Section 4.11. This section serves to summarize those impacts.

Alternative 1

During construction, impacts on the transportation network surrounding the property are also expected, including an increase in traffic on roadways immediately adjacent to the property; traffic delays due to slow-moving construction vehicles; and temporary road closures. These construction-related impacts would be temporary and minor, but they could contribute to cumulative traffic impacts if reasonably foreseeable or as-yet-unknown projects were to be built near the location of the construction. Since any project constructed in the City of Concord would require building permits, adherence to traffic management plans could be required to reduce and mitigate traffic impacts due to construction.

After the build-out is complete, Alternative 1 is projected to have potentially significant impacts on 10 intersections, two roadway segments, seven freeway segments, and 16 freeway ramps. Five of the intersections would operate at LOS F during both morning and evening peak hours, and four intersections would operate at LOS F during one of the peak hours. An additional three intersections would operate at LOS E or higher but would exceed LOS thresholds.

As indicated in Section 4.11.2, implementation of measures identified in the Climate Action Plan and the MMRP would address significant impacts to traffic; however, impacts would remain significant, and cumulative effects would also remain significant under Alternative 1.

Alternative 2

The proposed road network under Alternative 2 has the potential to create significant impacts on 10 intersections, two roadway segments, seven freeway segments, and 16 freeway ramps. Transportation impacts for these locations under Alternative 2 would be similar to impacts under Alternative 1, with some additional LOS impacts.

Impacts and mitigation under Alternative 2 that would be different than those under Alternative 1 are described in Section 4.11.

5.4.2.5 Hazards and Hazardous Substances

No significant impacts were identified in Section 4.8, Hazards and Hazardous Substances; however, residual contamination or waste could contribute to potential cumulative impacts. In addition, hazardous materials used during construction or operations of Alternative 1 or 2 or hazardous waste generated could contribute to potential cumulative impacts. As a result, all impacts are analyzed in this cumulative analysis.

This cumulative analysis focuses on the potential cumulative contribution of Alternatives 1 and 2 on the presence, use, handling, disposal, or transport of hazardous materials associated with development, reuse, or other activities at properties on or near the former NWS Concord cleanup sites and other waste sites.

Study Area and Timeframe

Because the adverse effects of hazards and hazardous substances with the greatest impact are localized, this cumulative study area includes the area immediately surrounding the former NWS Concord in the City of Concord and City of Pittsburg.

The timeframe for this analysis covers the time over which cleanup and transfer of the land to the City of Concord would occur.

Past and Existing Conditions and Reasonably Foreseeable Projects: ER Program Sites and other Regulatory Sites

As described in Sections 3.8 and 4.8.1, historical uses of the former NWS Concord resulted in sites and areas that have been subjected to regulatory review and remediation under various cleanup programs, consisting primarily of the Navy ER Program under CERCLA, SWMU sites under RCRA, and radiological sites under the Atomic Energy Act.

The most significant hazardous waste/materials sites near the former NWS Concord are located at the MOTCO. Hazardous materials sites at the MOTCO include the Tidal Area Landfill, R-Area Disposal Site, Kiln Site, Allied A and B Sites, Coke Pile Site, Froid and Taylor Road Site, Wood Hogger Site, K-2 Area, G-1 Area, and Litigation Area, among others. Contaminants of potential concern at these sites include petroleum constituents, heavy metals, solvents, VOCs, burn materials, wood preservatives, pesticides, PCBs, and ordnance (Navy 2005; Ecology and Environment, Inc., 1983). The Army is conducting cleanups of historical waste/materials sites at the MOTCO under its IR program (Department of the Army 2011). Presently, MOTCO is an active installation that provides terminal and distribution services for ammunition and cargo and has the capacity to handle nearly 25 percent of the nation's total ammunition throughput capability (USACE 2011). The MOTCO is listed as an NPL site in DTSC's EnviroStor database.

Other smaller cleanup or corrective action sites within five miles include the Central Contra Costa Sanitary District disposal area in Martinez, the Triangle PWC galvanizing site in Pittsburg, and the Los Medanos Tank Farm site in Pittsburg (DTSC n.d.). In addition, P66 is currently conducting petroleum cleanup and groundwater monitoring actions near the southeast corner of the Inland Area. In 2011, oil

was discovered within and adjacent to Navy property, and a pinhole release was subsequently identified in the P66 Line 200 pipeline.

ER Program Sites and other Regulatory Sites

At the former NWS Concord, sites under the ER Program are in various stages of completion, depending on the site. The CERCLA investigations have been completed at many sites, which now have been recommended for no further action, and continue at others. The Navy is addressing the ER Program sites in accordance with the CERCLA process and the FFA, and under the cognizance of applicable federal and state agencies. All necessary remedial actions required by CERCLA, including the use of any prescribed ICs, will be completed to the satisfaction of the involved agencies and consistent with the intended use of the site. None of the SWMU sites (except for the four transferred to the IRP) require further investigation. For the radiological sites, the Navy is presently performing additional surveys recommended by the HRA for specific environmental media on sites with a potential for contamination.

As a result of the implementation of legally prescribed remedial actions, the use of appropriate and legally enforceable CERCLA ICs where applicable, and the expectation that the future developers or owners of the former NWS Concord property will adhere to local, state, and federal laws and regulations during construction and operation, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with ER Program sites would be minimized to the extent possible. No significant environmental impacts would result from releases of hazardous substances, pollutants, or contaminants from disposal and reuse of the former NWS Concord, relative to ER Program and other regulatory cleanup sites. Similarly, activities conducted at other properties in the cumulative study area that contain hazardous waste sites or other regulatory cleanup sites, such as the U.S. Army's MOTCO facility, which has many IRP sites in various stages of cleanup, also would be required to comply with applicable laws and regulations for handling, disposal, and cleanup, which would minimize risks to the public and the environment from those activities.

Accordingly, there would be no significant cumulative impact on the environment from the presence, use, handling, disposal, or transport of hazardous materials associated with development, reuse, or other activities at properties on or near cleanup sites such as ER Program and other waste sites.

Past and Existing Conditions and Reasonably Foreseeably Projects: Hazardous Waste/Materials Management

As described in Section 4.8, reuse of the former NWS Concord property following disposal by the Navy would involve the routine use of hazardous materials and generation of hazardous waste from the construction/demolition of existing facilities and the development and operation of the new commercial, residential, industrial, recreational, and conservation land uses planned under the proposed action. Such wastes and materials would include petroleum products (gas, oil, and waste oil) and other materials often in tanks, chemicals, paints, pesticides (including herbicides), batteries, ACM, LBP, PCBs, medical waste, and radioactive materials used in business and industry.

Reasonably foreseeable projects that could, in conjunction with Alternative 1, contribute to cumulatively significant impacts associated with hazardous materials/waste include:

- Residential and mixed-used development
- Expansion or modification of petroleum refineries

Each is described below.

Residential and Mixed-use Development. Construction of residential and commercial developments would require the use of limited amounts of hazardous materials and could generate some hazardous waste and solid waste. Once built, residential and commercial development, in general, uses limited amounts of hazardous materials and generates small quantities of hazardous waste.

Expansion or Modification of Petroleum Refineries. Projects associated with the expansion or modification of petroleum refineries within five miles of the former NWS Concord (see Figures 5-2 and 5-3) are listed in Table 5-4, following.

Table 5-4 Status of Petroleum Refineries within 5 Miles of Former NWS Concord

Project	Location	Status
Air Products Hydrogen and Refinery Fuel Gas Pipeline	Concord/Martinez	New project
Tesoro Amorco Marine Oil Terminal Lease Consideration	Concord	Operating facility
Tesoro Avon Marine Oil Terminal Lease Consideration	Concord	Operating facility, but proposed upgrades to berths
Shell Martinez Marine Oil Terminal	Martinez	Operating facility
Shell Crude Oil Tank Replacement Project	Martinez	Operating facility; project replaces a crude oil tank
WesPac Pittsburg Energy Infrastructure Project	Pittsburg	New project; EIR not completed

During construction and operations, these projects would use hazardous materials and generate hazardous wastes in potentially significant quantities.

Hazardous Waste/Materials Management

For the proposed action, compliance of the new developers, businesses, residents, and occupants with the state, local, and federal regulatory framework that is in place for managing those wastes and materials would minimize hazards to the public and the environment, and there would therefore be only minor impacts from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with construction and operational activities of the proposed action. Those impacts would not be significant. Similarly, businesses and residents in the cumulative impact study area around the former NWS Concord also would be required to use and handle similar hazardous materials and wastes in accordance with state, local, and federal regulations, which would minimize risks to the public and the environment from those activities.

The regulatory framework that exists for the management of such wastes and materials is described in Section 3.8.2.2. At the state and local level, the DTSC regulates hazardous waste and RCRA programs, USTs and petroleum are regulated by the Regional Water Quality Control Board (RWQCB), and ASTs are regulated by CalEPA—all with additional implementation and enforcement by the CUPA. ACM and LBP are regulated primarily by AQMDs and the California Occupational Safety and Health Administration (Cal/OSHA), with the addition of the CDPH for the regulation of lead in child-occupied areas. PCBs and radioactive materials are the regulatory responsibility of the DTSC. The transportation of hazardous materials and wastes is regulated by the CHP. All of the requisite regulations were developed to protect public and environmental health and safety. All reasonably foreseeable projects would have to adhere to the same regulatory requirements.

The proposed action is a relatively large development project. When added to the future construction and operational activities identified for the cumulative study area, substantial quantities of hazardous materials would be routinely used, and substantial quantities of hazardous waste would be generated compared to current activities in the area. However, the long build-out time for the proposed action (25 years) and the requirement for compliance with applicable laws and regulations would minimize hazards and reduce impacts.

Accordingly, there would be no significant cumulative impact on the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with development, reuse, or other activities at properties in the cumulative study area.

5.4.2.6 Public Services

One element of the public services impact analysis discussed in Section 4.10 identified significant impacts: open space, parks, and recreation; all others had no significant impact. Therefore, this analysis focuses on the cumulative increase or decrease of open space, parks, and recreation land attributable to past and present conditions, Alternatives 1 and 2, and reasonably foreseeable projects.

Study Area and Timeframe

The cumulative study area includes northern Contra Costa County, including the cities of Concord, Pittsburg, Martinez, and Clayton. These cities were selected because they would directly benefit from the loss or gain of open space, parks, and recreation because of their proximity to the former NWS Concord.

The timeframe for this analysis extends to full build-out of the proposed action, which is anticipated to be completed by 2040, because this would be a timeframe in which the proposed action's contribution to open space, parks, and recreation would be finalized.

Past and Existing Conditions

Large portions of Contra Costa County, specifically in northern Contra Costa County, are preserved as parks or open space. These areas include the following regional and City of Concord resources.

Regional parks or open space:

- San Pablo Regional Recreation Area
- Carquinez Regional Strait Park
- Briones Regional Park
- Mount Diablo State Park
- Black Diamond Mines Regional Preserve

City of Concord large open spaces or parks:

- Lime Ridge Open Space and Greater Lime Ridge Open Space
- Willow Pass Community Park
- Los Medanos Hills
- Mt. Diablo Foothills
- Area north of Mallard Reservoir
- Avon-Port Chicago Marsh



Figure 5-2
Existing and Reasonably Foreseeable
Projects within 5 Miles of the Project
 Former NWS Concord
 Concord, California

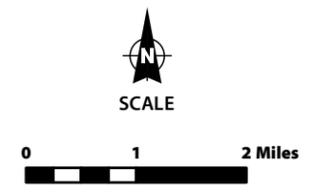
Legend

- Former NWS Concord
- Former NWS Concord, 5-Mile Buffer
- City Limits
- Park
- Waterbody

Project Locations

- Existing Industrial Project
- Industrial Redevelopment Project
- New Industrial Project
- New Residential Project

Project No.	Reasonably Foreseeable Projects within 5 Miles of the Installation
N1	Conoco Industrial Building
N2	Faria/Southwest Hills Annexation
N3	Bailey Road Estates Project
N4	Enclave Townhomes
N5	Renaissance Apartments
N6	Copperleaf Residential Subdivision
N7	La Vista Villas
N8	Silver Oak Estates
N9	Columbia Solar Energy Development
N10	Bayview Residential Project
N11	Tassajara Parks (outside 5-mile view)
N12	Poetry Gardens Townhomes
N13	Wisteria Residential Subdivision
N14	San Marco
N15	Vista Del Mar
N16	Alves Ranch
N17	Montreux
N18	Sky Ranch II Subdivision
N19	Tuscany Meadows



SOURCE: ESRI, 2010; U.S. Geological Survey, California Geological Survey 2006.

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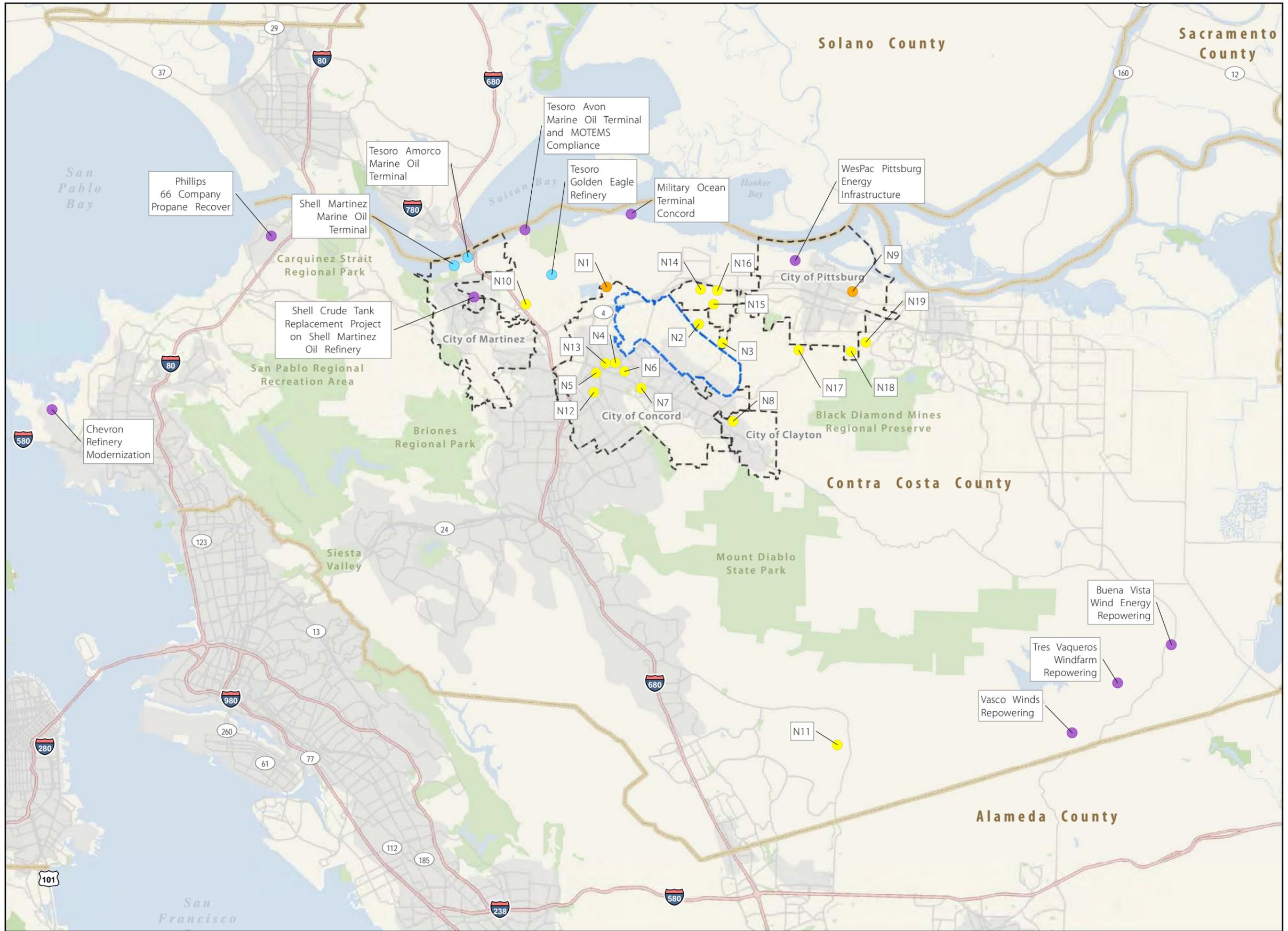


Figure 5-3
Existing and Reasonably Foreseeable
Projects in Contra Costa County
 Former NWS Concord
 Concord, California

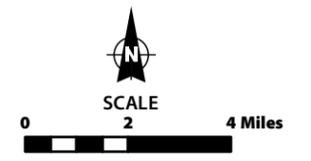
Legend

- County Boundary
- Former NWS Concord
- City Limits
- Park/Recreation Area
- Waterbody

Project Locations

- Existing Industrial Project
- Industrial Redevelopment Project
- New Industrial Project
- New Residential Project

Project No.	Reasonably Foreseeable Projects County-Wide
N1	Conoco Industrial Building
N2	Faria/Southwest Hills Annexation
N3	Bailey Road Estates Project
N4	Enclave Townhomes
N5	Renaissance Apartments
N6	Copperleaf Residential Subdivision
N7	La Vista Villas
N8	Silver Oak Estates
N9	Columbia Solar Energy Development
N10	Bayview Residential Project
N11	Tassajara Parks
N12	Poetry Gardens Townhomes
N13	Wisteria Residential Subdivision
N14	San Marco
N15	Vista Del Mar
N16	Alves Ranch
N17	Montreux
N18	Sky Ranch II Subdivision
N19	Tuscany Meadows



SOURCE: ESRI, 2010; Contra Costa County, 2012; City of Pittsburg, 2008; City of Concord, 2012.

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Reasonably Foreseeable Projects

Reasonably foreseeable projects that would both increase and decrease the open space, park, and recreation land in the area are listed in Table 5-5, following.

Table 5-5 Proposed Projects and Additions to Open Space/Parklands

Project Name	Description of Proposed Project	Contribution to Open Space/Parks
Faria/Southwest Hills Annexation (Pittsburg)	607 Acre development with 1,500 homes ¹	Unknown
Bailey Road Estates (Pittsburg)	265 acres: 103.5 acres divided into 249 lots. 18.5-acre reservoir	143 acres designated as open space ²
Black Diamond Mines Regional Refuge Annexation (North of Mount Diablo)	The EBRPD is preparing a Land Use Plan Amendment for Black Diamond Mines Regional Preserve to incorporate and open to the public 575 additional acres of land adjacent to the park.	Expand preserve by 575 acres ³

¹ City of Pittsburg 2014

² U.S. Bureau of Reclamation 2006

³ EBRPD 2013b

Alternative 1

As discussed in Section 4.10, approximately 2,537 acres of the eastern side of the former NWS Concord would be transferred to the EBRPD. A total of 786 acres of the former NWS Concord site would become greenways, citywide parks, and active recreational areas, resulting in the addition of approximately 24.3 acres of recreational areas per 1,000 residents on the former NWS Concord site. This ratio would exceed the City of Concord's General Plan Growth Management Policy 2.1.1, which requires new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. It would also result in an increase in the city's overall park-area-to-population ratio by increasing the area of parkland per person citywide to 9 acres per 1,000 residents. Alternative 1 would result in a long-term beneficial impact on the availability of open space and recreational services and facilities in the city.

Implementation of Alternative 1 would increase the availability of open space and parks by 3,323 acres. According to the City of Concord's General Plan (2012), a total of 10,985 acres of land within the city limits is either public/quasi-public, wetlands/resource conservation, parks, open space, or rural conservation. As a result, the cumulative total of this land use type in the City of Concord would be 14,308 acres under Alternative 1. The addition of the conservation open space land from the proposed action represents a 23-percent increase in the amount of open space available in the city.

The EBRPD has 114,000 acres of relatively undeveloped, natural, open-space parklands in Alameda and Contra Costa counties (EBRPD 2014a). According to the EBRPD's Master Plan (EBRPD 2013a), parts of the former NWS Concord will become the Concord Hills Regional Park. The EBRPD also is planning to expand Black Diamond Mines Regional Preserve to increase the parkland by 575 acres (EBRPD 2013b). Based on the total acreage of parkland in the EBRPD, the portion of the former NWS Concord would provide an incremental addition of 2 percent to the parkland in the EBRPD. Proposed development in Pittsburg would decrease the available open space on the east side of the former NWS Concord, but the ECCCHCP/NCCP is seeking to establish habitat linkages between the Black Diamond Mines Regional Preserve and the former NWS Concord.

Alternative 1 would result in an incremental increase to the amount of open space, parks, and recreation land available in the City of Concord, Northern Contra Costa County, and the EBRPD, with a

cumulatively significant beneficial impact on the total area of the City of Concord's open space and parks.

Alternative 2

Similar to Alternative 1, Alternative 2 would result in an addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site. However, because Alternative 2 would also generate a larger population impact than Alternative 1, the overall ratio of greenways, citywide parks, and active recreational lands per area resident would be 18.9 acres per 1,000 residents on the former NWS Concord site. This ratio would exceed the City of Concord's policy of requiring new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. As with Alternative 1, reuse of the site in a manner consistent with Alternative 2 would result in positive long-term impacts to the provision of parkland and open space in the City of Concord.

As with Alternative 1, the increase in open space, parks, and recreation areas would significantly increase the availability of that type of land use within the City of Concord and would provide an incremental increase in the available open space and parklands within Northern Contra Costa County and the EBRPD, and a cumulatively significant beneficial impact on the total area of the City of Concord's open space and parks.

5.4.2.7 Water Resources

Because Alternatives 1 and 2 would result in the irreversible loss of specific wetlands and stream habitat, this cumulative analysis focuses on surface waters and wetlands and the cumulative impacts from past and present conditions, Alternatives 1 and 2, and the reasonably foreseeable projects on wetland and surface water bodies in the cumulative study area.

In the absence of specific data pertaining to water resources for each of the reasonably foreseeable projects listed in Tables 5-1 and 5-2, a desktop analysis was completed using USFWS wetland, stream, and riparian data, as developed for use in Google Earth.

Study Area and Timeframe

The geographic study area for evaluating cumulative impacts on water resources encompasses the Mt. Diablo Creek watershed in which the proposed action is located. This watershed extends from Clayton to the Suisun Bay. The timeframe for analysis would be the period of construction of the proposed action because that is the period under which there could be new adverse impacts as a result of the proposed action.

Past Actions and Existing Conditions

Mt. Diablo Creek is the primary surface water feature on the former NWS Concord. It was altered from its natural state in the late 1800s. From its headwaters, Mt. Diablo Creek flows northwest for 15.5 miles to its confluence with the Suisun Bay (Leidy, Becker, and Harvey 2005). Other surface water features include Willow Pass Creek and numerous drainages associated with the mid to upper slopes of the Los Medanos Hills, which drain minimal surface flows from the adjacent foothill grasslands within the former NWS Concord during the winter rainfall period (City of Concord 2012).

Reasonably Foreseeable Projects

Reasonably foreseeable projects that could occur in the Mt. Diablo Creek watershed include the following (see Figures 5-1 and 5-2 and Table 5-1):

- Residential and commercial development
- MOTCO facility: pier expansion and cleanup activities at hazardous waste sites

- Tesoro Refinery and Marine Terminal: lease renewal of the Amorcó Marine Terminal and expansion at the Avon Marine Terminal
- Shell Martínez Refinery and Marine Terminal: lease renewal and bulk crude oil tank replacement
- Air Products Hydrogen and Refinery Fuel Gas Pipeline: 2.6-mile pipeline installation between the Tesoro Golden Eagle Refinery and Shell Martínez Refinery

Alternative 1

The analysis of the proposed action indicated that although all impacts to surface waters and wetlands would be mitigated through compensation or offsets, permanent impacts to both surface waters and wetlands would occur. In summary, approximately 1,800; 2,000; and 4,900 linear feet of Mt. Diablo Creek, Willow Pass Creek, and an unnamed stream, respectively would be altered or removed (i.e., through filling) by the proposed action (see Table 4.14-1). In addition, approximately 16 acres of jurisdictional wetlands and approximately 6 acres of non-jurisdictional wetlands would be removed (see Table 4.14-2). Wetlands provide multiple hydrological functions that could be altered by their removal. Wetland functions are specific to the watershed in which they are located; therefore, the removal of wetlands as a result of multiple projects could have cumulatively significant effects.

The majority of the Mt. Diablo Creek watershed is dry, with streams flowing through it only from upland areas, but the area adjacent to the Suisun Bay contains estuarine and marine wetlands. Many of these estuarine and marine wetlands are located in protected areas, such as the Point Edith Wildlife Area, the Waterbird Regional Preserve, and Waterfront Park. According to the City of Concord General Plan, these wetlands are largely found in lands designated as public or quasi-public land with the Avon/Clyde and Tidal Area (Port Chicago). The Tidal Area includes the MOTCO facility, where some of these wetlands are located (City of Concord, Google Maps, and Wetland Mapper). According to the Draft EIS for the Modernization and Repair of Piers 2 and 3 at MOTCO, up to 3,175 acres of wetlands occur on MOTCO, including 404 acres of estuarine subtidal wetlands, 2,687 acres of estuarine intertidal wetlands, and 84 acres of palustrine wetlands. MOTOC plans to modernize and repair several piers and anticipates no net loss of wetlands. MOTCO has designated a portion of these wetlands as a wetland preserve (Department of the Army 2013).

The projects at the Tesoro Avon Terminal and the Shell Martínez Refinery would be largely within their existing footprints and would be required to have no net loss of wetlands.

According to the FEIR for the project, the Air Products Hydrogen and Refinery Fuel Gas Pipeline project has committed to avoid impacts to wetlands and other waters through the implementation of BMPs and their SWPP. One alternative would use horizontal directional drilling to cross McNabney Marsh and would cross Pacheco Creek using a bridge. The project would provide compensation for temporary impacts to waters of the U.S., including wetlands, as required by permits. Temporary impacts would be mitigated at a 2-to-1 ratio, and the mitigation area would be monitored and managed for 10 years upon agreement by the responsible agencies. Possible compensation for impacts to wetlands may be a monetary contribution to restoration efforts or enhancement of McNabney Marsh or a nearby wetland preserve (Contra Costa County 2011a).

Palustrine wetlands would be removed as a result of the proposed action. None of the identified reasonably foreseeable projects are known to occur where palustrine wetlands occur in the watershed (USFWS 2014c). Other projects could be planned within the watershed. These would have to offset or mitigate their impacts to surface waters and wetlands to comply with state- and federal-level policies of no net loss of wetlands, which require all impacts to surface waters and wetlands to be mitigated under Section 401 and 404 of the CWA. However, USACE only requires Section 404 permitting for

jurisdictional wetlands, which are defined as having a significant nexus to navigable waters; hence, the state may assert jurisdiction over some water bodies not subject to Section 404/USACE permit jurisdiction.

The proposed action would have direct impacts on the wetlands and surface waters removed or altered, but the amount of wetlands and streams removed is small in comparison to all of the wetlands in the Mt. Diablo Creek watershed, and these removals will be offset. Potentially significant cumulative impacts with respect to wetlands and surface waters in the future would be required to be avoided or mitigated in order to comply with state and federal policies on no net loss of wetlands. Therefore, no cumulatively significant impacts to water resources would occur.

Alternative 2

The analysis of Alternative 2 indicates that although all impacts to surface waters and wetlands would be minimized or mitigated through compensation or offsets, permanent impacts to both surface waters and wetlands would occur. In summary, approximately 1,700; 2,000; and 4,800 linear feet of Mt. Diablo Creek, Willow Pass Creek, and an unnamed stream, respectively, would be altered or removed (i.e., through filling) (see Table 4.14-3). In addition, similar to Alternative 1, approximately 16 acres of jurisdictional wetlands and approximately 6 acres of non-jurisdictional wetlands would be removed (see Table 4.14-4).

The cumulative impacts of Alternative 2 along with the reasonably foreseeable projects would be the same as those discussed above for Alternative 1. Potentially significant cumulative impacts with respect to surface waters and wetlands would be required to be avoided or mitigated in order to comply with state and federal policies on no net loss of wetlands. Therefore, no cumulatively significant impacts to water resources would occur.

6 Other Considerations Required by NEPA

6.1 Consistency with Other Federal, State, and Local Plans, Policies, and Regulations

Disposal of the surplus property at the former NWS Concord would comply with existing federal regulations and state and local policies and programs. As discussed in Chapter 1, this EIS was prepared in accordance with the requirements of NEPA, the CEQ regulations implementing NEPA (40 CFR 1500-1508), and Navy procedures for implementing NEPA (32 CFR 775). Other federal laws, regulations, and EOs with which the proposed action must demonstrate compliance are discussed below, followed by a discussion of pertinent local and state policies and controls.

6.1.1 Federal Acts, Executive Orders, Policies, and Plans

NEPA

Compliance with NEPA is discussed above and in detail in Section 1.2, The NEPA Process.

Clean Air Act and General Conformity Rule

Compliance with the CAA and General Conformity Rule are discussed in Sections 3.4 and 4.4, Air Quality and Greenhouse Gases. Additionally, the reuse compliance discussion for the former installation property is found in Section 4.4, Air Quality and Greenhouse Gases, and a regional overview related to GHG emissions is presented in Chapter 5.

Executive Order 12898

Compliance with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, is discussed in Sections 3.3 and 4.3, Socioeconomics and Environmental Justice.

Executive Order 13045

Compliance with Executive Order 13045, Environmental Health Risks and Safety Risks to Children, is discussed in Sections 3.3 and 4.3, Socioeconomics and Environmental Justice.

Endangered Species Act

Compliance with the ESA is discussed in Sections 3.5.1.1 and 3.5.5. Additionally, Sections 4.5.1.3 and 4.5.2.3 provide an effects determination for implementation of Alternatives 1 and 2, respectively.

Migratory Bird Treaty Act

The MBTA is discussed in Section 3.5.11. Additionally, Section 4.5, Biological Resources, provides an analysis of potential effects on populations of migratory bird species.

Clean Water Act

Compliance with the CWA is discussed in Sections 3.14 and 4.14, Water Resources.

National Historic Preservation Act

Compliance with the NHPA is discussed in Sections 3.6 and 4.6, Cultural Resources.

Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act

Compliance with CERCLA and RCRA are discussed in Sections 3.8 and 4.8, Hazards and Hazardous Substances.

6.1.2 State, Local, and Regional Plans, Policies, and Controls

Compliance with various state, local, and regional plans, policies, and controls is discussed throughout Chapters 3 and 4.

6.2 Irreversible and Irrecoverable Commitment of Resources

NEPA requires an analysis of significant, irreversible effects resulting from implementation of a proposed action. Resources that are irreversibly or irretrievably committed to a project are those that are typically used on a long-term or permanent basis; however, those used on a short-term basis that cannot be recovered (e.g., non-renewable resources such as metal, wood, fuel, paper, and other natural or cultural resources) also are irretrievable. Human labor is also considered an irretrievable resource. All such resources are irretrievable in that they are used for a project and, thus, become unavailable for other purposes. An impact that falls under the category of the irreversible or irretrievable commitment of resources is the destruction of natural resources that could limit the range of potential uses of that resource. Disposal of the former installation property, although an irreversible action, does not represent an irretrievable commitment of land resources because this action makes resources available for future reuse.

Short-term irreversible commitments of resources associated with demolition of existing structures on the former NWS Concord and construction of Alternative 1 or 2 include the use of energy and utilities. Construction materials and building supplies would be committed to the reuse and redevelopment of the former NWS Concord property. The use of materials such as gravel, concrete, steel, and glass represents a long-term commitment of such resources that would not be available for other projects. Fuel, lubricants, and electricity would be required during demolition and construction, for the operation of the various types of construction equipment and vehicles, and for the transportation of workers and materials to the construction sites. However, these resources are not in short supply, and their use would not substantially increase overall demand for resources such as electricity or natural gas, or have an adverse effect upon their continued availability.

In the long term, implementation of Alternative 1 or 2 could result in an increase in the amount of energy consumed in heating, air conditioning, and other uses of energy that would support the residential, commercial, institutional, and other uses at the former NWS Concord. Over the long term, implementation of Alternative 1 or 2 would also result in irreversible or irretrievable commitments of resources if land development were to physically eliminate or diminish the character of natural resources on or immediately adjacent to the property. Under Alternatives 1 or 2, permanent wetland impacts could occur on portions of the former installation if they cannot be avoided by the final proposed reuse layout. Under either Alternative 1 or 2, direct, permanent wetland impacts could occur to approximately 22 acres. During future development activities, wetland impacts will be minimized to the maximum extent practicable through the final design and permitting process. As part of this process, future developers will be required to avoid, minimize, and/or mitigate any permanent impacts to wetland or waters of the U.S. in accordance with existing policies and procedures of the City of Concord, the CDFW (California Fish and Game Code Section 1602 - Lake or Streambed Alteration Agreements), and the USACE and RWQCB's requirements under Section 401 and 404 of the CWA.

The City of Concord's Area Plan includes measures for renewable, or "green," energy applications at the former installation, as well as federal and state funding opportunities (City of Concord 2012). These energy-efficient and renewable energy applications would be incorporated into the final construction and design of the reuse of the site under Alternatives 1 or 2, thereby reducing the local communities' need for and dependence upon fossil fuels and other non-renewable resources.

6.3 Unavoidable Adverse Environmental Effects and Considerations that Offset Adverse Effects

This section identifies unavoidable adverse effects that may occur as a result of implementing Alternative 1 or Alternative 2. Short- and long-term impacts are described below.

Air Quality and Greenhouse Gases

Under both Alternatives 1 and 2, emissions would increase during construction and after full build-out, resulting in significant impacts. Under both alternatives, it is expected that VOC, NO_x, CO, ROG, and PM₁₀/PM_{2.5} emissions would increase, primarily due to emissions during demolition and construction from construction vehicle use, and vehicle use associated with new development at the site. Alternative 2 would result in a greater increase in emissions than Alternative 1.

The Area Plan, including the city’s CAP, contains design features and measures that would reduce automobile dependence and vehicle emissions created by human activity that would be associated with new development in the area of the former NWS Concord. These features and measures include the “complete streets concept,” to accommodate mass transit, vehicles, bicycles, and pedestrians, balanced on the physical transportation network; mixed-use development with community services and retail to support residential units; and high-density development near the North Concord/Martinez BART Station. Without the construction of either Alternative 1 or 2, these features and measures would not be implemented; growth that would nevertheless continue in the region may not be subject to measures that would reduce vehicle emissions to the same extent as provided by the Area Plan, and criteria pollutants per capita could increase at a rate greater than through development under Alternative 1 or 2.

Transportation, Traffic, and Circulation

Alternatives 1 and 2 would open the formerly secure military installation to public access and would increase total weekday traffic near the installation. It is projected that there could be a net gain of 201,159 vehicle trips on the existing network of roads near the former NWS Concord over existing (2013) baseline conditions. Under Alternative 2, it is projected that there could be a net gain of 227,255 trips over existing (2013) baseline conditions.

Some traffic conditions (i.e., LOS) would be expected to improve over existing conditions. However, as summarized in Table 6-1, several intersections, roadways, freeway segments, and freeway ramps are projected to have an LOS rating of “E” or “F,” or a v/c ratio or delay lower than it would be under the No Action Alternative, upon the full build-out of both Alternative 1 and Alternative 2. Both long-term and short-term construction-related traffic impacts would be expected with the implementation of Alternative 1 or 2.

Table 6-1 Modeled Adverse Traffic Effects

	Alternative 1	Alternative 2
Effects Related to the Proposed Action		
<i>Intersection Level of Service E or F:</i>		
Port Chicago Hwy/Panoramic Dr (AM)	X	X
Port Chicago Hwy/Panoramic Dr (PM)	X	X
Willow Pass Rd/Evora Rd West (AM)	X	X
Willow Pass Rd/Evora Rd West (PM)	X	X
Willow Pass Rd/SR 4 Eastbound Ramps (PM)	X	X
Willow Pass Rd/Avila Rd (AM)	X	X
Willow Pass Rd/Avila Rd (PM)	X	X

Table 6-1 Modeled Adverse Traffic Effects

	Alternative 1	Alternative 2
Willow Pass Rd/Evora Rd (East)—SR 4 Westbound Off-ramp (AM)	X	X
San Marco Blvd—Willow Pass Rd/SR 4 Eastbound Ramps (AM)	X	X
San Marco Blvd—Willow Pass Rd/SR 4 Eastbound Ramps (AM)	X	X
Railroad Ave/West Leland Rd (PM)	X	X
Kirker Pass Rd/James Donlon Blvd (AM)	X	X
Kirker Pass Rd/James Donlon Blvd (PM)	X	X
<i>Roadway Level of Service F:</i>		
Port Chicago Hwy North of Olivera Rd (AM)	X	X
Port Chicago Hwy North of Olivera Rd (PM)	X	X
<i>Freeway Mainline Level of Service F:</i>		
SR 4 East of Willow Pass Rd Westbound	X	X
SR 4 East of Port Chicago Hwy Eastbound (PM)		X
SR 4 East of Willow Pass Rd Eastbound (PM)	X	X
SR 4 East of San Marco Blvd Eastbound (PM)	X	X
<i>Freeway Ramp Level of Service E or F:</i>		
SR 4: Willow Pass Rd Eastbound Off-ramp (AM)		X
SR 4: Port Chicago Hwy Westbound On-ramp (AM)		X
SR 4: Southbound San Marco Blvd WB On-ramp (AM)	X	X
SR 4: Northbound San Marco Blvd WB On-ramp (AM)	X	X
SR 4: San Marco Blvd Westbound Off-ramp (AM)	X	X
SR 4: Bailey Rd Westbound On-ramp (AM)	X	X
SR 4: Railroad Ave Westbound On-ramp (AM)	X	X
SR 4: Port Chicago Hwy Eastbound On-ramp (PM)		X
SR 4: Port Chicago Hwy Westbound On-ramp (PM)	X	X
SR 4: Northbound San Marco Blvd Eastbound On-ramp (PM)	X	X
SR 4: Southbound Bailey Rd Eastbound Off-ramp (PM)	X	X
Cumulative Effects		
<i>Intersection Level of Service E or F (Action):</i>		
Willow Pass Rd/SR 4 Westbound Ramps (AM)	X	X
Willow Pass Rd/SR 4 Eastbound Ramps (AM)		X
Bailey Rd/SR 4 Eastbound Ramps—BART Access (PM)	X	X
<i>Freeway Mainline Level of Service F:</i>		
SR 4 East of San Marco Blvd Westbound (AM)	X	X
<i>Freeway Ramp Level of Service E or F:</i>		
SR 4: Willow Pass Rd Westbound Off-ramp (AM)	X	X
SR 4: San Marco Blvd Eastbound Off-ramp (PM)	X	X

Key:

- Ave = Avenue
- BART = Bay Area Rapid Transit
- Bldv = Boulevard
- Dr = Drive
- e/o = east of
- Hwy = Highway
- Rd = Road

As discussed above for air quality, the Area Plan contains design features and measures that would reduce automobile dependence and corresponding vehicle trips that could be associated with a similar level of development. Without the construction of either Alternative 1 or 2, these features and measures would not be implemented, growth that would nevertheless continue in the region may not take place under similar restrictions, and impacts to the regional traffic and transportation network could be greater overall than they would be under development of Alternative 1 or 2.

6.4 Relationships between Short-term Uses of the Environment and the Enhancement of Long-term Productivity

NEPA requires consideration of the relationship between short-term use of the environment and the impacts that such use could have on the maintenance and enhancement of long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. Such impacts include the possibility that one alternative could reduce future flexibility to pursue other alternatives, or that a certain use could eliminate the possibility of other uses at the site.

Long-term benefits resulting from implementation of either Alternative 1 or Alternative 2 would occur at the expense of short-term impacts in the vicinity of the former installation property. These short-term impacts would occur during the phases of construction (which are each anticipated to take from 5 to 10 years to implement) of the selected alternative. Implementation of the phases of either alternative would take place over an estimated build-out period of 25 years. During these phases, the following types of construction would occur: demolition, clearing, grading, excavating, surfacing, road and parking paving, erection of structures, and landscaping. Short-term impacts on local air quality, GHG emissions, biological resources, topography and soils, noise, transportation and traffic, visual resources and aesthetics, and water resources could occur in the vicinity of the former installation during each phase. These impacts would largely be temporary, and proper controls, in the form of BMPs and other mitigation measures, would be used to prevent these effects from resulting in permanent damage or long-term changes in productivity.

As discussed in Chapters 4 and 5, operations related to disposal and reuse of the former NWS Concord could increase traffic, air pollution emissions, and GHGs in the vicinity of the installation. Because these impacts cannot be mitigated to insignificant levels, they would result in decreases in the long-term productivity of the environment.

Short-term gains in the local economy would occur if local workers were hired and if local businesses provided services and supplies during the construction period. Upon completion of redevelopment, the gains in the local economy would evolve into long-term benefits from the reuse of the property, including an expanded municipal tax base, new businesses and job creation, and, potentially, new employee and business spending in the region.

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7 Identification of Mitigation Measures

In accordance with CEQ guidance dated January 14, 2011, this chapter provides a summary of the mitigation measures that will be implemented to avoid or reduce potential impacts identified in Chapter 4. CEQ mitigation guidance recommends that federal agencies take steps to ensure that mitigation measures are actually implemented and that a mitigation monitoring program be established (CEQ 2011). Table 7-1 incorporates this guidance by highlighting the specifics of implementation and identifying the entity responsible for implementation.

The City of Concord has adopted an MMRP under CEQA and amended the Concord 2030 General Plan to include the Area Plan and the MMRP. Therefore, measures identified in the MMRP that will avoid or mitigate potential environmental impacts are legally binding and will be the responsibility of future developers or owners of the property. Compliance with these measures will take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources.

In addition, the Area Plan itself is designed to mitigate potential environmental impacts. For example, the plan promotes transit-oriented development around the North Concord/Martinez BART Station, transit service in other developed areas of the site, and a broad range of transportation choices (including mass transit, walking, and biking). It provides for public services to support the population increase, and it includes a 300-foot-wide riparian corridor along Mt. Diablo to improve water quality. In addition, the City of Concord, in response to requirements stipulated in state-level legislation and executive action to address the threat of climate change, has incorporated GHG reduction as an essential element of the Area Plan and the ultimate redevelopment of former NWS Concord. The GHG Reduction Program outlined in the CAP (Book Three of the Area Plan) is composed of specific standards, principles, and policies that have been identified as mitigation measures in Chapter 4 and summarized in Table 7-1 below; those GHG Reduction Program elements have been specifically incorporated into the impact assessment of the following resources: air quality and GHGs, transportation, and public utilities and infrastructure.

Therefore, measures identified in Table 7-1 are primarily those that have been adopted by the City of Concord into its Concord 2030 General Plan. Additional measures that have been identified by the Navy relate to the requirements of federal, state, and local agencies with regulatory authority under the CWA, NHPA, and ESA.

The intent of Table 7-1 is not to duplicate the MMRP or relevant policies in the Area Plan designed to avoid or mitigate environmental impacts. Table 7-1 identifies mitigation measures that address impacts identified in Chapter 4. Therefore, mitigation measures from the MMRP are summarized where appropriate, or superseded by statutory requirements under federal environmental requirements. In addition, certain measures in the MMRP have been completed, and are no longer relevant.

Table 7-1 has been arranged by resource, with each mitigation measure discussed in Chapter 4 listed in order of its occurrence.

Table 7-1 has been prepared for Alternative 1, the preferred alternative. Because of the similarities between Alternatives 1 and 2, the mitigation measures included in Table 7-1 would also be applicable to Alternative 2.

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Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Air Quality and GHGs				
Construction Emissions	<i>City of Concord Area Plan (MMRP Mitigation Measure Air Quality-5; Book 2, Air Quality Policy SHN-4.5):</i> Require that all feasible construction-activity-control measures will be applied at the site.	Lower construction emissions	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the requirement for implementation of construction-activity-control measures will be triggered. The list of protective measures will accompany all development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Operational Emissions	<i>City of Concord Area Plan (MMRP Mitigation Measure Air Quality-1; Book 3, Climate Action Plan):</i> Adhere to all measures included in the Area Plan CAP to reduce automobile dependence and potential vehicle emissions as part of project design; these include providing a mix of uses, local and regional transit, and bicycle and pedestrian lanes. Wood-burning fireplaces would be banned or required to employ best available control technologies; households with wood-burning fireplaces would comply with Spare the Air Day restrictions.	Lower operational emissions	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the inclusion of the Area Plan CAP measures will be triggered. The Area Plan CAP measures will be integrated into the final development plans and permits and authorizations.	City of Concord Department of Planning and Economic Development
Sensitive Receptors	<i>City of Concord Area Plan (MMRP Mitigation Measure Air Quality-4; Area Plan Book 2, Air Quality Policy SHN-4.2):</i> Prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4.	Reducing the impacts of hazardous air pollutants	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the exclusion of siting prohibited uses within the buffer area will be triggered. The 500-foot buffer area, designated on Figure 4.4-1, will be integrated into final development plans, permits, and authorizations.	City of Concord Department of Planning and Economic Development
Biological Resources				
Special Status Species: California Red-legged Frog, California Tiger Salamander, Alameda Whipsnake	<i>Mitigation Measure BR-1:</i> The City of Concord will ensure that minimization, avoidance, and mitigation measures that will be presented in the ESA Section 7 Biological Opinion and Incidental Take Statement will be implemented to address potential impacts to federally listed species during implementation of the Area Plan.	Protecting federally listed species	<i>Will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for special status species are included in development plan approvals. Conservation measures that will be included in the Biological Opinion and associated Incidental Take Statements for the City of Concord's Master 404 Permit will ensure avoidance and minimization measures to limit direct and indirect effects to the California red-legged frog, California tiger salamander, and Alameda whipsnake. These conservation measures will become binding language for conservation of threatened and endangered species and critical habitat in applicable authorizations and permits.	City of Concord Department of Planning and Economic Development
Special Status Species: Bald and Golden Eagles	<i>City of Concord Area Plan (MMRP Mitigation Measure Biological Resources-9):</i> Ensure potential for adverse impacts to bald or golden eagles is minimized.	Protecting special status species	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for bald and golden eagles are included in development plan approvals.	City of Concord Department of Planning and Economic Development

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Nesting Birds	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources-11 -12, -13):</i> Ensure potential for adverse impacts to nesting birds is minimized.	Protecting nesting birds	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for nesting birds are included in development plan approvals.	City of Concord Department of Planning and Economic Development
California Annual Grassland Habitat	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources-19; Area Plan Book 2, Vegetation and Wildlife Policy C-5.4):</i> Control invasive plants within natural resource areas and general open space.	Reducing impacts on native grassland habitat	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the requirement for control of invasive species will be triggered. The city will coordinate with applicable natural resources managers for input/guidance. The requirement to control invasive plants--likely through the development and implementation of an invasive-species management plan--will be integrated into appropriate permits and authorizations.	City of Concord Department of Planning and Economic Development
Oak Woodland/Savannah Habitat	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources -18; Area Plan Book 2 Urban Forestry Policy C-6.1):</i> Minimize impacts to oak woodland/savannah and heritage trees through avoidance, where feasible, and replacement plantings when mitigation is needed. Prepare an oak protection plan describing measures to protect trees to be saved and mitigate unavoidable impacts as outlined in a tree replacement and planting plan.	Preserving oak woodland/savannah habitat	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the need to minimize impacts will be triggered. The city will coordinate with applicable natural resource managers for input/guidance. As a condition of final approval, any priority areas of oak savannah and heritage trees will be required to be identified on site plans and narrative text provided to indicate avoidance or mitigation to be provided.	City of Concord Department of Planning and Economic Development
Cultural Resources				
NRHP-eligible Archaeological Resources	<i>Mitigation Measure CR-1: The Navy anticipates that it will execute a Section 106 Memorandum of Agreement (MOA) that will require the Navy, prior to transfer, to insert a deed notice regarding the two NRHP-eligible archaeological sites (CA-CCO-680 and P-07-00861) and the applicability of state and local law after Navy transfer.</i>	Preservation and protection of NRHP-eligible historic properties	<i>The Navy will complete Section 106 consultation and anticipates executing a Section 106 MOA prior to transfer. Implementation of the requirements in the MOA by the Navy and other parties will avoid, minimize, or mitigate impacts to NRHP-eligible resources.</i>	Navy
Archaeological Resources	<i>City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources-1; Book 2, Historic and Archaeological Resource Policy C-9.1):</i> Require the implementation of measures for preservation in place or for adequate data recovery, curation, and documentation of historic properties/historical resources prior to earth-disturbing activities that would impact any of the six sites in the areas where development is proposed.	Preservation and protection of archaeological resources	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of mitigation measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of mitigation measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development and future property developer(s)
Archaeological Resources	<i>City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources -2; Book 2, Historic and Archaeological Resource Policy C-9.2):</i> Require the implementation of cultural resources protection measures to control public access to the five resources located within the Open Space and Parks and Recreation development districts.	Preservation and protection of archaeological resources	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of protective measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of protective measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Archaeological Resources	<i>City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources -3; Book 2, Historic and Archaeological Resource Policy C-9.3):</i> Require the implementation of inadvertent discovery measures for the protection of cultural resources, including human remains.	Preservation and protection of archaeological resources	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of discovery measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of discovery measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development and future property developer(s)
Geology, Topography, and Soils				
Seismic Risks	<i>City of Concord Area Plan (Book 2, Earthquake and Landslide Hazard Policies SHN-1.1 and -1.2):</i> Limit development on steeper slopes; design all structures to comply with applicable state and local codes; ensure that buildings, utilities, and other structures are designed to reflect the findings of geologic hazards studies.	Address and reduce risks associated with seismic failure (earthquakes and surface fault rupture)	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> The development review process will include coordination between the City of Concord and the development applicant regarding applicable studies and measures addressing seismic risks. The city's permit will include specific conditions of approval, including any requirements for, or based on, geologic hazards studies. The city will ensure compliance with the permit through monitoring and inspection.	Future property developer(s)
Soil	<i>City of Concord Area Plan (MMRP Mitigation Utilities -7):</i> Obtain an NPDES General Permit for Stormwater Discharges, and adhere to its conditions.	Protection of the surface environment: soils and water resources	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> The development review process will include coordination between the City of Concord and appropriate resource agencies regarding applicable authorizations and permits. The permit will include specific conditions of approval, including the implementation of a SWPPP. The appropriate issuing entity will ensure compliance with the permit through monitoring and inspection.	Future property developer(s)
Hazards and Hazardous Substances				
ER Program Sites and Other Regulatory Sites	<i>City of Concord Area Plan (Book 2, Hazardous Materials Policy SHN-5.10):</i> Obtain all applicable local and state permits, approvals, planning reviews, and consultations and adhere to all applicable building, zoning, environmental, and health and safety laws and regulations before and during redevelopment.	Protection of human health and the environment	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the local and state development review process, applicable laws and regulations requiring compliance will be identified. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	Future property developer(s)
ER Program Sites and Other Regulatory Sites	<i>City of Concord MMRP (Mitigation Measure Hazardous Materials-1):</i> Require the development of a remediation plan approved by applicable environmental regulatory agencies and developed in consultation with the City of Concord.	Protection of human health and the environment	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city's review and approval of applications for development following the transfer of property, the requirement for a remediation plan will be triggered. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval; the remediation plan will be one such measure. Its implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
ER Program Sites and Other Regulatory Sites	<p><i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Hazardous Materials-2; Book 2, Hazardous Materials Policy SHN-5.6):</i> Require the development of a site management plan that covers site development activities, including requirements for worker health and safety plans, air monitoring plans, dust control plans, and soil management plans, as appropriate, that have been approved by applicable environmental regulatory agencies.</p>	Protection of human health and the environment	<p><i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the requirement for a site management plan will be triggered.</p> <p>All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval; the site management plan will be one such measure. Its implementation will be monitored as part of the permit and authorization process.</p>	City of Concord Department of Planning and Economic Development
ER Program Sites and Other Regulatory Sites	<p><i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Hazardous Materials -7; Book 2, Hazardous Materials Policy SHN-5.6):</i> Require that development activities not interfere with any remediation activities or systems of the Navy or others.</p>	Protection of human health and the environment	<p><i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, areas of ongoing remediation will be identified, and avoidance measures for these areas will be developed.</p> <p>Details regarding areas of ongoing remediation will be included in appropriate property transfer documents and made available to future property developer(s). These locations of ongoing remediation will likely be required to be identified on site development plans and other documents.</p>	Navy and City of Concord Department of Planning and Economic Development

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
<p>Noise</p> <p>Construction-related Noise</p>	<p><i>City of Concord MMRP (Mitigation Measure Noise and Vibration-5):</i> Require developers to demonstrate compliance with the following guidance:</p> <ul style="list-style-type: none"> • Whenever construction occurs adjacent to occupied residences (onsite or offsite), temporary barriers shall be constructed around the construction sites to shield the ground floor from the noise-sensitive uses. • Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 8:00 a.m. to 5:00 p.m. on Saturday; and 12:00 p.m. to 4:00 p.m. on Sundays and holidays, or at such other hours that may be authorized and restricted by the permit, if they meet at least one of the following noise limitations: <ol style="list-style-type: none"> 3. No individual piece of equipment shall produce a noise level exceeding 90 dBA L_{eq} at a distance of 25 feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible. 4. The noise level at any point outside the site boundary shall not exceed 90 dBA L_{eq}. • Construction equipment staging areas shall be located as far as feasible from residential areas while still serving the needs of construction contractors. • Quieter “sonic” pile drivers shall be used, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations. • Ground-borne vibration impacts from construction activities shall be considered in the construction programs to minimize the disturbance to noise-sensitive receptors. • Routes for heavy construction site vehicles shall be identified, and contractors shall be required to use them exclusively to minimize noise and vibration impacts to residences and noise-sensitive receptors. • Activities that generate high noise levels--such as pile-driving and the use of jackhammers, drills, and impact wrenches--shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. 	<p>Reducing construction impacts on noise-sensitive receptors</p>	<p><i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following transfer of property, compliance with appropriate policies and regulations pertaining to noise will be triggered.</p> <p>All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.</p>	<p>City of Concord Department of Planning and Economic Development</p>

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Operational Noise	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-1; Book 2, Noise Policy SHN-6.6):</i> Require that new extensions of West Street and Denkinger Road be constructed using low-noise road surfaces and incorporate grading measures such as berms or other barriers to screen noise. Require developers to fund grants that will allow noise-sensitive receptors to install acoustical insulation.	Reducing operational impacts on noise-sensitive receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with appropriate agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Operational Noise Impacts on Residential Uses	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-2a; Book 2, Noise Policy SHN-6.1):</i> Before approval is granted for any residential uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the city. New residential development must demonstrate that the city’s “normally acceptable” noise standard can be achieved in exterior living spaces.	Reducing operational impacts on noise-sensitive receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with appropriate agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Operational Noise Impacts on Commercial Uses	<i>City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-2b; Book 2, Noise Policy SHN-6.1):</i> Before approval is granted for any commercial uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis. Construction of buildings for commercial use on land that is exposed to noise levels above the city’s noise standard shall only be undertaken after a detailed analysis of the noise-reduction and noise-insulation features needed to comply with city standards.	Reducing operational impacts on noise-sensitive receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Operational Noise Impacts on Public Parks and Schools	<i>City of Concord Area Plan (MMRP Mitigation Measure Noise and Vibration-2c; Book 2, Noise Policy SHN-6.1):</i> Before approval is granted for any public parks on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis that will be submitted to and accepted by the city. Public parks shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.	Reducing operational impacts on noise-sensitive receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Operational Noise Impacts on Residential Receptors	<i>City of Concord Area Plan (MMRP Mitigation Measure Noise and Vibration-3; Book 2, Noise Policy SHN-6.1):</i> Before approval is granted for any buildings that include habitable rooms on parcels on lands along the BART and SR 4 corridors and along Willow Pass Road, the city shall require developers to conduct an acoustical analysis demonstrating that the 45 dBA L _{dn} standard is achieved.	Reducing operational impacts on residential receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All building permits will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Operational Noise Impacts on Residential Receptors	<i>City of Concord Area Plan (MMRP Mitigation Measures Noise and Vibration-4, -6; Book 2, Noise Policy SHN-6.1):</i> Require any new development of the site to include noise-control measures at stationary sources to reduce impacts to noise-sensitive receptors. Prior to the issuance of building permits, the city shall require developers to submit engineering and acoustical specifications for project mechanical HVAC and utility transformers (including generators) to the planning department or other appropriate department, demonstrating that the equipment design (type, location, enclosure, specifications) could control noise from the equipment to at least 10 dBA below existing ambient noise levels at nearby residential and other noise-sensitive land uses.	Reducing operational impacts on residential receptors	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All building permits will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord Department of Planning and Economic Development
Transportation				
Increase in Traffic Volume at Area Intersections	<i>Mitigation Measure TT-1:</i> Ensure that roadway or traffic-flow improvements are incorporated as needed into development proposals to mitigate the impacts of the increase in traffic volume on level of service (LOS). These improvements would be coordinated with appropriate local and regional traffic and transportation planning agencies, and may include widening roadways to provide dedicated turning lanes, widening roadways to provide dedicated receiving lanes for through traffic, and other similar projects.	Reducing operational impacts at intersections	<i>Will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the city will coordinate necessary roadway and traffic-flow improvements with appropriate entities: Caltrans, the Metropolitan Transportation Commission (MTC), Contra Costa Transportation Authority (CCTA), and Regional Transportation Committees (RTPCs). This coordination will result in the placement of these projects on improvement program lists and/or identification of needed mitigation measures on final permits and authorizations as a condition of approval by the city.	City of Concord Department of Planning and Economic Development and/or future property developer(s)
Area Intersections	<i>City of Concord Area Plan (MMRP Mitigation Measure Transportation-3):</i> Monitor intersections impacted and develop updated traffic-volume forecasts based on the performance of the city's VMT reduction program as development occurs in the future.	Reducing traffic impacts on the area	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> As redevelopment of the site progresses, the city will monitor the intersections on or near the site. If conditions warrant, modifications to traffic-management solutions may be added as conditions of future development approval.	City of Concord Department of Planning and Economic Development
Area Transportation Networks	<i>City of Concord Area Plan (MMRP Mitigation Measure Transportation-4; Area Plan Book 2, Off-Site Impact Policy T-5.1):</i> Conduct a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures determined by the City of Concord in consultation with the affected jurisdictions. In addition, require future developers to contribute a traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance.	Reducing traffic impacts on the area	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the City of Concord will commission a Nexus Study for the entire site and use its results to identify specific impact fees for future components of development. All applicable development permits and authorizations will include the specified traffic impact fee and its payment as a condition of approval.	City of Concord Department of Planning and Economic Development and future property developer(s)
Utilities and Infrastructure				
Water Supply and Demand: Recycled Water	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-3b; Book 3, multiple Water Efficiency policies):</i> Use treated wastewater from CCCSD for approved uses, such as irrigation supply, to reduce the demand for potable water; provide CCCSD with data regarding future demand for untreated raw water supplies.	Reducing future water demand	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to the construction of any new development at the former NWS Concord, the city will coordinate with CCCSD for future recycled water provision. A written agreement with CCCSD will outline the recycled water provision and any infrastructure needs. This document will be shared with future property developer(s).	City of Concord Department of Public Works and Engineering and CCCSD
Water Supply and Demand	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-1b):</i> Implement demand-side management strategies (e.g., high-efficiency fixtures and appliances in residential units, high-efficiency irrigation systems, and water-wise landscape techniques for residential and commercial properties) to reduce water demand.	Reducing future water demand	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the city will coordinate with CCWD regarding the inclusion of demand-side management strategies. Once a final list of approved strategies has been developed, this list will be shared with future property developer(s) and included as a condition(s) in applicable city approvals and permits (i.e., building permits) and on applicable development plans.	City of Concord Department of Public Works and Engineering and CCWD

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Water Supply and Demand: Water Treatment and Distribution	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-6; Book 2, Water Service Policy U-2.1):</i> Coordinate with CCWD prior to development to ensure that adequate water supply, quality, and distribution and treatment infrastructure will be available, and that infrastructure is constructed to meet CCWD’s requirements and standards.	Ensuring sufficient water supply for future development	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the city will coordinate with CCWD regarding its ability to supply adequate water to the site and that the necessary distribution infrastructure exists. A written agreement with CCWD will likely be sought, outlining system capacities, and this agreement will be shared with future property developer(s) as part of the development review process.	City of Concord Department of Public Works and Engineering and CCWD
Recycled Water Distribution System	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-1C):</i> Require the installation of a “purple pipe” in outdoor irrigation systems throughout the project area.	Maximize the potential use of recycled water to reduce potable water demand	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, and once the City of Concord has finalized agreements with CCCSD regarding the provision of recycled water (see Area Plan Mitigation Measure Utilities-3b above) and CCWD regarding distribution infrastructure (see Area Plan Mitigation Measure Utilities-6 and Water Service Policy U-2.1 above), the city will require the installation of “purple pipe” as a condition of development approval in applicable authorizations and development permits.	City of Concord Department of Public Works and Engineering, CCWD, CCCSD, future property developer(s)
Recycled Water Distribution	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-4a):</i> Coordinate with CCWD to ensure that future development includes construction of the untreated water distribution system, storage tanks/ponds, filtering systems, and other facilities needed to supply recycled water in accordance with CCWD standards.	Maximize the potential use of recycled water to reduce potable water demand	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, and once the City of Concord has finalized agreements with CCCSD regarding the provision of recycled water (see Area Plan Mitigation Measure Utilities-3b above) and CCWD regarding distribution infrastructure (see Area Plan Mitigation Measure Utilities-6 and Water Service Policy U-2.1 above), the city will require, through development plan review, that each future developer provides the necessary facilities to accommodate their future land uses. Provision of such infrastructure will be a condition(s) of development approval and stipulated in an authorization or permit.	City of Concord Department of Public Works and Engineering, CCWD, future property developer(s)
Stormwater Management	<i>City of Concord Area Plan (Book 2, Water Quality Policy C-4.3):</i> Require that appropriate grading plans and stormwater control plans are submitted for compliance with the city’s municipal code and the joint municipal NPDES permit.	Reducing adverse impacts of increases in runoff flows	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord and as part of the development review process, the City of Concord will require that each developer provide a complete development submittal package, inclusive of an application for a grading permit and a stormwater control plan. These elements will become conditions of overall development approval by the city.	City of Concord Department of Public Works and Engineering, future property developer(s)
Stormwater Management	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-7; Book 2, Water Quality Policy C-4.2):</i> Require all development to include any needed storm drains that are not part of the city’s master storm drain system and to incorporate features into site improvement plans that would minimize surface runoff (e.g., additional landscaped areas and/or swales, permeable paving, etc.) and coordinate with CCCFC&WCD regarding adequate capacity to manage stormwater.	Reducing adverse impacts of increases in runoff flows	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord and as part of the development review process, the City of Concord will require that each developer provide a complete development submittal package, inclusive of detailed site improvement plans delineating all stormwater management BMPs to be employed onsite. These elements will become conditions of overall development approval by the city.	City of Concord Department of Public Works and Engineering, future property developer(s)
Wastewater Volume	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-2; Book 2, Wastewater Service Policy U-3.1):</i> Reach an agreement with CCCSD such that it commits to improving its collection system and treatment process and to pursuing a sufficient discharge limit, as needed in the future.	Ensuring compliance with effluent discharge limitations	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with CCCSD to reach an agreement regarding necessary collection and treatment process improvements to facilitate future development at the project site. A written agreement with CCCSD will be sought, outlining specific system improvements, and this agreement will be shared with future property developer(s) as part of the development review process.	City of Concord Department of Public Works and Engineering

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Electricity and Natural Gas	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-8, - 8b, -9a, and -9b; Book 2, Energy Infrastructure Policy U.7-1):</i> Coordinate with PG&E regarding planned future development, provide data for PG&E to assess the future electricity and natural gas demand, and require PG&E to demonstrate that it can provide necessary system upgrades and construct new electrical substations/gas regulating stations to meet future demand. Require the future developer(s) to study the environmental impacts of such facilities.	Ensuring adequate electricity and natural gas supply and distribution infrastructure	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with PG&E to reach an agreement regarding future provision of electricity and natural gas to the site. This coordination will include the provision of data on future electricity and natural gas demand projections for PG&E’s use in demonstrating that future demand can be met with specific upgrades and new facilities. A written agreement with PG&E will be sought, outlining specific system improvements, and this agreement will be shared with future property developer(s) as part of their development review process. Future property developer(s) will then use the information outlined in the agreement to address environmental impacts of proposed system upgrades.	City of Concord Department of Planning and Economic Development, future property developer(s)
Telecommunications	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-10):</i> Require communication providers to demonstrate that they can supply sufficient additional services to support future development.	Ensuring adequate communication infrastructure	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with regional communication providers to reach an agreement regarding future provision of communications to the site. A written agreement with applicable providers will be sought, and this agreement will be shared with future property developer(s) as part of their development review process.	City of Concord Department of Planning and Economic Development
Visual Resources				
Visual Resources: Views from Key Observation Points	<i>City of Concord Area Plan (MMRP Mitigation Measures Visual Resources-1 and -2):</i> Require developers to incorporate design BMPs into site development plans that would minimize impacts to views from SR 4 and the Sun Terrace Neighborhood.	Minimizing visual impacts	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the city will ensure the integration of design BMPs into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord Department of Planning and Economic Development, future property developer(s)
Visual Resources: Lighting	<i>City of Concord Area Plan (MMRP Mitigation Measure Visual Resources-4):</i> Require developers to incorporate light-reducing and light-controlling measures into site development plans.	Minimizing visual impacts	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following transfer of property, the city will ensure the integration of light-controlling measures into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord Department of Planning and Economic Development, future property developer(s)
Water Resources				
Groundwater Quality	<i>Mitigation Measure WR-1:</i> If dewatering is necessary, require an NPDES permit from the San Francisco Bay RWQCB to address dewatering.	Protecting groundwater resources	<i>Will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies--in this case, the San Francisco Bay RWQCB--to identify applicable permits/approvals. The developer will be required to obtain such a permit, and the permit will be a condition of overall development approval by the city.	City of Concord Department of Planning and Economic Development, future property developer(s)
Wetlands	<i>Mitigation Measure WR-2:</i> The City of Concord will ensure that minimization, avoidance, and mitigation measures that will be presented in the master CWA Section 404 permit from the USACE (and, as appropriate, permits and authorizations from the RWQCB) will be implemented to address potential impacts to USACE jurisdictional wetlands during implementation of the Area Plan.	Ensuring impacts on wetlands are mitigated	<i>Will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Additionally, the developer and the city will coordinate with the USACE and RWQCB regarding site-specific mitigation requirements. Obtaining authorization will be part of the city’s master 404 permitting process.	City of Concord Department of Planning and Economic Development, future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Site Disturbance	<i>City of Concord Area Plan (Book 2, Water Quality Policy C-4.3):</i> Site developers would be required to adhere to the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, including the development and implementation of a SWPPP.	Minimizing site-disturbance-induced impacts on surface waters	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Obtaining coverage under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity will be a condition of development plan approval, as appropriate.	City of Concord Department of Planning and Economic Development, future property developer(s)
Site Disturbance and Surface Water Quality	<i>City of Concord Area Plan (Book 2, Stormwater Management Policies U-5.2 and U-5.3):</i> Adhere to BMPs and standards stipulated in Section 86-39 of the city’s Stormwater Management and Discharge Control Ordinance and the city’s Grading and Erosion Control Ordinance.	Minimizing site-disturbance-induced impacts on surface waters	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the city will ensure the integration of design BMPs into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord Department of Planning and Economic Development, future property developer(s)
Filling Streams	<i>City of Concord Area Plan (MMRP Mitigation Measure Biological Resources-2; Book 2, Hydrology Policy C-3.5):</i> Prior to approving any activities involving impacts to Mt. Diablo Creek, require developers to demonstrate avoidance of creek impacts to the extent practicable. Require developers to mitigate permanent impacts to surface waters through adherence to USACE-, EPA-, and RWQCB-issued regulations governing compensatory mitigation for authorized impacts on streams. Mitigation will be required to be provided at a minimum 1:1 acreage ratio, and a site-specific mitigation plan shall be developed.	Ensuring impacts on streams and riparian habitat are mitigated	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Additionally, the developer and the city will coordinate with the USACE and RWQCB regarding site-specific mitigation requirements. Obtaining authorization will be part of the city’s master 404 permitting process.	City of Concord Department of Planning and Economic Development, future property developer(s)
Increasing Impervious Surfaces (Increased Stormwater Flows)	<i>City of Concord Area Plan (MMRP Mitigation Measure Utilities-7; Book 2, Stormwater Management Policies U-5.2 and U-5.3):</i> Require developers to manage stormwater discharges in accordance with the City of Concord’s Stormwater Management and Discharge Control Ordinance, including the development of a stormwater control plan that meets the criteria in the most recent version of the Contra Costa Clean Water Program C.3 Guidebook. In summary, the C.3 provisions require that certain new developments accomplish the following: <ul style="list-style-type: none"> • Design the site to minimize imperviousness; detain runoff; and infiltrate, reuse, or evapotranspire runoff, where feasible; • Cover or control sources of stormwater pollutants; • Treat runoff prior to discharge from the site; • Ensure runoff does not exceed pre-project peaks and durations; and • Maintain treatment and flow-control facilities. Additionally, adhere to BMPs and standards stipulated in the Stormwater Management and Discharge Control Ordinance.	Minimizing discharges to surface waters	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> During the city’s review and approval of applications for development following the transfer of property, the City of Concord will require that each developer provide a complete development submittal package, inclusive of an application for a grading permit and a stormwater control plan. Additionally, the City of Concord will require that each developer provide a complete development submittal package, inclusive of detailed site improvement plans delineating all stormwater management BMPs to be employed onsite. These elements will become conditions of overall development approval by the city.	City of Concord Department of Planning and Economic Development, future property developer(s)
Floodplains	<i>City of Concord Area Plan (Book 2, Flooding Policy SHN-2.6):</i> Require an approved Conditional Letter of Map Revision (CLMR) from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that no modifications to the floodway or special hazard area would result from redevelopment.	Protecting public safety	<i>Adopted in the Area Plan and will be implemented by the City of Concord.</i> Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with FEMA on obtaining the appropriate approvals for any development features to be sited in the 100-year floodplain.	City of Concord Department of Planning and Economic Development

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City of Pleasant Hill 100 Gregory Lane Pleasant Hill, CA 94523	City of Walnut Creek Planning Department 1666 N. Main Street P.O. Box 8039 Walnut Creek, CA 94596
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Mr. David Twa Contra Costa County Administration 651 Pine Street 10th Floor Martinez, CA 94553	Contra Costa County Airport Land Use Commission C/O Community Development Dept. County Administration Building 651 Pine St, 4th Floor, North Wing Martinez, CA 94553

County/Local Agencies	
Ms. Beth Lee, Assistant Director Contra Costa County Airports 550 Sally Ride Drive Concord, CA 94520	Contra Costa County Clerk P.O. Box 350 Martinez, CA 94553
Contra Costa County Department of Environmental Health. 2120 Diamond Boulevard. Suite 200 Concord, CA 94520	Mr. Jeff Carman, Chief Contra Costa County Fire District 2010 Geary Road Pleasant Hill, CA 94523
Ms. Lara Delaney, Co-Administrator Contra Costa County Library District 1750 Oak Park Boulevard Pleasant Hill, CA 94523	Ms. Susan Caldwell, Librarian Contra Costa County Library District 1750 Oak Park Boulevard Pleasant Hill, CA 94523
Mr. Craig Downs, General Manager Contra Costa County Mosquito Abatement District 155 Mason Circle Concord, CA 94520	Contra Costa County Public Health Services Attn: Public Health Administration 597 Center Ave Suite 200 Martinez, CA 94553
Contra Costa County Public Works Department 255 Glacier Drive Martinez, CA 94553	Ms. Carol Arnold Contra Costa County Resource Conservation District 5552 Clayton Road Concord, CA 94521
Ms. Roberta Goulart Contra Costa County Water Agency 651 Pine Street 4th Floor, North Wing Martinez, CA 94553-4711	Contra Costa Flood Control/Z-3B 255 Glacier Drive Martinez, CA 94533-4711
Contra Costa LAFCO Attn: Planning/Development Review 651 Pine Street 6th Floor Martinez, CA 94553	Contra Costa Transit Authority 2999 Oak Road Walnut Creek, CA 94957
Mr. Martin Englemann Contra Costa Transportation Authority 2999 Oak Road Suite 100 Walnut Creek, CA 94597	Mr. Mark Seedall, Principal Planner Contra Costa Water District P. O. Box H2O Concord, CA 94524-2099
Contra Costa County Dept. of Health and Drinking Water 1616 Capitol Avenue P.O. Box 997377, MS 7400 Sacramento, CA 95899-7377	Executive Director Contra Costa Housing Authority 3133 Estudillo Street P.O. Box 2759 Martinez, CA 94553
Contra Costa Health Services 50 Douglas Drive Martinez, CA 94553	Ms. Mary Rae Lehman, City Clerk Mount Diablo Health Care District 1950 Parkside Drive Concord, CA 94519

County/Local Agencies	
Los Medanos Hospital District P.O. Box 8698 Pittsburg, CA 94565-8698	Metro Transportation Commission 101 8th Street Oakland, CA 94607
San Francisco Bay Conservation & Development Commission 50 California Street #2600 San Francisco, CA 94111	Mr. Robert Sleppy, Chief Department of General Services Real Estate Services Division Environmental Services Section 9838 Old Placerville Road Suite B Sacramento, CA 95827
Ms. Deirdre Heitman San Francisco Bay Area Rapid Transit District 300 Lakeside Drive P. O. Box 12688 Oakland, CA 94604-2688	TRANSPAC Attn: Transpac Manager 296 Jayne Avenue Oakland, CA 94610
Mr. Brian Williams, Executive Director Sacramento Transportation Authority 431 I Street, Suite 106 Sacramento, California 95814	Mr. Dan W. Bailey, Chief Administrative Officer Sacramento Regional Transit District P.O. Box 2110 Sacramento, CA 95812-2110
Mr. Brian Holt, Senior Planner East Bay Regional Park District 2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605	Mr. Robert E. Doyle, General Manager East Bay Regional Park District 2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605-0381
Seismic Safety Commission 1755 Creekside Oaks Drive Suite 100 Sacramento, CA 95833	Mr. Ray Pyle Contra Costa County Community College 500 Court Street Martinez, CA 94553
Mr. Steven L. Goetz, Deputy Director Contra Costa County Department of Conservation and Development Community Development Division County Administration Building 651 Pine St., North Wing, 4th Floor Martinez, CA 94553-1229	Ms. Anne Muzzini, Director of Planning Central Contra Costa Transit Authority 2477 Arnold Industrial Way Concord, CA 94520-5326
Mr. Richard D. Grace, Assistant Fire Chief Contra Costa County Fire Protection District 2010 Geary Rd Pleasant Hill, CA 94523-4619	Mr. Richard Sinkhoff, Division Director Port of Oakland Environmental Division 530 Water St. Oakland, CA 94607
Attn: Environmental Division Port of Stockton 2201 W. Washington Street Stockton, CA 95203	Mr. Michael W. Wright, Director Community Reuse Planning City of Concord 1950 Parkside Drive, MS/56 Concord, CA 94519
Mr. Jim Nichols, Commander (Retired) Contra Costa County Sheriff's Department 651 Pine Street, 7th Floor Martinez, CA 94553	Ms. Beth Perrill, Sr. ROW Agent, Local Programs CalTrans District 4 111 Grand Avenue Oakland, CA 94612

City and County Elected Officials	
Mr. Tim Grayson, Mayor Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Mr. Ron Leone, Vice Mayor Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519
Ms. Edi E. Birsan, Councilmember Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Ms. Laura Hoffmeister, Councilmember Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519
Mr. Dan Helix, Councilmember Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Mr. Dan Kalb, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Patricia Kernighan, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 9461	Ms. Lynette Gibson McElhaney, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Libby Schaaf, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612	Ms. Noel Gallo, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Desley Brooks, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612	Mr. Larry Reid, Vice Mayor Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Rebecca Kaplan Councilmember at Large (President Pro Tem) Oakland City Council 1 Frank H. Ogawa Plaza, Suite 243 Oakland CA 94612	Mr. Hank Stratford, Mayor Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517
Mr. David Shuey, Vice Mayor Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517	Mr. Jim Diaz, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517
Mr. Howard Geller, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517	Ms. Julie K. Pearce, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517
Mr. Rob Schroder, Mayor Martinez City Council 525 Henrietta Street Martinez CA 94553	Mr. Michael Menesini, Vice Mayor Martinez City Council 525 Henrietta Street Martinez CA 94553
Mr. Mark Ross, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553	Ms. AnaMarie Avila Farias, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553

City and County Elected Officials	
Ms. Lara DeLaney, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553	Ms. Gayle McLaughlin, Mayor Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond CA 94804
Mr. Nathaniel Bates, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Ms. Jovanka Beckles, Vice Mayor Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804
Mr. Courtland "Corky" Boozé, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Mr. Tom Butt, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804
Mr. Jim Rogers, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Ms. Genoveva Garcia Calloway, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806
Jael Myrick, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Ms. Kathy Chao Rothberg, Vice Mayor San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806
Mr. Paul Morris, Mayor San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806	Ms. Cecilia Valdez, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806
Mr. Rich Kinney, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806	Mr. Sal Evola, Mayor Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565
Ms. Nancy Parent, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Will Casey, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565
Mr. Ben Johnson, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Bill Clarkson, Mayor San Ramon City Council 2966 Ascot Drive San Ramon, CA 94583
Mr. Pete Longmire, Vice Mayor Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Harry Sachs, Councilmember San Ramon City Council 44 Dos Rios Court San Ramon, CA 94583

City and County Elected Officials	
Mr. David E. Hudson, Councilmember San Ramon City Council 162 Pebble Place San Ramon, CA 94583	Mr. Scott Perkins, Councilmember San Ramon City Council 2764 Ellingson Way San Ramon, CA 94583
Mr. Philip G. O'Leane, Vice Mayor San Ramon City Council 2226 Camino Ramon San Ramon, CA 94583	Mr. Tim Banuelos, Mayor Pinole City Council 2131 Pear Street Pinole, CA 94564
Ms. Debbie Long, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564	Mr. Peter Murray, Mayor Pro Tem Pinole City Council 2131 Pear Street Pinole, CA 94564
Mr. Phil Green, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564	Mr. Jack Weir, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523
Mr. Roy Swearingen, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564	Mr. David E. Durant, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523
Mr. Michael J. Harris, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523	Ms. Cindy Silva, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596
Mr. Ken Carlson, Vice Mayor Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523	Mr. Bob Simmons, Mayor Pro Tem Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596
Mr. Timothy M. Flaherty, Mayor Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523	Mr. Justin Wedel, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596
Ms. Kristina Lawson, Mayor Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596	Ms. Candace Anderson, Supervisor, District II Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553
Ms. Loella Haskew, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596	Ms. Karen Mitchoff, Supervisor, District IV Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553
Mr. John M. Gioia, Supervisor, District I Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Keith Carson, President, District 5 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Ms. Mary N. Piepho, Supervisor, District III Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Richard Valle, Supervisor, District 2 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612

City and County Elected Officials	
Mr. Federal D Glover, Supervisor, District V Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Nate Miley, Supervisor, District 4 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Mr. Scott Haggerty, Vice-President, District 1 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612	Ms. Wilma Chan, Supervisor, District 3 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612

Educational Institutions	
California State East Bay, Concord Campus Attn: Coordinator Of Admin. Services 4700 Ygnacio Valley Road Concord, CA 94521	Dr. Nellie Meyer, Superintendent Mount Diablo Unified School District 1936 Carlotta Drive Concord, CA 94519
Mr. Joseph Marsich, Manager Research and Evaluation Mt. Diablo Unified School District 1936 Carlotta Drive Concord, CA 94519	Sonoma State University Anthropological Studies Center 1801 E. Cotati Avenue Rohnert Park, CA 94928
Mr. Leroy M. Morishita, President California State University, East Bay 25800 Carlos Bee Boulevard Hayward, CA 94542-3001	

Libraries	
Concord Library 2900 Salvio Street Concord, CA 94519	Pittsburg Library 80 Power Avenue Pittsburg, CA 94565
Pleasant Hill Library 1750 Oak Park Boulevard Pleasant Hill, CA 94523	

Utilities/Public Services	
Astound Broadband 215 Mason Circle Concord, CA 94520	Mr. Phillip Arndt Comcast 2500 Bates Avenue Suite A Concord, CA 94520
East Bay Municipal Utility District 375 11th Street Oakland, CA 94607	PG&E Attn: Planning/Development Review 1030 Detroit Avenue Concord, CA 94518-2487
Regional Water Quality Control Board San Francisco Bay Region Attn: Environmental Document Coordinator 1515 Clay Street Suite 1400 Oakland, CA 94612	

Local Organizations	
Ms. Lynn Overcashier Contra Costa Commute Alternative Network P.O. Box 23675 Pleasant Hill, CA 94523	Ms. Judy Corbett, Executive Director Local Government Commission 1303 J Street Suite 250 Sacramento, CA 95814
Mr. Tarry Smith Ambrose Recreation and Park District 3105 Willow Pass Road Bay Point, CA 94565	The County Connection Central 2477 Arnold Industrial Way Concord, CA 94520
TRANSPLAN Community Development Dept. 30 Muir Road Martinez, CA 94553	Mr. Samuel P. Tepperman-Gelfant Public Advocates 131 Steuart St. #300 San Francisco, CA 94105-1241
Lech Naumovich California Native Plant Society East Bay Chapter P.O. Box 5597, Elmwood Station Berkeley, CA 94705	Ms. Amie Fishman East Bay Housing Organizations 538 9th Street. #200 Oakland, CA 94807
Contra Costa Economic Partnership 1355 Willow Wy, #253 Concord, CA 94520	Ms. Eve Bach Arc Ecology 4634 Third Street San Francisco, CA 94124
Reverend Diana McDaniel Friends of Port Chicago P.O. Box 546 San Leandro, CA 94577	Ms. Christina Wong Greenbelt Alliance 1601 North Main Street, #105 Walnut Creek, CA 94596
Mr. Scott Cashen Mt. Diablo Audobon Society P.O. Box 53 Walnut Creek, CA 94596	Mr. Seth Adams Save Mount Diablo 1901 Olympic Boulevard, #230 Walnut Creek, CA 94596
Mr. Aaron Isherwood Sierra Club Environmental law Program 85 Second Street, 2nd Floor San Francisco, CA 94105	Ms. Celia Harris Human Impact Partners 274 14th Street Oakland, CA 94612
Mr. Bryan Balch Monument Community Partnership 1760 Clayton Road Concord, CA 94520	Ms. Nancy Marquez Contra Costa Interfaith Supporting Community Organization 724 Ferry Street, Martinez, CA 94553
California State Coastal Conservancy 1330 Broadway, 13th Floor Oakland, CA 94612-2530	East Bay Bicycle Coalition 2208 Shattuck Avenue Berkeley, CA 94704
Mr. Alex Lantsberg Carpenters Local 152 P.O. Box 4040 Martinez, CA 94553	Ms. Beverly Lane, President Contra Costa County Historical Society 610 Main Street Martinez, CA 94553

Local Organizations	
Mr. John Keibel Concord Historical Society 3203 Clayton Road #27 Concord, CA 94519	Ms. Nancy Woltering Land Conservation Associate II Save Mount Diablo 1901 Olympic Boulevard, Suite 320 Walnut Creek, CA 94596

Neighborhood Alliances	
Mr. Bill Miller Meadow Homes Neighborhood Alliance 1380 Traynor Road Concord, CA 94520	Ms. Cookie Moran Holbrook Neighborhood Alliance 3330 Esperanza Drive Concord, CA 94519
Ms. Donna Oliver Meadow Homes Neighborhood Alliance 2380 Sunshine Drive Concord, CA 94520	Ms. Grace Cooke Hillcrest Neighborhood Alliance 2911 Knoll Drive Concord, CA 94520
Ms. Kathy Gleason Concord Naval Weapons Station Neighborhood Alliance 4459 Crestwood Circle Concord, CA 94521	Mr. Paul Poston Sun Terrace Neighborhood Alliance 3732 Salsbury Lane Concord, CA 94520
Mr. Philip Schafer Dana Estates Neighborhood Alliance 3904 Bellwood Drive Concord, CA 94519	Ms. Sandy Bair 2779 Arygl Avenue Concord, CA 94519
Ms. Susan Metzger Sun Terrace Neighborhood Alliance 2231 Brunswick Concord, CA 94520	Concord Naval Weapons Station Neighborhood Alliance Attn: Paul Choisser PAC Environmental and Urban Land Use and Planning Consulting Services pacchoisser@yahoo.com

Tribal Entities	
Ms. Silvia Burley, Chairperson California Valley Miwok Tribe 10601 N. Escondido Place Stockton, CA 95212	Ms. Yvonne Miller, Chairperson Ione Band of Miwok Indians PO Box 699 Plymouth, CA 95669
Mr. Nick H. Fonseca, Chairman Shingle Springs Band of Miwok Indians 5281 Honpie Road Placerville, CA 95667	Ms. Katherine Erolinda Perez P.O. Box 717 Linden, CA 95236
Mr. Andrew Galvan The Ohlone Indian Tribe P.O. Box 3152 Fremont, CA 94539	Ms. Ramona Garibay, Representative Trina Marine Ruano Family 30940 Watkins Street Union City, CA 94587
Ms. Irene Zwierlein, Chairperson Amah/Mutsun Tribal Band 789 Canada Road Woodside, CA 94062	Ms. Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Costanoan P.O. Box 28 Hollister, CA 95024

Tribal Entities

Ms. Rosemary Cambra, Chairperson
Muwekma Ohlone Indian Tribe of the SF Bay Area
P.O. Box 360791
Milpitas, CA 95036