

CITY OF CONCORD



CONCORD REUSE PROJECT AREA PLAN

BOOK TWO: TECHNICAL CHAPTERS

Adopted by the Concord City Council on January 24, 2012



Area Plan At-a-Glance

You are reading the **Concord Reuse Project Area Plan Book Two: Technical Chapters.**

This is an overview of the three Area Plan Books that present the City's plans for the future of the former Concord Naval Weapons Station. This page shows how each document relates to the Planning Area and to the city as a whole, and indicates for what purposes readers should consult the various volumes.

2030 CONCORD GENERAL PLAN

APPLIES EXCLUSIVELY TO
THE CONCORD REUSE PROJECT AREA

APPLIES TO
THE ENTIRE CITY

APPLIES EXCLUSIVELY TO THE CONCORD REUSE PROJECT AREA			APPLIES TO THE ENTIRE CITY	
<p>CRP-Area Plan Book One Vision + Standards</p> <p>Part of the 2030 General Plan</p> <ul style="list-style-type: none"> ▶ Vision for the future of the Planning Area ▶ Policies and standards for development and conservation activities ▶ Overviews of specific technical topics 	<p>CRP-Area Plan Book Two Technical Chapters</p> <p>Part of the 2030 General Plan</p> <p>Background and policies specific to the Planning Area by topic:</p> <ul style="list-style-type: none"> ▶ Transportation + Circulation ▶ Conservation + Open Space ▶ Safety, Health, + Noise ▶ Community Facilities + Parks ▶ Utilities 	<p>CRP-Area Plan Book Three Climate Action</p> <p>Part of the 2030 General Plan</p> <ul style="list-style-type: none"> ▶ Strategies to reduce the climate impacts associated with implementation of the CRP-Area Plan. ▶ Implementation + Monitoring Program ▶ Principles, Policies, and Standards for Climate Action 	<p>Concord 2030 General Plan</p> <ul style="list-style-type: none"> ▶ Long-range comprehensive plan for the City of Concord ▶ Policies to guide development and conservation ▶ Priorities for more detailed programs and plans. ▶ Minor amendments refer to the CRP-Area Plan 	<p>Concord Housing Element</p> <p>Part of the 2030 General Plan</p> <ul style="list-style-type: none"> ▶ Analysis of the City's housing stock ▶ Plans for meeting future housing needs ▶ Response to Regional Housing Needs Allocation

READER'S PURPOSE

DOCUMENTS TO CONSULT

	Area Plan Book One	Area Plan Book Two	Area Plan Book Three	General Plan	Housing Element
Obtain a general understanding of the future vision for the Planning Area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understand the future vision for the Planning Area, and technical topics related to conservation and development in the area.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Review the entire set of General Plan policies that apply to the Planning Area.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Acknowledgements

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Introduction

Book Two of the Concord Reuse Project Area Plan provides background information and policy guidance on five broad topics:

- Transportation and Circulation
- Conservation and Open Space
- Safety, Noise and Health
- Utilities
- Community Facilities and Parks

Each of these topics is also addressed by an element of the Concord 2030 General Plan. The Area Plan applies the policies in the citywide elements more specifically to the CRP area to better guide the site's planning, development, and conservation. Whereas the citywide General Plan policies provide broad direction for decision-making, this document provides more detailed principles and policies that are necessary to fully achieve the community vision for the CRP area. The policies are intended to complement and augment those in other parts of the 2030 General Plan, and are fully consistent with the citywide elements as shown in Table 1-1.

The policies contained in Book Two provide technical guidance on key topics in order to position the area for long-term success.

▼ Table 1-1 Relationship between 2030 General Plan and Area Plan Books One and Two

Concord 2030 General Plan Element	Area Plan Book One	Area Plan Book Two
<p>Economic Vitality Addresses Concord’s fiscal health and economic base, including policies to strengthen downtown, support local business, and maintain vibrant shopping areas.</p>	<p>Addressed through a Home Page, as well as through the development program. Economic vitality policies helped shape the proposed mix and orientation of land uses on the site.</p>	<p>NA</p>
<p>Land Use * Provides the context for land use planning, including the future of neighborhoods, centers, employment districts, and open space. Also addresses community design.</p>	<p>Land Use is the major focus of Chapter 3 in Book One. The sitewide principles and standards complement policies in the citywide Land Use Element, while the District-level standards provide greater detail on land use for subareas of the site.</p>	<p>A separate land use chapter is not included, since Book One covers the fundamental topics related to land use on the site. The pattern of land uses set forth in Book One is a key part of the Plan’s approach to the conservation and safety topics addressed in Book Two.</p>
<p>Growth Management Complies with Contra Costa County Measures C and J, which mandate a General Plan Element covering congestion management, urban growth boundaries, and mitigation of development impacts on key services.</p>	<p>The standards for the circulation system and the strategies for open space protection in Chapter 3 of Book One complement policies in the citywide Growth Management Element.</p>	<p>Although there is not a dedicated chapter on Growth Management, relevant topics are covered in the Transportation, Utilities, and Community Facilities and Parks chapters. The policies are more detailed than those in the citywide element in some cases, reflecting the scale of the site and expectations for its development.</p>
<p>Transportation and Circulation * Addresses the movement of people and goods in and around the city. Contains policies for all modes of travel, including autos, trucks, buses, rail, bicycles, and pedestrians. Also addresses parking.</p>	<p>Chapter 3 in Book One describes the physical design of the multi-modal circulation network, including the road, transit, and bicycle and pedestrian systems.</p>	<p>The Transportation and Circulation Chapter in Book Two parallels the citywide Transportation and Circulation Element. Rather than physical design, Book Two focuses on transportation issues such as parking, transportation demand management, and long range transportation planning.</p>

The five chapters in Book Two share a common organization and format. Each chapter presents background data and text on particular issues related to the chapter topic. For instance, the Health and Safety chapter is organized into sections on seismic hazards, flood hazards, noise, and so on. In each case, the narrative is followed by numbered policies. The policies are organized to work in tandem with their counterparts in the citywide elements. For example, a policy in the 2030 General Plan’s Parks, Open Space, and Conservation Element calls for “habitat restoration in areas of special status species.” Policies in this Book advance this directive, describing the species to be protected and the priority locations for habitat restoration or replacement. This additional level of detail provides greater certainty and helps ensure that desired outcomes will be achieved.

▼ Table 1-1 Relationship between 2030 General Plan and Area Plan Books One and Two (cont'd)

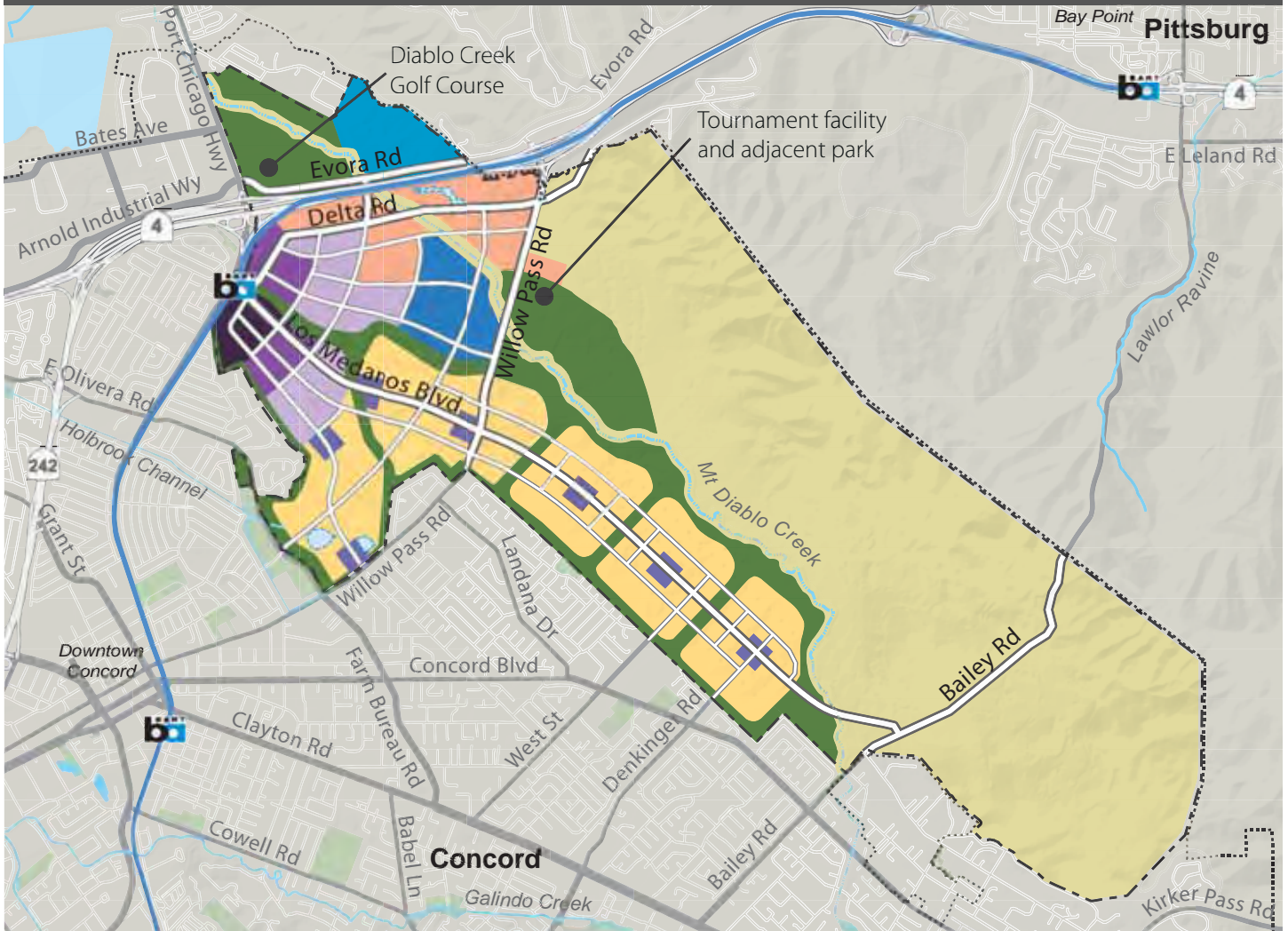
Concord 2030 General Plan Element	Area Plan Book One	Area Plan Book Two
<p>Parks, Open Space, and Conservation * Provides guidance for the preservation of the city's open spaces and natural resources. Covers parks, biological resources, wetlands, water, mineral resources, and historic preservation.</p>	<p>The Plan applies citywide open space and conservation policies to the site, and includes standards for future parks and conservation areas consistent with citywide directives.</p>	<p>The Conservation and Open Space chapter parallels the Conservation portion of the citywide Element. It deals specifically with open space and natural resources; parks are addressed under Community Services and Parks below.</p>
<p>Safety and Noise * Includes measures to minimize and mitigate exposure to air pollution, seismic hazards, wildfire, and flooding, as well as hazardous materials. Also addresses mitigation of noise impacts.</p>	<p>Safety is addressed on a Home Page. The Plan reflects citywide policies to minimize exposure to hazards and noise.</p>	<p>The Safety, Noise and Health chapter of Book Two parallels the citywide Safety and Noise Element. It deals more specifically with site-level environmental hazards, including seismic hazards, flooding, hazardous materials, and noise.</p>
<p>Community Facilities and Utilities Includes provisions for future schools, libraries, cultural facilities, drainage, water, sewer, and solid waste services based on expected growth and development patterns.</p>	<p>Community Facilities guidelines are included in Section 3.5 of Book One. Utilities are addressed on a Home Page.</p>	<p>Addressed in two chapters: Utilities and Community Facilities and Services. Both of these chapters complement the citywide Elements and are similarly structured, with narrative text followed by policies.</p>
<p>Climate Action Not a General Plan Element at the time of Area Plan adoption. Policies for the CRP area are compiled in Area Plan Book Three Climate Action Plan.</p> 	<p>Addressed through a Climate Action Home Page, as well as through a development program emphasis on transit-oriented development, and through site-wide development standards for climate action referenced in the Greenhouse Gas Reduction Program in Book Three.</p>	<p>The Transportation and Utilities chapters have the strongest interrelationship with the Climate Action Plan in Book Three. Many of the Transportation Chapter's policies are included in the Climate Action Plan as well.</p>

* Indicates State-mandated element

Book Two of the Concord Reuse Project Area Plan also provides additional detail on some of the concepts and proposals introduced in Book One. Whereas Book One emphasizes the overall vision for the site and a framework for its development and conservation, Book Two focuses more specifically on the natural and built systems that will shape the community. The "Home Pages" in Book One highlight information and policies in Book Two.

Table 1-1 provides additional detail on how the topics covered by the Concord 2030 General Plan are addressed in Books One and Two. Because many of the policies in Book Two refer to the Area Plan Diagram, it is reproduced here as Figure 1-1.

▼ Figure 1-1 Area Plan Diagram



Legend

Transit Oriented Districts



- North Concord TOD Core
- North Concord TOD Neighborhood

Neighborhoods



- Central Neighborhood
- Village Center
- Village Neighborhood

Civic and Institutional



- Campus
- First Responder Training Center

Commercial



- Commercial Flex

Conservation, Open Space and Recreation Lands



- Conservation Open Space
- Greenways, Citywide Parks, and Tournament Facilities

Not shown: Potential bike and pedestrian facilities in the Regional Park.

Primary Circulation Network



- === Through Streets
- === Collector Streets



0 1,250 2,500 5,000 Feet

- Planning Area Boundary
- City of Concord Boundary

- Seasonal Wetlands (delineated as of 2010)
- ◆ 2010 Concord parks

Activities Included

	Housing		Regional Auto Access
	Offices		Transit, Bicycling + Walking Priority
	Shopping		Parks and Recreation
	Schools + Public Facilities		Conservation and Species Protection
	Research + Development		

1.1 Using the Principles and Policies

This document uses principles and policies to guide future decisions for the CRP area in support of the citywide goals included in the 2030 General Plan. The first page of each chapter of this document includes excerpts of the relevant 2030 General Plan Goals. Area Plan principles and policies parallel the principles and policies in the citywide Concord 2030 General Plan in the following ways:

- Principles establish direction for a policy framework on a particular topic. Most of the principles in Book Two have a counterpart in the 2030 General Plan, and that counterpart is cited in each instance. Whereas the 2030 General Plan principles apply to the entire city, the principles in Book Two are focused on the CRP area.
- Policies provide more specific direction on how to achieve goals and principles by outlining actions, procedures, and techniques. The policies in Book Two are specifically directed to the CRP area but are fully consistent with those in the citywide plan. Policies are typically one to two sentences in length. Where additional information is needed to guide interpretation, italicized text is provided below the policy. The italicized text is not part of the policy itself.

As in the other books that comprise the Concord General Plan, the principles, policies, and standards are uniquely numbered for ease of reference. Each principle and policy is preceded by one or more letters, which refer to the chapter title. For example, Principle C-1 is the first principle of the Conservation and Open Space Chapter and Policy C-1.1 is the first policy under this Principle. The policies include key words in bold face to assist the reader in navigating the document and quickly scanning the subjects covered.

In addition to policies, Book Two includes background information, explanatory material and commentary. The purpose of this information is to explain the basis for Plan policies and to guide Plan implementation. The Book Two principles and policies will remain in effect even if background information, explanatory material or commentary becomes out of date.

1.2 Interpretation of the Concord Reuse Project Area Plan

Principles, policies, and standards in the Area Plan typically begin with an action-oriented verb expressing a directive for future decisions. The verb indicates whether a policy is mandatory or advisory.

- Policies beginning with “Require,” “Ensure,” “Mandate,” “Protect,” “Use,” and similar verbs indicate binding directives. The use of the words “shall” or “will” in a sentence likewise indicate binding directives. Conformity with such policies is necessary for proposals or actions to be determined consistent with the General Plan.
- Policies beginning with “Encourage,” “Strive,” “Support,” “Work with,” “Avoid,” “Minimize,” and similar verbs indicate more aspirational directives. While they carry the same weight as the mandatory policies, there is a greater degree of flexibility and discretion in their application. The word “should” in a sentence can be interpreted in a similar way. Conformance with such policies or demonstration of an alternative way to meet stated goals and principles is expected in order to achieve the aims of the General Plan.
- The use of the word “desired” in a policy indicates that implementation, while not mandatory, would promote the aims of the Area Plan.

- “May” indicates a policy that should receive consideration by project sponsors to identify opportunities to promote the aims of the Area Plan. “May” also indicates that there are multiple courses of action to achieve a given outcome.

Unless otherwise indicated in the language of specific principles, policies or standards, the responsibility for overseeing implementation rests with the City of Concord. Even where policies indicate activities related to private development, it is the City’s responsibility to ensure compliance through its regulations, review and approval processes, and operating procedures.

Where policies indicate activities related to other public agencies or special districts, it is the City’s responsibility to communicate the Plan’s intent and to work with these agencies to achieve desired results. In instances where the City’s jurisdiction is limited by state or federal law (for instance, policies applying to state universities or to the Navy), the policies should be considered by the affected agencies to the extent permitted by law, but may not be binding.

Book Two also includes figures that show the intended arrangement of future uses on the site, as well as the locations of parks, roads, bikeways, and other community improvements. These figures are generalized and are subject to refinement through more detailed surveys and planning processes. Minor changes to boundaries and alignments are acceptable as long as they do not conflict with the policies and standards of the Area Plan.

1.3 Relationship Between Book Two and Environmental Review Documents

Some of the policies in Book Two are derived from mitigation measures adopted through the environmental review process for the Concord Community Reuse Plan. A Final Environmental Impact Report (FEIR) for that Plan was certified in January 2010. Unless otherwise noted, all EIR references that appear herein are to that document (State Clearinghouse # 2007052094) and the accompanying Findings of Significance, Statement of Overriding Considerations and Mitigation and Monitoring Reporting Program.

Policies in Book Two are intended to supplement but not replace adopted CCRP FEIR mitigation measures. The mitigation measures are prescriptive steps that must be taken to address potential environmental impacts, whereas the policies are more general statements to guide decision making. The policies provide a framework that supports the future implementation of mitigation measures and associated monitoring activities.

Finally, references in this document to the “CRP” area or the “Planning Area” refer to the Inland Area of the Concord Naval Weapons Station (CNWS), as well as the adjoining North Concord /Martinez BART Station property. The CNWS Inland Area was previously the subject of a multi-year community-based planning process known as the Concord Community Reuse Project (CCRP).

Transportation and Circulation

2.1 Overview

This chapter complements the vision and standards for a multi-modal transportation system presented in Book One of the Area Plan. Together the standards in Book One and the policies in this chapter will ensure that the transportation network offers future residents, employees, and visitors multiple choices for commuting to work or school and for shopping, business, and recreation trips.

The CRP area is served by a transportation network that includes free-ways; arterial, collector, and local roadways; rail and bus transit; sidewalks, bicycle paths, and on-street bicycle facilities. At the time of Plan adoption, surrounding development is primarily auto-oriented, but the multi-modal standards presented in Book One will result in new communities that promote walking, bicycling, and transit while still accommodating car use.

The policies presented in this chapter support the circulation system design standards in Book One (Section 3.4) by addressing management, operational, and funding requirements. The topics addressed in this chapter are:

- ‘Complete streets’ and intermodal connectivity
- Emerging technologies
- Parking management
- Transportation Demand Management (TDM)
- Off-site impacts

2.2 Background

To complement the Area Plan Diagram, primary components of the circulation network within the CRP area are graphically represented in the Circulation Diagrams in Figures 2-1, 2-2, and 2-3. The circulation diagrams included in Books One and Two are identical. These diagrams designate the general location of complete street, bicycle, and transit networks. As required by state law, these networks—identified by line color and type—provide the basis for detailed design and implementation of a

2030 General Plan Goals Relevant to this Chapter

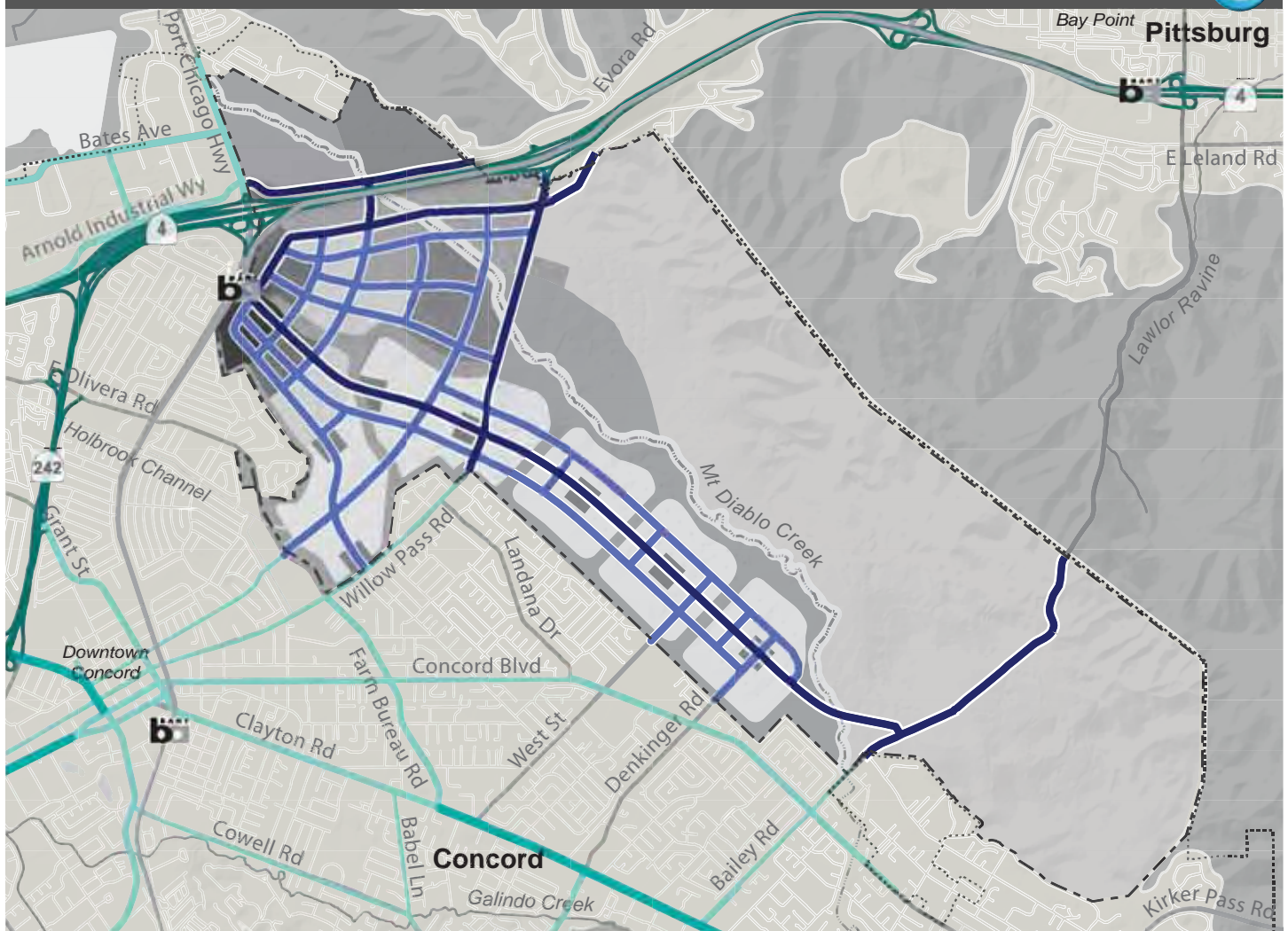
T-1: A safe and efficient multi-modal transportation system

GM-1: Reduce traffic congestion

GM-3: Reduce commute trips and commute length



▼ Figure 2-1 'Complete Streets' Network



Legend

Primary Site Circulation

- Through Streets
- Collector Streets

Primary Vicinity Circulation

- Highways
- 6-Lane Arterials
- 2-4 Lane Arterials
- 2-Lane Collectors (includes planned West Street extension)



0 1,250 2,500 5,000 Feet

Planning Area Boundary

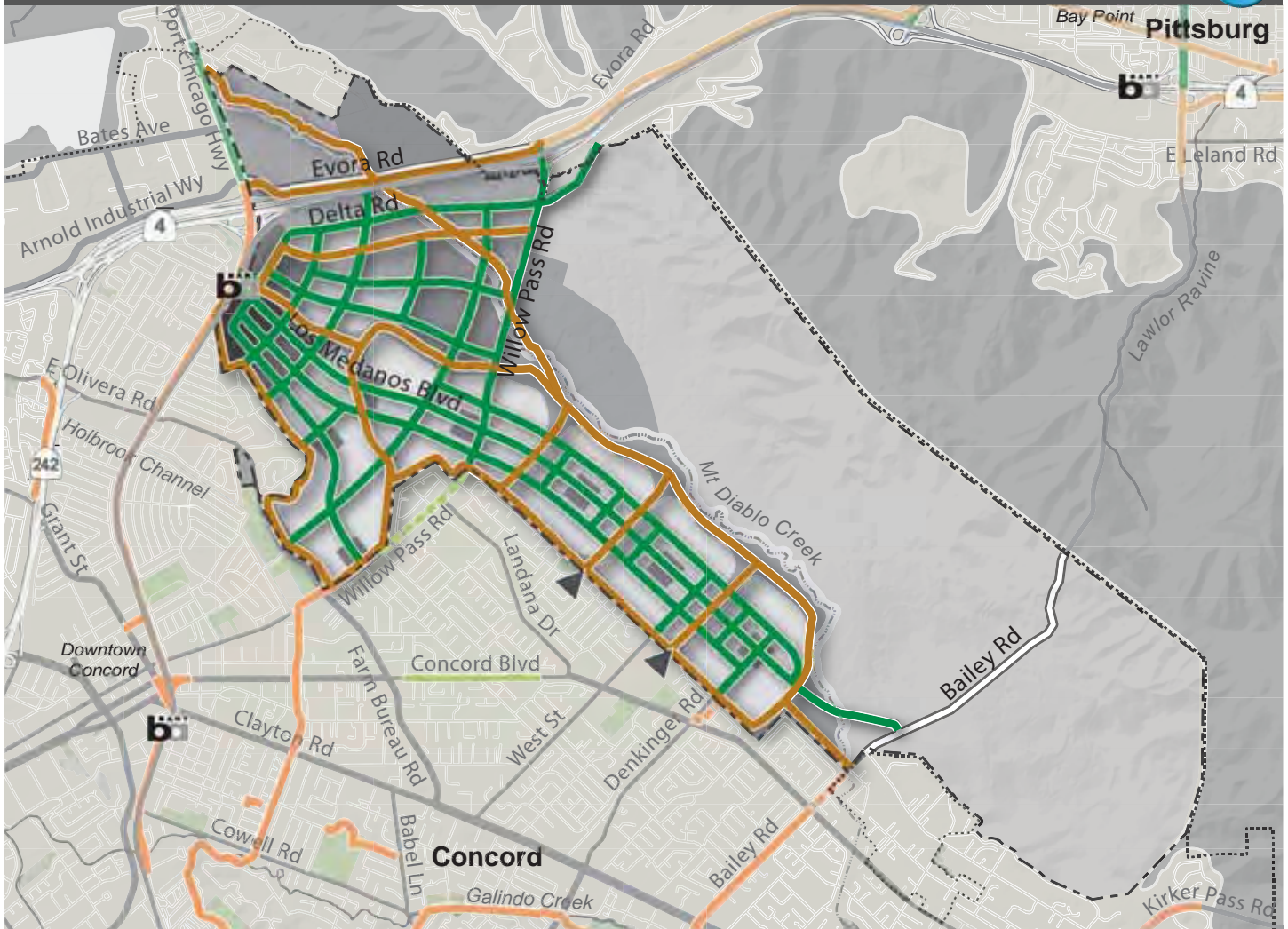
City of Concord Boundary

2010 Concord parks

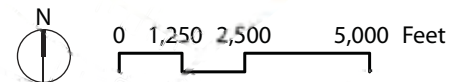
transportation network across the site. The location of elements of the circulation networks not shown on the diagrams—Local Streets, Paratransit, and Class III bicycle lanes—will be determined during subsequent phases.

The 'Complete Streets' Network (Figure 2-1), bike network (Figure 2-2) and transit network (Figure 2-3) are based on the circulation networks designed during the Reuse Process that formed the basis of the transportation analysis during the environmental review of the Reuse Plan. These networks are designed to support and be supported by planned development. Multi-modal streets link origins and destinations throughout the site and are complemented by off-street bikeways and pedestrian paths. The transit network connects major trip destinations along the most populated corridors. The policies in this chapter are essential components of the transportation plan for Concord Reuse Project area; they complement the multi-modal circulation system by increasing the convenience, attractiveness, and safety of non-auto travel.

▼ Figure 2-2 Bicycle Network



Legend



Site Bicycle Network

- Class I Paths (Off-Street Bicycle Path)*
 - Class II Lanes (On-Street, Dedicated)
- * Location and design of Class I Route along Mt. Diablo Creek subject to permitting.

- Planning Area Boundary
- City of Concord Boundary
- ◆ 2010 Concord parks
- Through Streets

2010 Off-Site Bicycle Network

- Concord Class 1** Path (Off-Street Bicycle Path)
 - Concord Class 3B** Lanes (On-Street, Dedicated)
 - Class I Paths (Off-Street Bicycle Path)
 - Class II Lanes (On-Street, Dedicated)
- **Reflect City of Concord bicycle facility designations.

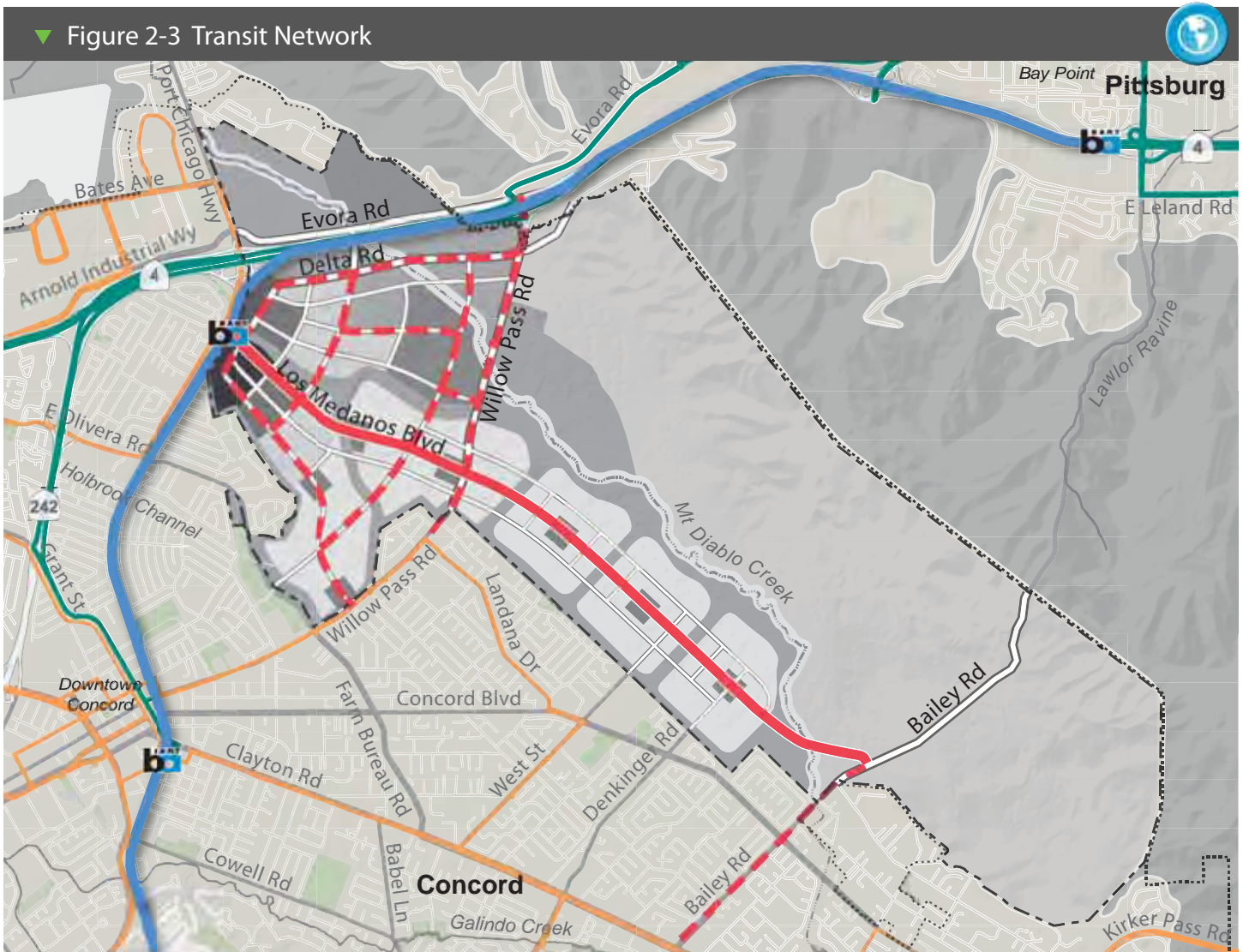
Not shown on map:

1. Class III Routes (On-street, Shared)
2. Concord Class 3A Routes (On-street, Shared)
3. Potential bike facilities in the Conservation Open Space planned for the EBRPD Regional Park.

Potential Extensions to Off-Site Bicycle Network

- Concord Class 1 Potential Extension
- Concord Class 3B Potential Extension
- ▶ Bicycle/pedestrian Link Connecting On-street to Off-street Networks

▼ Figure 2-3 Transit Network



Legend

Site Transit Service

- High Frequency Transit Service
- - - Potential Shuttle/Local Transit Routes

2010 Transit Service

- Bay Area Rapid Transit
- CCCTA County Connection
- Tri-Delta Transit



0 1,250 2,500 5,000 Feet

- Planning Area Boundary
- City of Concord Boundary

(Paratransit Not Shown)

The travel demand model used during environmental review of the Reuse Plan reflected the large-scale components of the future transportation network such as I-680, BART, Willow Pass Road, Bailey Road, and the new through streets Los Medanos Boulevard and Delta Road. The model did not represent the detailed physical design, funding, and programming outlined in the policies in this chapter. These policies are designed to provide additional benefits in terms of reducing auto use and increasing overall multi-modal accessibility in the Planning Area. The resulting operations are expected to be considerably improved when compared to the model results based on the less-detailed network in the model.

2.3 'Complete Streets' and Intermodal Connectivity

- ▼ Principle T-1: Provide a safe, attractive, accessible, and well connected transportation network that accommodates and balances the needs of pedestrians, bicyclists, transit users and motorists in the CRP area.

Corresponding 2030 General Plan Principles: T-1.1.1: Provide an easily accessible, functional, and attractive circulation network; T-1.4: Promote a well integrated and coordinated transit network; T-1.5: Provide safe and convenient pedestrian circulation; T-1.6 Provide a safe and comprehensive bicycle network.

- ▶ Policy T-1.1: Road Connections to Adjacent Neighborhoods

Provide road connections between the Planning Area and surrounding neighborhoods as shown on the Area Plan diagram. These connections include Arnold Industrial Way, Panoramic Drive, Willow Pass Road, Clayton Way, Bailey Road and extensions of Denkinger Road, West Street, Avila Road, Salvio Street, and a new street connecting to East Olivera Road. Do not provide additional connections for motor vehicles other than on the roads listed above.

- ▶ Policy T-1.2: Bicycle and Pedestrian Connections



Provide bicycle and pedestrian connections within Greenways shown on the Area Plan Diagram and in other locations where feasible to link the bicycle and pedestrian network in surrounding neighborhoods to the neighborhoods, workplaces, and commercial and recreational amenities in the Planning Area. (See Book Two, Policy T-1.2)

- ▶ Policy T-1.3: Comfortable Pedestrian Connections



In portions of development districts with significant topography, provide pedestrian connections at grades of 5% or less along public rights of way (e.g. streets and pedestrian paths) to enable comfortable access to key destinations such as the North Concord/ Martinez BART station and other portions of the site.

- ▶ Policy T-1.4: Safe Streets



Design public rights-of-way to help ensure personal safety through the use of techniques such as pedestrian-scale lighting, frequent ground floor windows facing sidewalks and pedestrian paths, and other techniques with demonstrated personal safety benefits.

- ▶ Policy T-1.5: Bicycle and Pedestrian Safety



Provide for the safety of bicyclists and pedestrians through low-speed streets, properly-sized bike lanes, continuous sidewalks, and crosswalks; and by implementing traffic controls which reduce conflicts with motor vehicles.

- ▶ Policy T-1.6: Transit Connectivity



Develop funding agreements with local transit operators, or require private operators, to provide frequent bus service between mixed-use districts, Village Centers, and commercial districts and to connect the CRP area to surrounding neighborhoods.

▶ Policy T-1.7: **Intermodal Connectivity**



Create a circulation system that provides easy connections from BART to bus and from both BART and bus to car-share, pedestrian and bicycle facilities that provide access to destinations throughout the CRP area. These connections are critical in making transit trips appealing and convenient.

▶ Policy T-1.8: **Car and Bike-Sharing**



Promote shared vehicles as an important part of the multi-modal transportation system.

Car- and bike-sharing can be convenient and green alternatives to owning multiple vehicles. Car sharing services owned by non-profit or private companies allow inexpensive and flexible use that can be focused on transit stations or other popular destinations.

▶ Policy T-1.9: **Transportation Education and Information**



Promote bicycling, walking, and transit use through public information and education relating to facilities, services, safety, schedules, environmental benefits, and related topics.

▶ Policy T-1.10: **Transit System Funding**



Require that project proponents present a plan for funding transit service consistent with the standards in the CRP Area Plan.

2.4 Emerging Technologies

New technologies can improve mobility while supporting the sustainability goals of the Area Plan. The City will assist in providing the infrastructure needed to accommodate alternative fuel vehicles, including electric cars. It will also support the design of roads, traffic signals, transit systems, and other transportation facilities in a way that facilitates the use of emerging technologies for travel on the site, and between the site and nearby communities.

- ▼ Principle T-2: Use emerging technologies and services to increase transportation system efficiency, such as neighborhood electric vehicles and infrastructure for alternative fueling and powering.



Corresponding 2030 General Plan Principle: None.

▶ Policy T-2.1: **Support Facilities for New Technologies**

Assist in providing support facilities for emerging technologies, such as alternative fueling stations.

▶ Policy T-2.2: **Electric Vehicles**

Encourage design of streets, circulation systems, and support facilities to promote the use of electric vehicles.

► Policy T-2.3: Alternative Technology Transit Vehicles



Support the use of transit vehicles and shared vehicles that use non-polluting technologies.

2.5 Parking Management

In conjunction with land use and connectivity strategies, parking management is an important tool in creating a multi-modal transportation system. There is widespread agreement that parking management is crucial to ensuring the success of other transportation demand management strategies. The amount, location, and design of parking greatly affects the pedestrian environment and transit use. Generally, the parking management strategies that are most effective in reducing the demand for parking, and consequently reducing driving, are ones that affect the cost and convenience of parking.

Most parking policies affect parking at work and shopping locations rather than at homes. Of the parking management strategies in the Area Plan, two policies affect residential parking: (1) Establish parking maximums in conjunction with appropriate minimum parking requirements and (2) Separate parking and housing costs in attached and multi-unit housing. The policy to establish parking maximums affects all development in the CRP area, not only residential development. Conventionally, the amount of parking for any land use (e.g., housing, offices, restaurants, shopping, etc.) is specified in the zoning code as the minimum number of parking spaces per unit of development (e.g., per thousand square feet for retail, or per single-unit home). In an area with compact development, good transit service, and a strong bicycle and pedestrian network, this can result in excess parking. With conventional minimum parking requirements, even if residents choose to own few cars, or employees choose to take transit to work, the zoning code requires a minimum number of parking spaces. An over-supply of parking increases the cost of development (and home prices), and can increase distances between destinations by using land for parking instead of development. By using maximum as well as minimum parking supply standards, the amount of parking can be specifically tailored to the development and the transit, bicycle, and pedestrian network around it. An adequate supply of parking spaces will be provided where needed to ensure that the overall development pattern is functional and desirable.

The policy to separate the cost of a multifamily housing unit from the cost of a parking space addresses a similar issue. When a parking space (or two parking spaces) “comes with” a housing unit, the tenant or owner must pay for the parking space (or spaces) even if it is not needed. This can increase the cost of a housing unit by as much as \$20,000, or significantly increase rental costs. By separating the cost of parking from the cost of housing (referred to as “unbundling”), residents can pay only for the amount of parking they need, thus reducing their housing costs. This is particularly effective in cases where two-driver households may choose to own only one car. This policy works especially well in conjunction with car-sharing. Households can own fewer cars while paying for fewer parking spaces, and use a shared car whenever needed. This policy makes car-sharing a more economical solution for drivers who only occasionally need access to a car.

The remaining parking policies affect only commercial and worksite parking. The Parking “Cash-out” strategy encourages employers who provide free parking to employees to also offer employees the option of receiving a cash payment instead of a free parking space at work. This policy has been implemented by some California employers in the last two decades and follow-up studies show that it can reduce the demand for workplace parking by 10 to 15 percent. The policy to provide preferential parking for car-share, carpool, and vanpool vehicles in workplace parking facilities encourages ride sharing, which is especially attractive when a parking cash-out program is in effect.

The parking pricing policy requires that public parking on-street and off-street be priced based on demand for parking. A significant amount of traffic in commercial areas is due to people searching for parking. With pricing managed to maintain an 85 percent occupancy rate for the parking spaces, it will be easier and faster to find an available parking space, reducing time and frustration for drivers, improving air quality, and reducing greenhouse gases from unnecessary driving in search of a parking space. A Parking Benefit District policy will ensure that merchants and businesses in the area will directly benefit from the parking pricing policy, not only from easier parking for customers, but from tangible improvements to the immediate area paid for by parking revenue.

- ▼ Principle T-3: Develop parking strategies for the CRP Planning Area that meet the needs of residents, workers, and visitors while supporting broader goals related to GHG reduction, sustainability, design, and reduced auto dependency.



Corresponding 2030 General Plan Principle T-1.3: Foster practical parking solutions

- ▶ Policy T-3.1: **Establish Parking Maximums**
Establish minimum and maximum parking supply rates based on case studies and research of parking supply and demand in comparable transit-oriented and mixed-use developments.
- ▶ Policy T-3.2: **Parking “Cash-out”**
Encourage employers who provide free parking to their employees to offer employees the option of receiving a cash payment equivalent to the out-of-pocket cost of the parking space instead of a free parking space at the worksite.
- ▶ Policy T-3.3: **Parking Pricing**
Charge for all public parking, both on-street and off-street, in all development districts except Village Neighborhoods, at variable rates based upon demand on different days and times with the objective of maintaining an average 85 percent parking occupancy rate. In Village Neighborhoods, implement residential permit parking.
- ▶ Policy T-3.4: **Separate Parking and Housing Cost**
Separate the price of any private parking spaces from the purchase or rental price of all residences in multi-unit buildings.
- ▶ Policy T-3.5: **Preferential Parking**
Provide preferential parking for car-share, carpool, and vanpool vehicles in all workplace and educational campus parking facilities.
- ▶ Policy T-3.6: **Parking Benefit District**
Establish a parking benefit district, or districts, enabling a portion of the net parking revenue (on-street and off-street) collected to be spent on multi-modal transportation and circulation system improvements or programs in the CRP area.

► **Policy T-3.7: Parking for Affordable and Senior Housing**

Adopt parking standards specific to affordable and senior residences that reflect the lower average car ownership of households in these restricted-occupancy housing types.

2.6 Transportation Demand Management (TDM)

Additional strategies to reduce driving and increase transit, walking, and bicycling include providing transit passes to residents and employees, implementing rideshare programs and a guaranteed ride home program, establishing a car-sharing program, and providing bicycle storage and a shared-bike program. Like all of the transportation policies, these strategies work best in conjunction with each other and in the context of compact, mixed-use, and connected neighborhoods.

Transportation Management Associations (TMA) can efficiently manage programs on behalf of employers and home owner associations. TMA activities will benefit all Concord residents by maximizing participation in programs that increase walking, bicycling, and transit use. On-going funding is essential to the success of a TDM program and is an important responsibility of the TMA. Financial participation in a TMA will be required of commercial property owners, homeowners associations, and property management agencies that exceed threshold size requirements to be established in regulations implementing the Area Plan. Collecting funds to administer sitewide programs reduces the administrative burden for individual employers and organizations and maximizes the available programs and benefits for all participants.

TDM policies are included in the Area Plan because of their demonstrated effectiveness in reducing driving. A study of major employers in Los Angeles showed that transit subsidies to employees reduced the number of people driving alone to work by 3 percent. According to the Institute of Transportation Engineers, carpool matching programs can reduce work trips by up to 20 percent (in situations with financial incentives such as parking cash-out and other parking management strategies), and vanpool programs can provide similar results. Guaranteed Ride Home programs can lead 2 to 5 percent of commuters to switch to ridesharing from a solo commute.

Car-sharing is a supportive policy to allow residents and employees to forego car (or multiple-car) ownership. Residents and employees can rely primarily on the transit, pedestrian, and bicycle networks, but use a shared-car when necessary.

Transportation Demand Management Policies

- ▼ **Principle T-4:** Manage travel demand in the CRP Planning Area to reduce emissions of greenhouse gases and criteria pollutants, manage congestion and make the most efficient use of transportation infrastructure.



Corresponding 2030 General Plan Principle GM-3.3: Reduce the use of single occupant vehicles during peak hours by Transportation Demand Management

► **Policy T-4.1: Transportation Management Association (TMA)**

Require commercial property owners, homeowners associations, and property management entities to financially contribute to a TMA, provided that they exceed threshold size requirements to be established in regulations implementing the Area Plan. The TMAs should coordinate and promote alternatives to single-occupant vehicle travel to residents, employers, and employees by implementing the policies of the Area Plan and sponsoring additional activities found to promote the vision of the Area Plan.

One or more TMAs may be established in the Planning Area. TMA activities could include collecting transit operations fees and distributing those fees to public or privately-run transit operators serving the Planning Area. TMAs will monitor and report on resident and employee participation in programs. TMA membership fees will be based on an analysis of the cost to implement the transportation demand management programs specified in the Area Plan and any other programs agreed upon by TMA members.

► **Policy T-4.2: Transit Passes**

Require all commercial property owners, property management entities, homeowner associations, and higher education institutions to participate in a TMA-administered transit-pass program or provide free or reduced-cost transit passes to all tenants and residents, provided they exceed threshold size requirements to be established in regulations implementing the Area Plan.

► **Policy T-4.3: Rideshare and Guaranteed Ride Home Programs**

Require commercial property owners and institutions to participate in a TMA-administered ride-matching, vanpool, and guaranteed ride home program, provided they exceed threshold size requirements to be established in regulations implementing the Area Plan.

► **Policy T-4.4: Car-sharing**

Establish an on-site car-sharing network across the Planning Area, either administered by the TMA or a commercial or non-profit provider. If feasible, car-sharing should use electric vehicles.

► **Policy T-4.5: Bicycle Parking**

Establish minimum bicycle parking supply rates and design standards based on case studies, research, and best practices for bicycle parking.

► **Policy T-4.6: Bicycle-Sharing**

Establish an on-site bicycle-sharing network, either administered by the TMA or a commercial or non-profit provider.

► **Policy T-4.7: Telecommuting and Alternative Work Schedules**

Encourage employers of 10 or more persons to implement telecommuting (e.g., two days/week working from home) and alternative work schedules (e.g., 9/80), providing incentives as appropriate.

► **Policy T-4.8: Mode Split Targets**

Implement transportation programs and policies to achieve the following mode-split targets starting in 2030, as measured during the peak hour of evening commute traffic:

- ▼ In the TOD Core and TOD Neighborhoods, less than 40 percent of all trips are to be made by single-occupant automobiles (i.e., 60 percent or more trips to be by transit, walking, bicycle, or carpool/vanpool).
- ▼ In all other Development Districts, less than 60 percent of all trips are to be made by single-occupant automobiles (i.e., 40 percent or more trips to be by transit, walking, bicycle, or carpool/vanpool).

2.7 Addressing Off-site Impacts

The scale of the CRP area means that impacts of Plan implementation will inevitably be felt off-site. The transportation analysis performed during environmental review of the CNWS Reuse Plan identified specific locations where auto traffic is expected to exceed capacity when the CRP area is fully developed. As previously described, the analysis was based on the roadway and transit network developed during the CCRP Process. The analysis also reflected planned off-site roadway network projects, including those listed in the Transportation and Circulation Element of the 2030 General Plan. However, the analysis did not consider the anticipated beneficial effects of the policies in this chapter on traffic. These policies are designed to decrease the amount of traffic throughout the Planning Area, the City of Concord, and surrounding jurisdictions when compared to the results of the FEIR traffic analysis.

In certifying the Environmental Impact Report, the City of Concord judged that the benefits of the Reuse Plan outweighed its unavoidable significant impacts. These benefits include opportunities to reduce auto dependency by providing increased transit options, adding bike paths and pedestrian trails, providing a development pattern with housing easily served by transit, and creating work sites that can take advantage of reverse commute capacity in transit systems and roadways. These features are incorporated into the Area Plan. Even with the implementation of these features and planned roadway projects, additional measures may be required in response to development in the CRP Planning Area. Opportunities to assess the need for such measures will be provided through detailed planning and environmental review activities associated with Area Plan implementation.

Off-site Impact Policies

- ▼ Principle T-5: Develop and implement strategies to mitigate off-site transportation impacts and fund off-site transportation projects related to the CRP area's development.

Corresponding 2030 General Plan Principle T-1.2: Ensure that transportation and circulation projects are adequately funded; GM-1.3.: Establish Basic Routes; GM-1.4: Ensure that new development pays its fair share of costs for transportation facilities.

- ▶ Policy T-5.1: Traffic Impact Fee

Require Area Plan developers to contribute a traffic impact fee to fund off-site transportation projects and mitigation measures.

A nexus study, required pursuant to the Mitigation Fee Act (AB 1600) shall be conducted for the entire site to establish an equitable traffic impact fee rate for different land uses to ensure that future development projects will contribute a fair share of the unfunded cost of planned projects and mitigation measures determined cooperatively by the City of Concord and other affected jurisdictions.

- ▶ Policy T-5.2: Interagency Coordination

Coordinate with affected jurisdictions, including neighboring cities, Caltrans, and Contra Costa County, prior to the approval of specific development projects with the goal of reaching agreement on the appropriate mitigation measures to address impacts in the respective agencies' jurisdiction.

The City of Concord will work collaboratively with affected jurisdictions to identify specific performance criteria and projects to mitigate adverse or significant impacts. Mitigation measures may include but are not limited to capacity increases, TDM measures, arterial traffic management tools, and signal timing upgrades. This cooperative regional process will be conducted in accordance with the TRANSPAC Subregional Transportation Mitigation Program (STMP) of the Central County Action Plan for Routes of Regional Significance.

- ▶ Policy T-5.3: Multi-modal Transportation Infrastructure

Identify local transportation infrastructure projects required to mitigate impacts from development in the CRP area through the Assembly Bill (AB) 1600 study process. As warranted by the study process outcomes, require developers in the Planning Area to contribute to the traffic impact fee to pay for those projects. Implementation of TDM and parking management programs will support the use of alternative transportation modes, thus lessening traffic impacts.

Conservation and Open Space

3.1 Overview

This chapter provides an overview of earth, water, biotic, and cultural resources in the CRP area. It includes policies that ensure that these resources will be conserved and carefully managed in the future. The policies complement the land use principles, policies, and standards in Book One, as well as the climate change policies in Book Three.

Policies and standards throughout the Area Plan will work in concert with the activities of regional, State and federal agencies to protect the natural resources of the Planning Area. These agencies have permitting authority that can be transferred to the City through the issuance of site-wide master resources permits. Some of the policies in this Chapter are by necessity general, in anticipation of specific permitting requirements to be established following Area Plan adoption and in advance of development and restoration activities on the site.

The CRP area encompasses an ecologically diverse natural environment. Despite many years of agricultural and military activities, the site continues to provide important habitat for many species of plants and animals. The site includes a distinct natural landscape defined by rolling grassy hills, riparian vegetation, stands of oak, plantations of pine and eucalyptus, stock ponds and small wetlands, and remnant orchards. According to the CCRP FEIR, over 70 percent of the site was undeveloped open space as of 2009 and had not been altered by prior munitions storage and related activities.

The specific topics addressed in this chapter (in the order in which they appear) are:

- Resource Protection and Planning
- Topography and Landform
- Hydrology
- Water Quality
- Vegetation and Wildlife
- Special Status Species
- Historic and Archaeological Resources

2030 General Plan Goals Relevant to this Chapter

POS-2: A protected and accessible open space system

POS-3: Well-planned natural resource conservation

POS-4: Preserve historic and archaeological resources

3.2 Resource Protection and Planning

The proposed Plan has been shaped by the objectives of preserving natural resources while accommodating a range of development and recreational activities. The areas that include the most diverse biological resources in the Planning Area—the Los Medanos Hills and the Mt. Diablo Creek Corridor—will be permanently protected as Conservation Open Space. The Key Initiatives identified in Book One highlight the major activities that will be undertaken to advance the implementation of the land preservation and conservation policies in this chapter.

The overarching resource protection goal in the CRP area is to avoid impacts to sensitive natural resources such as wetlands and the habitat of special status species. Where impacts cannot be avoided, they should be minimized and mitigated to the greatest extent feasible. The “avoid, minimize, mitigate” philosophy is further articulated in Principle C-1 below.

- ▼ Principle C-1: Avoid adverse impacts on sensitive natural resources. If adverse impacts cannot be avoided, take steps to minimize them. If impacts remain unavoidable, mitigate them to the greatest extent practical.

Corresponding 2030 General Plan Principle POS-2.2: Preserve natural resources within designated open space.

- ▶ Policy C-1.1: Resource Conservation

Encourage new development to preserve natural elements that contribute to the community’s ecological value and aesthetic character.

- ▶ Policy C-1.2: Natural Resources Permits

Obtain Natural Resources Permits for the entire site that incorporate the State, federal and regional resource agency conditions and approvals that would otherwise be required as specific development projects are proposed.

In 2010 the City initiated the process of obtaining sitewide natural resource permits for all planned development districts and conservation open space. To secure the permits, the City will prepare a master resource conservation strategy which outlines the steps to be taken to avoid, minimize, and mitigate impacts on wetlands, creeks, and other protected resources to the greatest extent feasible. The City, as the applicant, will continue to work with the regulatory agencies to develop a coordinated approach to meeting permitting requirements in order to expedite the approval of future development projects as well as the creation of replacement habitat. Individual developers, including public entities receiving lands through public benefit conveyance, will also have to comply with the applicable mitigation measures in the January 2010 Final Environmental Impact Report for the Community Reuse Plan and any additional mitigation measures imposed by state and federal agencies through the permits

- ▶ Policy C-1.3: Public Education

Support efforts to educate and inform residents about the unique natural resources in the CRP area and the efforts being made to protect and restore habitat integrity.

► **Policy C-1.4: Stewardship**

As the CRP area is developed, encourage community volunteerism and stewardship in the protection and restoration of its natural resources.

3.3 Topography and Landform

The CRP area ranges in elevation from 100 feet above sea level near State Route 4 to about 1,000 feet above sea level on the northeastern edge of the site. Its two major landforms include the Clayton Valley, a broad flat area that encompasses the southwestern part of the site, and the Los Medanos Hills in the northern and eastern parts of the site. Beyond the site's northeastern boundary, the Los Medanos Hills rise to elevations of greater than 1,400 feet. The Hills provide visual definition between the Diablo Valley and the Pittsburg/ Antioch area. Slopes on the site range from zero across much of the southwestern area to over 50 percent in the Los Medanos Hills (see Figure 3-1).

The Area Plan locates most future development on the valley floor and preserves significant hillsides and steeper slopes as open space. As noted in Area Plan Book One, Section 1.5, the specific location of greenways and boundaries of districts may shift so that key topographic features can be incorporated into the greenways and mass grading can be avoided. Portions of development districts with significant topography will be designed to provide comfortable, convenient access to other portions of the site—such as the North Concord BART Station from the North Concord TOD Neighborhood. In addition, these portions of development districts may be locations for large-lot housing. This will minimize the need for grading, reduce erosion and landslide hazards, and preserve the visual profile of the site and more distant hills from other parts of Concord and nearby communities. Preserving the Los Medanos hills as open space also will help protect the habitat of a number of special status species, as noted later in this chapter. Within the site's Development Districts, roads and pathways will respect natural contours, while buildings will be designed to limit large scale grading and maximize view opportunities.

▼ **Principle C-2: Protect ridgelines and visible hillsides in the CRP area.**

Corresponding 2030 General Plan Principle LU-10.1: Protect ridgelines and visible hillsides.

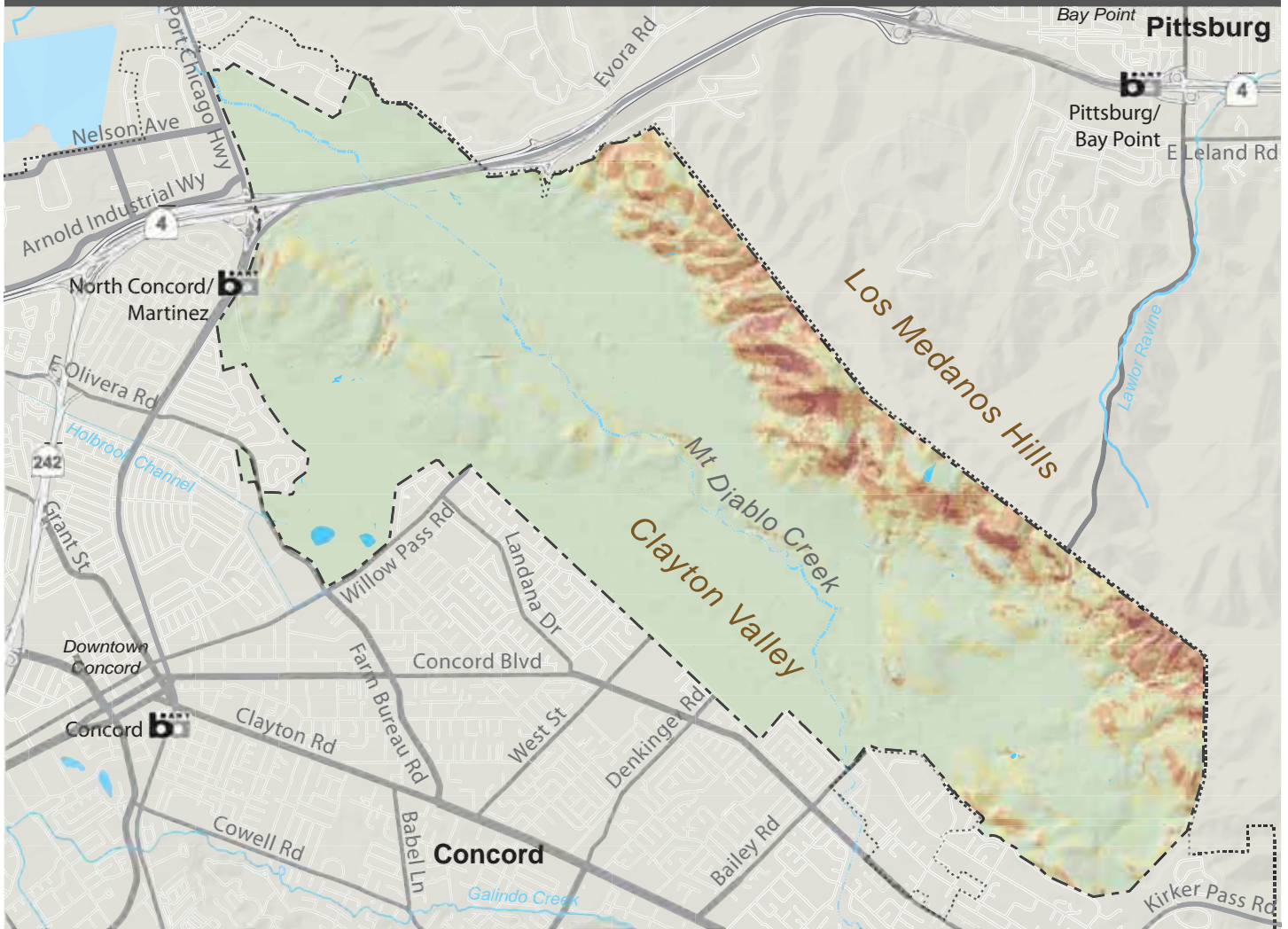
► **Policy C-2.1: Hillside and Ridgeline Protection**

Require new development to use natural landform as a key determinant of land use and urban design. This shall include preservation of hillsides and ridgelines, and conservation as permanent open space of the Los Medanos Hills and area south of Bailey Road.

► **Policy C-2.2: Slopes Over 30 Percent**

Limit development on slopes that are 30 percent or greater. Where such slopes occur within the areas shown for urban uses on the Area Plan Diagram, they should generally be set aside as public or private open space in order to minimize the need for grading and earth movement. In the areas closest to the North Concord / Martinez BART station, some development on steeper slopes may be acceptable in order to maximize transit-oriented development opportunities.

▼ Figure 3-1 Topography and Landform



Legend

- 0-15% slope
- >15-30% slope
- >30-50% slope
- +50% slope

N

0 1,250 2,500 5,000 Feet

- - - - Planning Area Boundary

..... City of Concord Boundary

Topography Data Sources: Percent slope derived from United States Geological Survey 10-meter digital elevation models, 1997. City of Concord General Plan, 2006.

► **Policy C-2.3: Enhancing Natural Drainage Patterns**

Preserve natural drainage patterns and watersheds on the site, and enhance the beneficial uses associated with Mt. Diablo Creek and other drainage features.

► **Policy C-2.4: Open Space and Community Character**

Use open space to delineate the edge of the urbanized area, to frame new and established neighborhoods, to retain the visual profile of the site from other parts of Concord, and to maintain a distinct boundary between the Diablo Valley and the communities to the east.

► **Policy C-2.5: Grading and Earth Movement**

Conduct detailed site planning that limits the need for excessive grading. Where grading does occur, promptly revegetate disturbed areas to avoid erosion and minimize soil loss.

3.4 Hydrology

Mt. Diablo Creek is the primary hydrologic feature of the CRP area, entering near Bailey Road and flowing northwesterly and under State Route 4 before flowing to tidal wetlands and Suisun Bay. More than 75 percent of the site drains toward this creek. The watershed originates on the north slope of Mount Diablo and includes portions of the cities of Clayton and Concord, as well as portions of unincorporated Contra Costa County. A number of tributaries feed the creek, including Rattlesnake Creek in the southwestern part of the site and Willow Pass Creek in the northeastern area near Highway 4. About 20 percent of the CRP area, including areas along the western border, drains west toward the Holbrook Channel and Walnut Creek to the south.

Mt. Diablo Creek is an ephemeral creek, meaning it does not flow during the dry season. However, the creek is prone to overbank flooding at certain locations during heavy winter rains. The creek itself has been rerouted and substantially altered over time, with modifications dating back to the 1880s. Military use of the site required road crossings and culverts, channelization, bank revetments and other direct alterations. The creek has also been compromised by years of grazing, which has produced sedimentation and bank erosion.

There are two canals on the site, both built in the 1940s. Both are owned by the Bureau of Reclamation and leased to the Contra Costa Water District (CCWD). The Contra Costa Canal transports water from the San Joaquin-Sacramento River Delta to Martinez, and is in use in 2011. The Clayton Canal, a lateral to the main Contra Costa Canal, is not in use at the time of Area Plan adoption. Both canals can be retained in the future, in which case they should be regarded as potential design elements in later site planning. Alternatively, the Contra Costa Canal could be undergrounded and the Clayton Canal could be abandoned, subject to applicable regulations and procedures.

Other hydrologic features include small ponds and springs, generally located in areas planned as Conservation Open Space. These will be permanently protected as development takes place. There are two springs used as a water supply for wildlife and cattle, and one spring at a former ranch house that has been capped.

The entire CRP area is underlain by a groundwater basin, consisting of thick alluvial deposits such as sand and gravel underneath a layer of clay. Groundwater is found at depths of 30 to 50 feet. In 2011, groundwater is used for livestock wells and irrigation of the Diablo Creek Golf Course.

Protection of water resources has been a major consideration in the development of the Area Plan. Localized changes in drainage patterns will take place as the site is developed, but watershed boundaries will not be altered and the major water features will remain. Restoration of Mt. Diablo Creek is a central component of the Plan, with the Creek Corridor designated as Conservation Open Space. The creek will form a green corridor across almost the entire site, with broad setbacks planned to protect and restore riparian vegetation. Likewise, the Contra Costa Canal and the Clayton Canal provide potential alignments for the greenways west of Willow Pass Road.

Most of the water features in the CRP area, including wetlands, are under the jurisdiction of the US Army Corps of Engineers through Section 404 of the Clean Water Act. The discharge of dredged or fill material into these areas requires a permit, including State certification that water quality standards will not be violated. The Regional Water Quality Control Board (RWQCB) also regulates discharges to surface water and wetlands under the Porter-Cologne Act.

▼ Principle C-3: Preserve, protect, and enhance hydrologic features in the CRP area.

Corresponding 2030 General Plan Principle: None.

► Policy C-3.1: Coordination with Resource Agencies

Work with regional, state and federal resource agencies with permitting authority relating to hydrology and creek habitat to obtain necessary permits as part of the sitewide process discussed in C-1.2 and to establish requirements for restoration and flood control activities.

Permits are expected to include requirements for a buffer area along Mt. Diablo Creek and specific mitigation requirements that would be associated with any loss of riparian and aquatic habitat. In the event of conflicts between the conditions of such permits and policies included in the General Plan, permit provisions shall govern.

► Policy C-3.2: Creek Restoration and Flood Control Plan for Mt. Diablo Creek

Coordinate with regional, state and federal resource agencies as part of the site-wide permitting process to develop detailed plans for the restoration of Mt. Diablo Creek, accommodating the need for flood control while also restoring aquatic conditions within the creek channel and riparian habitat along the banks and, as appropriate, accommodating passive recreational uses.

► Policy C-3.3: Balancing Flood Control and Creek Restoration

Consistent with applicable regulations and permits, require future development to incorporate creek restoration and flood control measures along Mt. Diablo Creek that increase flow capacity within the channel, increase the extent of riparian vegetation, enhance habitat value, and improve passage for aquatic species. Flood control projects should be viewed as an opportunity to improve habitat and restore natural features.

- ▶ **Policy C-3.4: Bridge Construction**
Design and construct bridges across Mt. Diablo Creek in a way that minimizes impacts on stream flow, riparian vegetation, aquatic species, and stream ecology. Place fill or structures outside of the channel to the maximum extent feasible, and use native soil and other natural materials when disturbances are necessary.
- ▶ **Policy C-3.5: Avoidance and Mitigation of Habitat Impacts**
Avoid adverse impacts to riparian and aquatic habitat through site planning and construction practices. Any loss of habitat shall be mitigated consistent with permit requirements and the measures specified in the CCRP FEIR (January 2010).
- ▶ **Policy C-3.6: Restoration of Smaller Streams and Tributaries**
Subject to provisions of applicable permits from resource agencies, explore opportunities to restore smaller streams and tributaries on the site, through methods including daylighting buried culverts, restoring the natural drainage course near the former airfield that conveys perennial flows, and enhancing Willow Pass Creek.
- ▶ **Policy C-3.7: Contra Costa and Clayton Canals**
Retain both the Contra Costa and Clayton canals for purposes of integration with recreation and open space connectivity, unless evaluation of cost and off-site impacts lead to a determination that undergrounding (Contra Costa canal) or abandonment (Clayton canal) are superior options.

3.5 Water Quality

Water quality is regulated by the RWQCB in accordance with federal and State standards for pollution control. The Water Quality Control Plan for the San Francisco Bay Basin, prepared by RWQCB, identifies and protects the beneficial uses of the Bay Area's surface waters. For Mt. Diablo Creek, these uses are identified as Cold Freshwater Habitat, Fish Migration, Fish Spawning, Warm Freshwater Habitat, Wildlife Habitat, Water Contact Recreation, and Non-contact Water Recreation. Surface water monitoring in Mt. Diablo Creek has been underway since 2008. Conditions in the creek may be acceptable to support steelhead trout and other cold water species during wet winters, but not during times of low precipitation. In 2008, the RWQCB identified the pesticide Diazinon as a pollutant of concern in the creek.

Development of the CRP area will be accompanied by measures to protect water quality in Mt. Diablo Creek, Holbrook Channel, and Suisun Bay. As roads and buildings are constructed, a new storm drain system will convey runoff, with design features that reduce erosion and best management practices (BMPs) to reduce overall runoff volumes. To the extent possible, storm drain outfalls will be designed to coincide with road crossings and other engineered structures to further protect against erosion impacts.

Proposed development will also comply with the Contra Costa Clean Water Program's Joint Municipal National Pollutant Discharge Elimination System (NPDES) permit. This will reduce the potential for pollution associated with fertilizers, litter, heavy metals, oil and gas residues, and other materials that may be washed into the storm

drain system. The NPDES permit requires treatment and source control measures to address these potential sources of pollution both during and after construction. These measures will be described in a Stormwater Pollution Prevention Plan to be prepared before development begins. The Plan will include measures to minimize impervious surface area, replant disturbed areas, prevent erosion, limit earth moving activities, and avoid hazardous material spills, along with other programs to minimize and control potential pollution sources.

▼ Principle C-4: Preserve and Protect Water Quality in the CRP area.

Corresponding 2030 General Plan Principle POS-3.1: Preserve and Protect Water Quality.

► Policy C-4.1: Reducing Runoff

When designing new neighborhoods and development districts, use best management practices (BMPs) or technologies that minimize the amount of impervious paving and urban runoff.

► Policy C-4.2: Construction BMPs

Consistent with requirements and programs of the RWQCB, implement best management practices for water quality during construction to minimize the transport of sediment and other harmful materials into drainage ways, creeks, and downstream areas.

In addition to containing sediment and stabilizing soils during construction, best management practices should address the potential for spills, reduce the effects of heavy equipment and vehicles, and minimize the impact of urban runoff during post-construction conditions.

► Policy C-4.3: Stormwater Pollution Prevention Plan

Prior to approving any development, prepare a Stormwater Pollution Prevention Plan as required by the RWQCB.

The Plan can be initiated by the City at a general level of detail, with additional specificity prepared by developers for specific sites. The Stormwater Pollution Prevention Plan will be updated as needed to reflect the evolution of stormwater Best Management Practices. The Plan can be prepared for the site in portions or as a whole. It will include measures to minimize and control potential pollution sources, including limits on impervious surface coverage within future development districts, requirements for replanting of disturbed areas, erosion control strategies, limits on grading and earth moving, containment plans for hazardous material spills, and other programs which prevent contaminated runoff.

► Policy C-4.4: Interagency Coordination for Water Quality

Coordinate water quality improvements with appropriate agencies, including the County Flood Control and Water Conservation District, RWQCB, Army Corps of Engineers, California Department of Fish and Game (CDFG), and the CCWD.

3.6 Vegetation and Wildlife

Upland Habitat

As indicated on Figure 3-2, the largest habitat type on the former CNWS Inland Area is annual grassland, most of which contains non-native invasive species. All habitat type data in this document comes from the biological study conducted for the FEIR of the CCRP, which extended beyond the Area Plan boundaries to include 5,213 total acres of survey area, rather than the 5,046-acre Planning Area to which the standards in this document pertain. According to the survey, California annual grassland covers over 81 percent of the area. Another 10 percent consists of urban uses, including buildings and infrastructure developed by the Navy and the Diablo Creek Golf Course. The other 9 percent includes a mosaic of small but collectively important habitats, including oak/woodland savannah, orchards and plantations, and riparian woodland. Seasonal wetlands and freshwater marshes make up about 23 acres, or less than one-half of one percent of the total area. The general location of habitats in the CRP area is shown in Figure 3-2.

The CRP area's grasslands are dominated by non-native, invasive plants. There are a few areas in the Los Medanos Hills where native grasses and wildflowers appear, generally where steep slopes have precluded livestock grazing. The area provides relatively high-quality habitat for species typical of California grasslands, including snakes, frogs, toads, and small mammals such as rabbits, ground squirrels, voles, and mice. A few species of birds nest on the ground within the grasslands. A greater number of birds nest in adjacent habitats and forage in the grasslands.

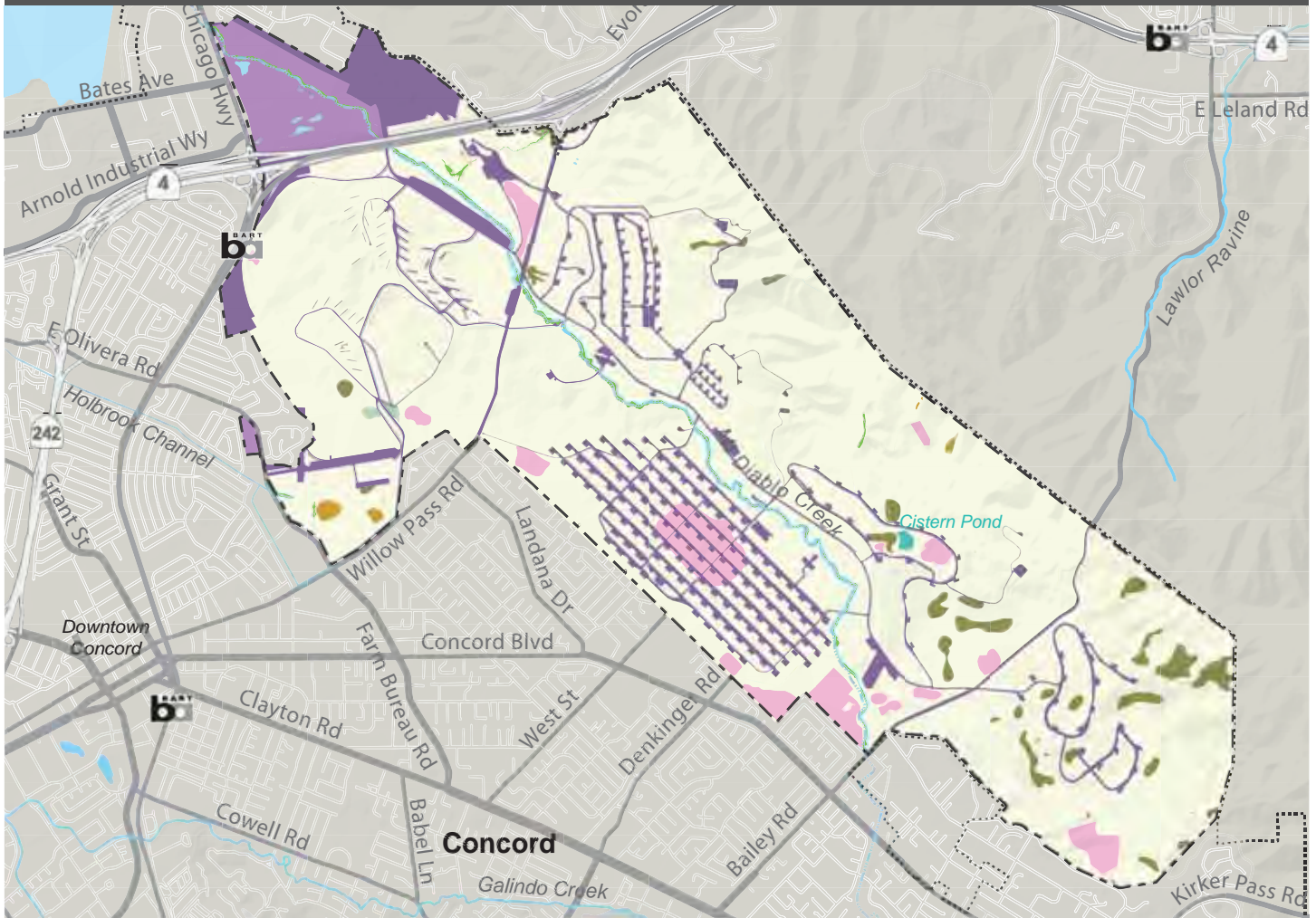
Oak woodland and oak savannah occupy just over two percent of the CRP area. Oak woodland typically occurs in the form of small clustered pockets of oak trees within the larger grasslands. Typical species include coast live oak, blue oak, valley oak, and buckeye trees, with an understory similar to the nearby grasslands. These areas support a distinctive and relatively diverse wildlife community, including numerous reptiles, mammals, and birds.

There are more than 160 acres of former orchards and tree plantations on the site. These include abandoned walnut orchards, eucalyptus groves, and test plantings of pine and blue gum eucalyptus in plantations that at the time of Plan adoption are maintained by the US Forest Service. The orchards and plantations support some of the same animal species as the oak woodlands, with larger eucalyptus trees providing nesting sites for hawks, owls, and other raptors. Dense foliage within the pine plantations provides ideal roost sites for owls.

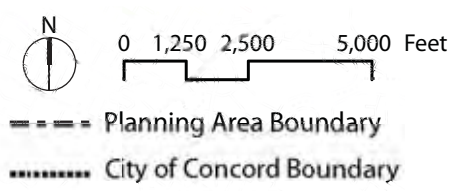
The previously developed portions of the site support common species that are tolerant of human disturbance such as mice, ground squirrels, skunks, gophers, and raccoons. The developed areas also support pigeons, starlings, and sparrows, as well as native birds. The bridges and bunkers provide nesting and roosting habitat for a range of birds and bats. The Diablo Creek Golf Course provides nesting areas for common birds and foraging areas for a variety of mammals, particularly around the edges of ponds and along ditches.

Almost all of the future development at the CRP area will occur within grassland, orchard/ plantation, and urban habitat areas. The Area Plan provides for an extensive network of Greenways as well as neighborhood parks and open spaces. These spaces should be sited and designed to incorporate the larger tree stands as well as individual trees that are protected under Concord's Heritage Tree Ordinance. Elsewhere in the developed areas, grasslands will evolve into an urban landscape that continues to provide habitat in the form of street trees, shrubs, grasses, and other plants.

▼ Figure 3-2 CRP Area Habitat Types in 2010



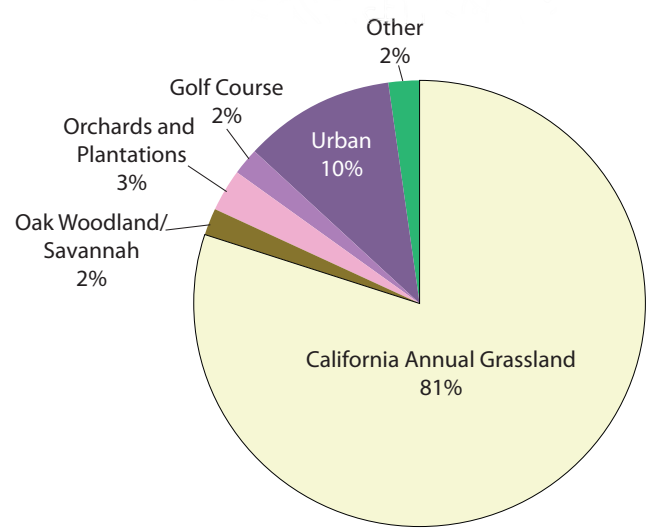
- Orchards/Plantations
- Golf Course/Recreation
- Ruderal/Urban
- Freshwater Marsh
- Seasonal Wetland
- Freshwater Drainages, Canals, and Ponds
- California Annual Grassland
- Coyote Brush/Coastal Sage
- Oak/Savannah Woodland
- Riparian Woodland



A seeps/springs habitat type was also identified within the Planning Area, but is not visible at the scale of this map.

“Other” includes riparian woodland, seasonal wetlands, creeks, drainages, canals, ponds, and coyote brush.

Habitat Data Source: H.T. Harvey & Associates



More than 60 percent of the site's grasslands are located within the Conservation Open Space and will be conserved in perpetuity. Adherence to the policies in this Plan will ensure that the habitat value of these areas is protected in the future.

Riparian Habitat

Riparian areas comprise a distinctive plant community along streams, creeks, and drainage channels. The vegetation reflects the elevated moisture content of the soils and includes a heavy canopy of trees and shrubs with dense understory. These areas comprise less than one percent of the Planning Area, primarily along Mt. Diablo Creek and its tributaries.

Wildlife in riparian areas is exceptionally diverse. The presence of water and abundant fauna provides foraging opportunities for many species and the diverse habitat structure provides a variety of cover and nesting areas. Although much of the riparian habitat has been degraded by grazing and bank erosion, Mt. Diablo Creek provides a valuable corridor for wildlife and supports migrating and wintering birds.

A majority of the on-site riparian habitat will be incorporated into the Mt. Diablo Creek buffer and will be retained as open space. Development of the site provides an opportunity to restore the creek and facilitate the restoration of quality habitat. Although recreational trails are anticipated, their siting and design will be consistent with habitat protection objectives and approved permits for the site.

Wetland Habitat

Seasonal and perennial wetlands are dominated by plants that rely on saturated soil conditions during some portion of the growing season. The seasonal wetlands correspond to rainfall patterns, while the perennial wetlands are saturated beyond the rainy season. Each wetland type has different species of plants.

The seasonal wetlands include native channels, portions of constructed ditches, areas behind constructed impoundments and around stock ponds, and scattered shallow depressions and low points in the grassland areas. The largest seasonal wetlands are located near the old airfield in an area that was disturbed by the diversion of Mt. Diablo Creek at least a century ago (see Figure 2-3). Other seasonal wetlands are located along Willow Pass Creek and the lower reach of Mt. Diablo Creek. Seasonal wetlands are used by a variety of wildlife, including amphibians and birds. During the dry season, most of these wetlands provide habitat similar to non-native grasslands, with some of the same species present.

The perennial wetlands include freshwater marshes, which occupy approximately six acres of the entire site. These are present along the Contra Costa Canal on the southern boundary, in two areas near the old airfield, and around the Cistern Pond east of Mt. Diablo Creek. The freshwater marshes support emergent wetland plants, typically with open water present. They are used by large numbers of wildlife species, some of which are protected under State and federal law. The marsh habitat also supports common species such as western toads, Pacific tree frogs, and garter snakes.

Wetlands on the site also include seeps and springs. These occupy approximately one acre and are found in small pockets on the terraces of the Los Medanos Foothills. These habitat communities develop from localized groundwater that makes its way to the surface. It lacks the pools of water present in freshwater marshes and is characterized by clusters of cattails and other grasses. Because of the lack of year-round water and limited extent of these areas on site, their use by wildlife species is limited. They may provide refuge for amphibians, which in turn serve as prey for snakes and other predators. A variety of birds are also present.

Development will affect some of the existing wetlands, particularly seasonal wetlands near the former airfield in the southwestern part of the site. These areas have already been compromised to some extent by livestock grazing. However, they do serve as foraging habitat for some birds, watering areas for mammals, and in some instances breeding habitat for amphibians. Subject to the provisions of regulatory permits, mitigation will be provided first by avoiding sensitive habitat and second by restoring (or providing replacement) wetlands that equal or exceed the acreage of any wetlands that are removed. Some of the wetlands, including the seeps and springs and the marsh near the Cistern Pond, are located within the Conservation Open Space and will be protected or enhanced. Policies later in this chapter include provisions for wetland conservation, creation, restoration, and mitigation.

Aquatic Habitat

Water bodies in the CRP area include creeks, natural and constructed drainage features, and impoundments such as stock ponds and golf course ponds. These areas collectively comprise only 24 acres, but they are an important part of the site's ecology. The largest feature in this habitat type is Mt. Diablo Creek. The CRP area also contains about 20 small ephemeral stock ponds, watering holes, and seepage ponds. Water levels in the ponds are highest in the winter and gradually reduce during the dry summer season. The only natural perennial pond is the Cistern Pond (see Figure 2-3).

Human disturbances such as culverts, grazing, and stream channelization have made Mt. Diablo Creek too warm for most fish during the summer. On the other hand, the Cistern Pond provides high quality habitat for a variety of amphibians, as well as nesting habitat for ducks and coots. Likewise, the golf course ponds provide breeding and foraging sites for a range of species.

Implementation of the Area Plan will improve aquatic habitat conditions on the site. The Plan proposes enhancement of Mt. Diablo Creek for flood control, water quality, and ecological restoration purposes. These alterations will require Streambed Alteration Agreements with the California Department of Fish and Game, as well as coordination with the RWQCB and the US Army Corps of Engineers.

Vegetation and Wildlife Policies

Vegetation and wildlife policies are organized under three headings: (a) Wildlife and Botanical Management; (b) Urban Forestry; and (c) Wetlands Conservation. A principle is associated with each heading, followed by policies. The vegetation and wildlife policies are complemented by additional policies on Special Status Species that appear later in this chapter.

▼ Principle C-5: Preserve and Protect Wildlife and Vegetation Resources in the CRP area.

Corresponding 2030 General Plan Principle POS-3.4: Preserve and Protect Wildlife and Vegetation Resources.

▶ Policy C-5.1: Habitat Protection

Retain and enhance plant and wildlife habitat areas, particularly creeks, wetlands, riparian areas, special status species habitat, and other areas where there are environmentally sensitive resources.

▶ Policy C-5.2: Biotic Surveys

Prior to approving any development plan, require project sponsors to conduct pre-construction botanical and wildlife surveys and to follow accepted grading and construction practices to minimize species loss. These surveys are typically conducted as part of CEQA review.

▶ Policy C-5.3: Wildlife Movement

Facilitate wildlife migration across the site by protecting wildlife corridors such as Mt. Diablo Creek, and minimizing the use of fences, walls, or structures that could pose barriers to wildlife movement.

▶ Policy C-5.4: Invasive Plant Control

Minimize the potential for the spread of invasive plants as the CRP area is developed.

▶ Policy C-5.5: Siting of Recreational Uses

Ensure that the siting of any recreational facilities or activities within the designated Conservation Open Space avoids sensitive habitat areas consistent with provisions of any applicable resource permits.

This includes the Cistern Pond, the coastal sage scrub in Rattlesnake Canyon, the Mt. Diablo Creek riparian corridor, the eucalyptus grove at the eastern edge of the site, and areas set aside for wetland preservation or mitigation. Any recreational or interpretive development, including roads and trails to support such uses, that may occur in or near these areas should be limited in extent, and planned and constructed to avoid potential impacts.

Urban Forestry Policies

- ▼ Principle C-6: Expand Concord's tree canopy through tree planting and preservation in the CRP area.

Corresponding 2030 General Plan Principle: None.

- ▶ Policy C-6.1: **Minimizing Tree Loss**

Require that future development in the Plan Area be sited in a way that avoids the loss of oak woodlands and large specimen oak trees.

- ▶ Policy C-6.2: **Trees in Development Districts and Greenways**

Within areas designated for future urban land uses, incorporate mature tree stands into parks, plazas, yards, medians, school sites, landscaped areas, pathways, and the Central Greenway and Neighborhood Frame.

- ▶ Policy C-6.3: **Growing the Urban Forest**

Ensure that future development within the CRP area incorporates trees and shrubs that will provide benefits to indigenous wildlife, sequester greenhouse gas emissions, provide shade, and enhance the overall habitat value of the site.

Tree selection should emphasize the use of native species and reflect climatic conditions and soil types, while also considering benefits related to shade, stormwater runoff, sound absorption, and aesthetics. The City should ensure that new developments have sufficient right-of-way for planting street trees, and should work to support the health of these trees in its public works activities. Consistent with Sitewide Development Standard CF-18, the City will promote plantings that creates shade for rooftops, parking areas, streets, and sidewalks. Tree planting should also be compatible with programs for using solar energy and other alternative energy systems.

Wetlands Conservation Policies

- ▼ Principle C-7: Preserve and protect wetlands in the CRP area.

Corresponding 2030 General Plan Principle POS-3.2: Preserve and protect wetlands.

- ▶ Policy C-7.1: Wetland Protection

Manage and protect seasonal and perennial wetlands on the site, including freshwater marshes, seeps, springs, and ponds.

Wetlands are generally part of the Conservation Open Space district on the Area Plan Diagram but may also occur to a limited extent within designated Development Districts (see sitewide Principle C in Book One Chapter 3). In instances where the conservation of wetlands is not feasible, fill shall be mitigated as specified in the January 2010 CCRP FEIR for the Community Reuse Plan and in permits from the responsible resources agencies.

- ▶ Policy C-7.2: Coordination with Resource Agencies

Work with regional, state and federal resource agencies with permitting authority relating to wetlands to obtain necessary sitewide permits and to establish requirements for mitigation of unavoidable wetland impacts.

- ▶ Policy C-7.3: Detailed Wetlands Mapping

Prior to or in conjunction with the process of obtaining resource permits, require detailed surveys in order to more precisely identify jurisdictional waters of the United States and State of California, including wetlands. These surveys will need to be verified by the US Army Corps of Engineers and the RWQCB.

- ▶ Policy C-7.4: Creation of New Wetlands

When creating mitigation wetlands, give first priority to sites within the CRP area and second priority to sites elsewhere in the Mt. Diablo Creek watershed. Alternatively, impacts can be mitigated through the purchase of credits in an approved wetland mitigation bank whose designated service area includes the site.

- ▶ Policy C-7.5: Timing of Mitigation

Require mitigation wetlands to be created prior to or concurrently with the filling of existing wetlands.

- ▶ Policy C-7.6: Invasive Species Control Plan

Prepare, or require to be prepared, a comprehensive Invasive Species Control Plan to prevent the introduction or spread of non-native invasive plant and animal species to natural open space areas and sensitive habitats. This Plan will be a single document that addresses the entire project area, and it may be integrated with other habitat management plans to ensure that impacts to special-status species and their habitats are avoided.

3.7 Special Status Species

Special-status species are plants and animals that are legally protected under State and federal laws, as well as species that are considered rare by the scientific community. Although there are no designated “critical” habitat areas for such species in the CRP area, the property includes areas where such species are known to occur and areas where they could potentially be present.

The Area Plan Diagram avoids impacts to the most important habitat areas. The riparian corridor along Mt. Diablo Creek will be conserved, and the Cistern Pond and other important resources in the Los Medanos Hills will be protected as permanent open space. Where recreational uses such as hiking are permitted on open space lands, policies in this Plan ensure that the nesting, breeding, and foraging areas of protected species will be shielded from human intrusion.

Some loss of sensitive habitat may occur as a result of urban development. Even the removal of constructed features such as munitions bunkers could affect areas where protected species are present. The policies below and in associated CEQA documents—including the Mitigation Monitoring and Reporting Program (MMRP)—identify the measures needed to limit such impacts. These measures include creating higher quality habitat elsewhere on the site, or off-site on nearby open space lands.

Special status species that have been observed on the site are listed in Table 3-1. Among the more notable species are the California red-legged frog and California tiger salamander. Both are listed federally as Threatened Species and listed by the State as Species of Special Concern. Both are found in ponds and seasonal pools. The remaining special status species in Table 3-1 are birds, including a number of raptors.

▼ Table 3-1 Special Status Species Observed with the CRP Area (2009)

Common name	Status	General Habitat Description	Presence on the Site
California red-legged frog	FT, CSSC	Breeds in ponds and pools. Uses a variety of aquatic and wetland habitats for foraging, cover, and aquatic refuge. May disperse long distances over uplands, particularly during the wet season.	Observed during multiple surveys at various locations. Although Mt. Diablo Creek does not provide suitable breeding habitat, this species could occur throughout the project area.
California tiger salamander	FT, SCE, CSSC	Breeds in ponds and seasonal pools. Spends most of life in subterranean refuges such as small mammal burrows or soil cracks.	Observed in a number of locations, all in the southeastern half of the site. No habitat is present northwest of Willow Pass Road.
Burrowing owl	CSSC	Grasslands and ruderal habitats where ground squirrel burrows or other burrows are present.	Short grassland with abundant ground squirrel burrows is present throughout the project area, but site surveys show this species is present only in small numbers.
Northern harrier	CSSC (breeding)	Nests in extensive marshes and wet fields; forages in marshes, grasslands, and ruderal habitats.	Commonly forages in grassland on the site, but is expected to occur as a non-breeding forager.

▼ Table 3-1 Special Status Species Observed with the CRP Area (2009)

Common name	Status	General Habitat Description	Presence on the Site
San Francisco common yellowthroat	CSSC	Nests in tall, emergent, herbaceous wetlands.	Small numbers nest in the freshwater marsh, and possibly in seeps and springs, and other wetland vegetation.
Golden eagle	FP	Nests in tall trees or on cliffs. Forages in grasslands and other open habitats.	A pair of golden eagles has nested regularly in a eucalyptus grove along the site's eastern boundary. The site has been enclosed with fencing. Additionally, several nesting pairs of golden eagles occur on East Bay Regional Park District lands to the south.
White-tailed kite	FP	Nests in tall shrubs and trees. Forages in grasslands, marshes, and ruderal habitats.	Nests in pine and eucalyptus plantations, oak woodland, and riparian habitat in a number of areas on the site. Forages in grassland and other open areas throughout the site.
Loggerhead shrike	CSSC (breeding)	Nests in tall shrubs and dense trees. Forages in grasslands, marshes, and ruderal habitats.	Observed regularly and fairly commonly in grasslands of the site. It is likely that the species breeds on the site.
American peregrine falcon	SE, SP	Nests on cliffs and occasionally on buildings or bridges. Forages for birds over many habitats.	Forages on the site infrequently and in low numbers during migration and winter. Since there is no suitable nesting habitat, the species is not expected to breed, occur frequently, or occur in large numbers on the site.
Bald eagle	SE	Nests in tall trees and occasionally on cliffs and electrical towers, usually near large water bodies. Typically forages in and near such water bodies, but may also feed in grassland or other open habitats.	A juvenile bald eagle was observed during spring surveys in 1982. Although individuals may forage on the site, the species is not known or expected to occur regularly on the site.
Yellow warbler	CSSC (breeding)	Nests in dense stands of cottonwood, willow, and other riparian habitat. Forages in a variety of habitats during migration.	Common migrant on the site, particularly in fall, but has not been recorded breeding, or even summering, on the project site.
Vaux's swift	CSSC (breeding)	Nests in chimneys and in hollow snags in evergreen forests.	Non-breeding individuals forage on site, but suitable breeding habitat is absent, and the species does not breed here.

Source: CCRP Final Environmental Impact Report (2010).

Special status species code designations (not all categories are referenced in the above table)

FE = Federally listed Endangered

SE = State listed Endangered

FT = Federally listed Threatened

SCE = State Candidate Endangered

ST = State listed Threatened

CSSC = California Species of Special Concern

SP = California Fully Protected Species (California Fish and Game Code §§ 3511, 4700, 5050, and 5515)

▼ Table 3-2 Special Status Species Potentially Present within the CRP Area (2009)

Common Name	Status	General Habitat Description	Potential on the Site
Western pond turtle	CSSC	Creeks, ponds, and other aquatic habitat. Breeds in upland areas.	Potentially present in ponds on the Diablo Creek Golf Course and along Mt. Diablo Creek. Small numbers may nest in uplands near the Cistern Pond, and possibly elsewhere.
Coast horned lizard	CSSC	Sandy soils, usually in dry creek channels or coastal dunes.	Potentially present; documented only in a single occurrence. The most likely area of occurrence is in the area southeast of Bailey Road.
Alameda whipsnake	FT, ST	Chaparral and scrub habitats, especially with rock outcrops. May also use adjacent oak woodland, grassland, riparian, and evergreen forest, usually within 500 feet of high-quality scrub.	Potentially present, but the lack of scrub, short-grazed nature of the grassland, and distance from documented whipsnake populations reduce the likelihood.
American badger	CSSC	Typically associated with extensive grasslands containing small mammal prey, but will use other open and scrub habitats.	This species is expected to occur infrequently and in low numbers.
Short-eared owl	CSSC (breeding)	Breeds in marshes and moist grasslands. Forages over wetlands, grasslands, and ruderal habitats.	Potentially present. If they occur at all, they are expected to be infrequent non-breeding foragers.
Long-eared owl	CSSC (breeding)	Nests in dense woodland, including riparian woodland. Forages in open habitats.	This species likely occurs only as a rare and irregular non-breeding visitor, and it is not expected to nest on the site, to occur regularly, or to occur in large numbers.
Olive-sided flycatcher	CSSC (breeding)	Nests in montane forests.	Expected to occur only as an infrequent non-breeding forager during migration.

Table 3-2 indicates special status species that are potentially present on the site. These species have not been documented in the CRP area in wildlife surveys, but the habitat conditions exist to support them. Such species include the western pond turtle and coast horned lizard. The remaining species on the list are birds and bats. Most of the birds would use the site for seasonal foraging but would be unlikely to nest or breed there.

A 2008 survey found no special status plants in the CRP area. However, the site supports many relatively uncommon native plants, as documented by the California Native Plant Society. As noted earlier, there are also individual mature oak trees that are protected under Concord's Heritage Tree Ordinance. These primarily occur in the open space area south of Bailey Road and in the riparian buffer along Mt. Diablo Creek.

▼ Table 3-2 Special Status Species Potentially Present within the CRP Area (2009)

Common Name	Status	General Habitat Description	Potential on the Site
Grasshopper sparrow	CSSC (breeding)	Breeds and forages in meadows, fallow fields, and pastures.	May occur as a migrant in grasslands, but not expected to breed, occur regularly, or occur in large numbers in the project area.
Bryant's savannah sparrow	CSSC	Breeds and forages in meadows, fallow fields, pastures, and salt marshes.	Potentially present; may breed in the Tidal Area, but not known to breed in the CRP area.
Tri-colored blackbird	CSSC	Nests near fresh water in dense emergent vegetation. Forages in a variety of open habitats.	Likely occurs only as an occasional non-breeder. The only freshwater marshes extensive enough to support breeding are at the Cistern Pond and near the old airfield, but no activity has been observed.
Pallid bat	CSSC	Forages over many habitats. Roosts in buildings, large oaks or redwoods, rocky outcrops, and rocky crevices in mines and caves.	Potentially present; however, presence could not be determined from site surveys.
Townsend's big-eared bat	CSSC	Roosts in caves, mines, attics, abandoned buildings, and large trees with open cavities. Forages over many habitats.	Potentially present, although never recorded on the site. Site habitat includes trees with cavities, an old mine, and old buildings or bunkers.
Western red bat	CSSC	Often found in forest or woodlands, especially in or adjacent to riparian habitat.	Potentially present; this species is not known or expected to breed on or in the vicinity of the site, but it could roost in small numbers during migration or winter.

Source: CCRP Final Environmental Impact Report (2010).

Special status species code designations (not all categories are referenced in the above table) :

FE =Federally listed Endangered

SE =State listed Endangered

FT =Federally listed Threatened

SCE = State Candidate Endangered

ST =State listed Threatened

CSSC = California Species of Special Concern

SP =California Fully Protected Species (California Fish and Game Code §§ 3511, 4700, 5050, and 5515)

Special Status Species Policies

▼ Principle C-8: Protect Special Status Species in the CRP area.

Corresponding 2030 General Plan Principle POS-3.4: Preserve and protect wildlife and vegetation resources.

▶ Policy C-8.1: Habitat Protection

Protect the habitat of the special status species listed in Tables 3-1 and 3-2 by designating such areas as part of the Conservation Open Space district wherever feasible.

▶ Policy C-8.2: Mitigation of Habitat Impacts

Where disturbance of special status habitat is unavoidable, minimize and compensate for impacts in a way that is consistent with the measures outlined in the adopted Mitigation Monitoring and Reporting Program (MMRP) and/or sitewide conservation permits.

▶ Policy C-8.3: Location of Replacement Habitat

To the extent practical and consistent with relevant conservation permits, locate replacement habitat for special status species in the Conservation Open Space district. If this is infeasible, first priority should be given to off-site locations within the Mt. Diablo Creek watershed and second priority should be given to other sites within Contra Costa County Habitat Conservation Plan areas, consistent with all applicable resource permits.

▶ Policy C-8.4: Maintenance of Replacement Habitat

Require provisions for the maintenance, monitoring, and funding of any replacement habitat created for special status species.

This should include: (a) Conservation easements or other suitable instruments that ensure preservation of such areas in perpetuity; and (b) Financial endowments, with amounts capable of producing sufficient interest to fund annual monitoring and management activities.

▶ Policy C-8.5: Minimizing Construction and Post-Construction Impacts on Habitat

Ensure that grading, earth movement, and construction occurs in ways that avoids and minimizes potential impacts on the habitat of sensitive species.

This includes the use of best management practices such as permanent and temporary fencing, distribution of educational materials to contractors and new residents, use of low-intensity or downcast lighting near breeding areas, and timing of construction-related activities to avoid the breeding and nesting seasons of special status species, including nesting birds.

► **Policy C-8.6: Protection of Bird Nests**

Avoid clearing trees and shrubs during the breeding season and/or in a manner that could damage or destroy bird nests. Development shall comply with all State and federal laws regarding native and migratory birds.

► **Policy C-8.7: Habitat Mitigation and Monitoring Plans**

As appropriate, require preparation of Habitat Mitigation and Monitoring Plans prior to development.

If necessary, such plans should describe the specific actions to be taken to address habitat loss, including detailed information on the location of mitigation sites, the design and timing of mitigation activities, a monitoring plan, and a contingency plan. A single plan may address multiple habitat types. The need for multiple Habitat Mitigation Monitoring Plans may be precluded if sitewide natural resource permits are obtained.

3.8 Historic and Archaeological Resources

Under federal and State regulations, historic properties include districts, sites, buildings, structures, and objects included or eligible for inclusion in the National Register of Historic Places (NRHP), or the California Register of Historical Resources (CRHR). The CRP area includes one built structure listed on the NRHP—the Contra Costa Canal (including the Clayton Canal branch)—and ten archaeological or historic sites that are eligible or considered potentially eligible for listing on the NRHP or the CRHR. These resources include archaeological sites, isolated finds, and architectural resources older than 50 years. No sites of traditional Native American religious or cultural significance have been identified in the area.

Development of the site requires compliance with federal and State laws regarding protection for known and unknown cultural resources. Further, citywide policies in the Concord 2030 General Plan that address preservation of the City's historic sites and prehistoric cultural resources are applicable to the CRP area.

Historic and Archaeological Resource Policies

- ▼ Principle C-9: Protect historic sites and structures and prehistoric cultural resources in the CRP area.

Corresponding 2030 General Plan Principle POS-4.1: Protect the City's historic sites and structures and prehistoric cultural resources.

- ▶ Policy C-9.1: Protection of Archaeological Resources

Prior to carrying out earth disturbing activities that would impact any identified historic site, implement measures for the preservation in place, or adequate data recovery, curation, and documentation of historic properties/historical resources.

- ▶ Policy C-9.2: Protection of Historic Resources in Open Space and Recreation Lands

Prior to approving restoration or development of any park, open space, or recreation areas, implement cultural resources protection measures to control public access to areas where any identified cultural resources are located.

- ▶ Policy C-9.3: Protection of Undocumented Cultural Resources

Implement inadvertent discovery measures for the protection of undocumented cultural resources that may be revealed during construction activities.

These measures will include:

- *Training of all construction personnel.*
- *On-site monitoring by a qualified archaeologist for all earth disturbing activities within the boundaries of documented resources areas and archaeologically sensitive areas.*
- *Procedures for the discovery of cultural resources during construction if an archaeological monitor is not present.*

Safety, Health, and Noise

4.1 Overview

The Safety, Health, and Noise chapter includes policies to protect future occupants of the CRP area and its surroundings from natural hazards such as earthquakes, landslides, wildfire, and floods. It also addresses public health and wellness through policies on topics such as noise, air quality, hazardous materials, and community design. Another vital health and safety issue is climate change, which is addressed in Area Plan Book Three.

The development plan for the CRP area was designed to minimize potential exposure to natural hazards. Conservation of the Los Medanos Hills as permanent open space will substantially reduce the potential for landslide-related risks and wildfire losses, while the open space buffer along Mt. Diablo Creek and the proposed creek restoration effort will reduce the most significant flood hazards. However, the site shares some of the same hazards present in other parts of the Bay Area. For example, measures to address earthquake-related hazards such as ground shaking will need to be incorporated as development takes place.

Remediation of hazardous materials is a particularly important health and safety issue. The site was used for ammunition storage for more than half a century and has been on the United States Environmental Protection Agency (EPA) "Superfund" list since 1994. This chapter outlines the steps that must be taken to address known sources of contamination before development may occur, including requirements for further evaluation. The chapter also establishes policies to reduce air pollution generated by future development, and to protect residents from noise associated with highways, BART trains, construction, and other sources. Importantly, the Area Plan addresses not only the well-being of future residents and workers on the Concord Reuse Project site, but also the well-being of residents in the established neighborhoods nearby.

2030 General Plan Goals Relevant to this Chapter

- S-1: Obtainable air quality
- S-2: A livable noise environment
- S-3: A high level of life and property protection
- S-4: Flood risk reduction
- S-5: Mitigated exposure to hazardous materials
- S-6: A low risk of fire hazard for developed communities near open space

This Chapter also discusses ways in which the design of the community itself can promote healthy living. As the CRP area is implemented, deliberate steps will be taken to create neighborhoods where people can lead active lives by walking, bicycling, and traveling without barriers. By providing space for community gardens, parks, trails, and other outdoor amenities, the well-being of all Concord residents can be improved.

The specific topics addressed in this chapter (in the order in which they appear) are:

- Earthquake and Landslide Hazards
- Flooding
- Wildfire
- Air Quality
- Hazardous Materials
- Noise
- Airport-Related Hazards
- Public Health and Wellness

4.2 Earthquake and Landslide Hazards

The CRP area is located in the seismically active San Francisco Bay region, which has experienced repeated large to moderate earthquakes. The Working Group on California Earthquake Probabilities has estimated that there is a 62 percent probability that a magnitude 6.7 or greater quake will strike the Bay Area between 2002 and 2031.

The two active faults closest to the site are the Greenville Fault and the Concord Fault. The Greenville Fault begins on the eastern side of the CRP area and continues south to a more active segment near Livermore. The last major seismic event on this fault was a 5.6 earthquake in 1980, with an epicenter 25 miles south of Concord. The Concord Fault is located just over a mile southwest of the site. Its last major event was a 5.4 earthquake in 1955. Other active and potentially dangerous faults near the site include the Hayward Fault 15 miles to the west, the Calaveras Fault 17 miles to the south, the San Andreas Fault 30 miles to the west, and the Rodgers Creek Fault 24 miles to the northwest. No portion of the CRP area is within a “special studies zone”—the designation used by the State of California to regulate development along active fault lines.

As in other parts of Concord, the greatest earthquake-related hazard on the site is ground shaking. This hazard is present throughout the site and has the potential to displace or even destroy structures. Other hazards include liquefaction, a process where soil loses strength and behaves as a fluid. Liquefaction risks are primarily associated with alluvial soils along Mt. Diablo Creek, but there are also moderate risks in the western part of the site near the Coast Guard housing area and the intersection of Willow Pass Road and Olivera Road. State and local codes require that buildings, roads, and utilities be designed to address ground shaking, liquefaction, and other potential seismic risks. Where necessary, geologic studies may be required to identify the additional steps needed to protect life and property.

Landslides and debris flows are relatively common along the ridges and slopes of the Los Medanos Hills. They may occur as a result of large earthquakes or can be triggered by heavy rains when soils become saturated and unstable. All areas on the site with moderate to high landslide potential are located within the Conservation Open Space district, thus reducing development-related hazards. Soil characteristics represent another potential constraint. Soils with the potential to erode, settle, or expand when wet and contract when dry (called “shrink-swell”) exist throughout the site. Structural design standards and site-specific soil studies will ensure that these conditions are taken into consideration as development takes place.

Earthquake and Landslide Hazard Policies

- ▼ Principle SHN-1: Reduce risks due to seismic hazards in the CRP area.

Corresponding 2030 General Plan Principle S-3.1: Reduce damage due to seismic hazards.

- ▶ Policy SHN-1.1: Reducing Seismic Hazards

Reduce exposure to seismic and landslide hazards in the CRP area by limiting development on steeper slopes and in high liquefaction potential areas, and designing all structures to comply with applicable State and local codes.

- ▶ Policy SHN-1.2: Geologic Evaluations

Require evaluations of geologic hazards and soil conditions as specific development projects are proposed. Ensure that buildings, utilities, and other structures are designed to reflect the findings of such studies, thereby minimizing the risks associated with earthquakes, expansive soils, and other geologic hazards.

4.3 Flooding

Because the CNWS is a federal facility, flood-prone areas have not been fully mapped by the Federal Emergency Management Agency. Mapping of the entire site was underway in 2010. However, the agency has developed estimates of peak discharge in Mt. Diablo Creek and has prepared flood plain maps for the Diablo Creek Golf Course and the Administration Area north of State Route 4. Currently, flooding may occur along the creek during very heavy rainstorms as runoff overtops the channel banks. There is also anecdotal evidence of flooding in the low-lying areas near the former runway and Coast Guard housing complex. These areas drain to the Holbrook Channel and will need to be addressed in watershed planning and flood control efforts.

Flood flows on the site will be minimized in the future by developing a storm drainage system in new neighborhoods, improving the Mt. Diablo Creek channel to increase its capacity, requiring on-site detention and/or retention of rainwater to reduce peak flows to the receiving streams, and placing fill in low-lying areas to raise building floor elevations above the base flood elevation. The entirety of the Mt. Diablo Creek flood plain will be included within the Conservation Open Space buffer along the creek.

Flood hazards will be further reduced through measures which minimize increases in runoff, such as the use of porous pavement and rain gardens. Within new neighborhoods on the site, the stormwater drainage system will be designed to minimize flood hazards associated with sheet flow or standing water in low-lying areas.

Flood Protection Policies

- ▼ Principle SHN-2: Protect the CRP area from risks to life and property posed by flooding and stormwater runoff.

Corresponding 2030 General Plan Principle S-4.1: Protect the community from risks to lives and properties posed by flooding and stormwater runoff.

- ▶ Policy SHN-2.1: Mt. Diablo Creek Buffer and Channel Improvements

Consistent with site-wide permits obtained from resource agencies having jurisdiction over streams on the site, maintain a buffer along Mt. Diablo Creek. Undertake creek restoration projects which increase the channel's capacity and minimize the potential for damage due to overbank flooding. As permitted, on-site detention and retention ponds within the Mt. Diablo Creek buffer may be constructed and managed to reduce peak flood flows.

See the Conservation and Open Space Chapter for additional policies on creek restoration.

- ▶ Policy SHN-2.2: Storm Drainage Design

Apply storm drainage design standards which minimize the risk of flooding, protect against loss of life and property, reduce erosion, and maximize the opportunity to restore natural drainage systems. All storm drainage facilities shall meet Contra Costa Flood Control and Water Conservation District specifications.

- ▶ Policy SHN-2.3: On-site Detention and Retention Requirements

Ensure that all future development complies with the City of Concord Flood Management Ordinance and its Stormwater Management and Discharge Control Ordinance.

In general, increases in surface runoff that result from development should be offset by on-site detention and retention so that peak flood flows leaving the site are not increased.

- ▶ Policy SHN-2.4: Raising Habitable Building Elevations

Where flood control improvements do not completely eliminate 100-year flood hazards, require the use of fill or other measures to raise habitable building floors above the base flood elevation.

▶ **Policy SHN-2.5: Reducing Increases in Impervious Surface**

Support the use of porous pavement, rain gardens, green roofs, and other measures to minimize increases in impervious surface coverage and maximize groundwater recharge and on-site detention or retention of stormwater.

▶ **Policy SHN-2.6: Interagency Coordination**

Coordinate flood control improvements with all appropriate special districts, regional, State, and federal agencies.

Prior to approving development at the site, the City will require that an approved Conditional Letter of Map Revision from FEMA is written to demonstrate that housing or structures will not be placed in the 100-year floodplain as a result of implementing this Plan. No development may occur until the City receives this Letter. This requirement ensures that FEMA will determine the boundaries of the 100-year floodplain.

▶ **Policy SHN-2.7: Master Storm Drain System**

Incorporate the CRP area into the City's master storm drain system.

4.4 Wildfire

Wildfire is part of the natural ecological cycle in California grasslands. A combination of factors, including fire suppression activities and encroachment of urban uses, can increase wildfire hazards and associated risks to property. A number of agencies, including the Contra Costa County Fire Protection District, East Bay Regional Park District Fire Services, and the City of Concord, will work to manage vegetation and recreational activities in the Conservation Open Space's grasslands to reduce hazard levels. Additional information on fire protection can be found in the Community Services and Parks chapter.

Wildfire Policies

- ▼ **Principle SHN-3: Promote effective fire protection measures for homes adjacent to the open space in the CRP area.**

Corresponding 2030 General Plan Principle S-6.1: Promote effective fire protection measures for homes adjacent to open space.

▶ **Policy SHN-3.1: Fire Prevention and Protection**

Incorporate fire breaks, fire-resistant landscaping, adequate vegetation clearances around structures, and other vegetation management measures along the urban-open space interface to minimize the risk of wildfire on the Concord Reuse Project site.

4.5 Air Quality

4.5.1 Regulatory Framework

Air quality is regulated at the federal, State, and regional levels. The U.S. EPA sets and enforces air quality standards. It establishes and monitors compliance with limits for ozone, carbon monoxide, nitrogen dioxide, particulate matter, and sulfur dioxide, as well as standards for 188 different toxic air contaminants. Each state must prepare a State Implementation Plan which outlines the steps they will take to comply with the federal standards. At the State level, the California Air Resources Board establishes State air quality standards, further regulates toxic air contaminants, and regulates emissions from mobile sources such as automobiles and trucks. They provide guidance to a network of regional agencies in the state's major metropolitan areas that conduct air quality planning and enforcement. The regional agencies are required to create and periodically update plans to achieve compliance with any State air quality standards that are not currently being attained. The Bay Area Air Quality Management District (BAAQMD) is the regional agency with this responsibility in the nine county Bay Area.

4.5.2 Existing Air Quality Conditions

Ozone, PM_{10} , and $PM_{2.5}$ are the pollutants of greatest concern in Concord and throughout the Bay Area. Ozone is formed when sunlight causes a reaction between volatile organic compounds and oxides of nitrogen. The primary sources are vehicle exhaust, industrial processes, electric utilities, and chemical solvents. Ozone can cause respiratory problems and contributes to global climate change. PM_{10} refers to inhalable liquid and solid particles with aerodynamic diameters of 10 micrometers or less. $PM_{2.5}$ refers to the subset of those particles with aerodynamic diameters of 2.5 micrometers or less. The main sources are vehicle exhaust, wood burning, wildfire, and dust from construction, landfills, and agriculture. PM_{10} is of concern because it bypasses the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs. $PM_{2.5}$ poses an increased health risk because the particles can collect deep in the lungs and be substances that are particularly harmful.

The air pollution monitoring station nearest to the CRP area is located on Treat Boulevard in Concord. Between 2007 and 2009, ozone levels at this station exceeded the national 8-hour ozone standard a total of nine times. PM_{10} concentrations here exceeded the 24-hour State standard a total of three times over the same three-year period. $PM_{2.5}$ exceeded the State standard a total of eleven times in that period. The 10th Street Monitoring Station in Pittsburg historically has had similar results.

The BAAQMD has prepared a number of plans to guide the region toward attainment of ozone standards and improvement of air quality in general. The District recently updated the region's Clean Air Plan, including additional emission control measures and steps to reduce ozone, toxic air contaminants, particulate matter, and greenhouse gases. Many of these measures address land use and transportation, with the aim of reducing commute lengths and increasing transit use, walking, and bicycling.

On June 2, 2010, the BAAQMD's Board of Directors adopted new CEQA thresholds of significance. The thresholds are included in the BAAQMD's updated CEQA Guidelines. In addition to new significance thresholds, the Guidelines recommend analytical methodologies and mitigation measures for local agencies to use when preparing air quality impact analyses under CEQA. The updated guidelines seek to protect public health, limit exposure to toxic air contaminants, and reduce adverse effects from global climate change.

The updated CEQA Guidelines address recent changes in air quality standards for ozone and particulate matter (PM) from the State of California and the U.S. EPA. In addition, the new greenhouse gas thresholds were developed to ensure that the Bay Area meets the State's plan to address climate change. The BAAQMD is working with MTC and ABAG to ensure that implementation of the thresholds supports the goals of SB 375. The BAAQMD is also providing support and financial assistance to local governments for development of Community Risk Reduction Plans.

4.5.3 Future Air Quality Conditions

Although development of the CRP area will result in additional sources of air pollution due to additional motor vehicle trips and other activities on the site, the project offers an opportunity to accommodate Bay Area growth in a way that will have a lesser impact on air quality than conventional development patterns. The guiding philosophy behind the proposed development pattern is to minimize automobile dependence and motor vehicle emissions.

The project includes provisions for a local transit system and an extensive network of sidewalks and bicycle and pedestrian trails to reduce the need for driving. Its land use mix includes local-serving retail uses, employment centers, and mixed-use development which enable future residents to shop locally, work locally, and find goods and services without numerous car trips. Providing a mix of affordable and market rate housing is a key strategy for creating a community where people of all incomes are able to live nearer to their workplaces.

Reliance on renewable energy sources rather than fossil fuels also provides regional air quality benefits. Additionally, the emphasis on green building and design will reduce per capita energy consumption.

The City will coordinate with regional agencies so that additional jobs and households projected for the CRP area are added to the ABAG projections of regional growth that will be used for future air quality and transportation planning in the Bay Area. This will ensure that the Concord 2030 General Plan is consistent with regional transportation and air quality plans. If necessary, additional measures will be added to the regional plans to ensure that State and federal air quality standards can be attained.

Site planning and design will be used to address more localized air quality issues. For example, development standards will ensure that sensitive uses such as schools, day care centers, and residences are not placed immediately adjacent to State Route 4, where passing traffic and idling vehicles may create relatively high levels of carbon monoxide. Trees and shrubs will be planted along new thoroughfares, helping to absorb emissions. The orientation and arrangement of uses will help ensure that residents are not exposed to objectionable odors. Construction on the site also will be controlled to reduce airborne dust and exhaust from diesel construction equipment.

Air Quality Policies

- ▼ Principle SHN-4: Integrate regional air quality goals and strategies into land use planning, site design, and development review for the CRP area.

Corresponding 2030 General Plan Principles S-1.1: Integrate air quality goals into local planning and development review; and S-1.3: Support regional air quality strategies through land use planning and site design.

- ▶ Policy SHN-4.1: Regional Air Quality Improvement Strategies

Ensure that development of the site helps move the region toward attainment of State and federal ozone standards by accommodating regional growth in a way that reduces average per capita vehicle miles traveled.

Area plan components that will implement this policy include developing a high-quality on-site and offsite transit system, an integrated bicycle and pedestrian circulation network, shuttle services, and a balanced mix of land uses including on-site employment, local-serving retail, community facilities, and a mix of housing types for a range of income levels.

See Book Three: Climate Action Plan for details concerning the GHG emission reduction program for the site.

- ▶ Policy SHN-4.2: Sensitive Receptors

Minimize potential impacts to sensitive land uses from exposure to toxic air contaminants (TACs) and fine particulate matter (PM_{2.5}). Restrict housing and other sensitive land uses within a 500 foot buffer along Highway 4 in accord with health risk guidelines from the Bay Area Air Quality Management District (BAAQMD). During detailed planning and design, analyze risk to land uses within a 500-1000 foot contour of Highway 4 and as necessary mitigate potential health risks consistent with guidelines established by the Bay Area Air Quality Management District (BAAQMD).

BAAQMD's 2010 CEQA Guidelines highlight the need to evaluate potential health risks associated with high-volume roadways such as Willow Pass Road. Detailed planning can include site design and landscape measures to reduce risk. Improvements to vehicle technology in the coming years are likely to lessen the need for restrictions on the location of sensitive receptors.

- ▶ Policy SHN-4.3: Managing Future Stationary Sources

Require future businesses on the site to limit generation of toxic air contaminants in order to control overall site emissions. During detailed planning and design, control the location of regulated stationary sources to avoid the potential for adverse cumulative effects.

Best management practices (BMPs) should be used by dry cleaners, gas stations and other potential sources of contaminants in order to limit overall site emissions. The BMPs to be used can be specified through conditions of approval as individual uses are proposed.

► **Policy SHN-4.4: Odors**

Mitigate the potential for odor-related conflicts by avoiding the placement of sensitive land uses such as housing near objectionable odor sources.

► **Policy SHN-4.5: Construction Impacts**

Reduce the potential for particulate matter and related air emissions during construction by following best management practices for demolition, earthwork, grading, construction, and vehicle operations.

► **Policy SHN-4.6: Updating the Regional Clean Air Plan**

Work with the Association of Bay Area Governments and the BAAQMD to revise the regional population projections and Clean Air Plan so that projections for Concord include expected development at the CNWS. This will involve establishing “Projections 2011” totals for Concord that are consistent with the Area Plan, and adjusting later versions of the Clean Air Plan and other air quality plans to reflect appropriate horizon year job and household forecasts for Concord

See the Transportation Chapter and Book Three: Climate Action Plan for additional policies to reduce emissions and vehicle miles traveled.

4.6 Hazardous Materials

Hazardous materials are substances with chemical and physical properties that could pose a substantial hazard to human health or the environment when improperly handled, disposed of, or managed. Such materials were used extensively on the site during its service as a weapons station. Clean-up of the site to conditions that are compatible with planned land uses and activities is an important element of the Area Plan.

Between 1943 and 1997, the inland portion of the CNWS was used primarily for ammunition storage. Most of this activity occurred in five magazine groups and two groups of barricaded railroad sidings. The Navy also used portions of the site to destroy and burn munitions and explosives that were no longer useful after various testing and assessment programs. Other operations at the site included maintenance, support, supply, public works, and administration. Many of these operations involved some degree of hazardous material use, ranging from herbicides to x-rays.

4.6.1 Regulatory Framework

Two federal laws are particularly important to the clean-up and reuse of the CNWS site. These are:

- The **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, which authorizes the EPA to respond to releases of hazardous substances that could endanger public health or the environment. EPA's activities under this law include development of a National Priority List (commonly known as “Superfund”) which identifies areas for further hazardous materials evaluation. When a site is listed on the priority list, it does not mean that the entire property has known or threatened releases of hazardous substances. As hazards are further evaluated, the EPA may remove portions of sites from the Superfund list, providing more flexibility for their subsequent use. The CNWS was listed as a Superfund site in 1994, primarily because of

hazards identified in the Tidal portion of the installation, which is not included in the Area Plan. CERCLA controls investigation and remediation of both known and unknown areas of contamination. The Area Plan identifies property transfer responsibilities related to hazardous material clean-up and the management of future construction and demolition activities on the site. A range of pre-development clean up, monitoring and site management requirements apply. CERCLA requires the federal government to retain liability for hazardous materials on the site and to return and remediate any contamination that may be found in the future. This will be specified in the deed of transfer as property on the site is conveyed.

- The **Resource Conservation and Recovery Act (RCRA)** established a regulatory system to track hazardous wastes from the time of generation to final disposal. The law requires safe and secure procedures for treating, transporting, storing, and disposing of hazardous wastes. The RCRA also requires permits for certain hazardous waste management activities, as well as a procedure for terminating a permit and closing a facility. The CNWS operated under an RCRA permit until 2003, when the State Department of Toxic Substances Control (DTSC) closed the permitted hazardous waste facilities and certified them as clean.

In addition to these laws, there are a number of programs designed to assess and remediate the effects of past activities in order to reduce health hazards. Programs addressing Munitions and Explosives of Concern (MEC) are particularly important in the CRP area and are addressed below.

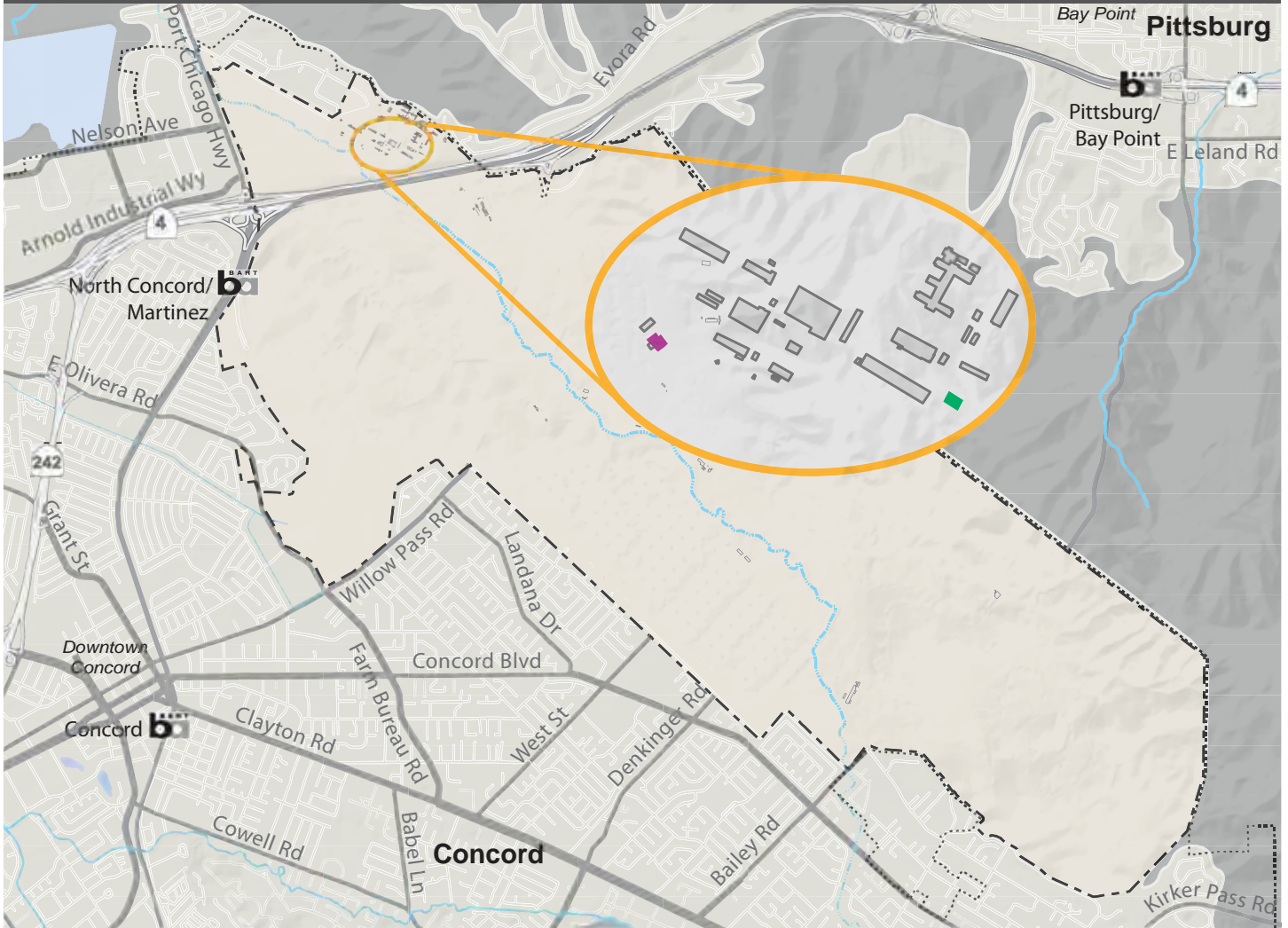
4.6.2 Contamination Issues and Status of Clean-up Efforts

Since being listed as a Superfund site, the Navy has been following a clean-up process in accordance with Department of Defense (DOD) programs. These programs are summarized below:

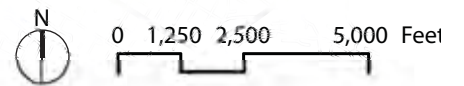
- The **Military Munitions Response Program** addresses areas where munitions and explosives of concern (MEC) might be present in the environment, including the physical remains of ammunition and potentially explosive materials and residual materials, such as chemical components, that have leached into the soil. The Navy has identified nine areas potentially containing MECs in the CRP area. The Navy and the DOD are currently establishing new policy and guidance for the Military Munitions Response Program. Key elements of the program include following the National Contingency Plan (NCP) as authorized by CERCLA and using the traditional Installation Restoration (IR) clean-up process.
- The **Installation Remediation Program** is used to identify, investigate, and remediate contamination from hazardous substances, pollutants, and contaminants at active or operating Navy installations. The Navy has identified 13 Installation Restoration sites within the Inland Area of the CNWS. One site of particular concern, Site 22 (the large Magazine Area used to store ammunition and explosives from 1945 to 1997) is contaminated with arsenic due to the application of herbicides to control weeds. The site, sometimes called “Bunker City”, encompasses most of the area planned for the Village Neighborhoods and Village Centers. Available data from off-site wells and on-site investigations by the Navy suggest that there has been no off-site migration of chemicals in groundwater. There may be additional, as yet unknown, sites identified and investigated in the future.
- **Solid Waste Management Units** are locations where hazardous substances may have been released in the past. The State DTSC identified 33 such units in the CNWS Inland Area and concluded that 14 required no further action.




Among the other sources of hazardous materials that have been addressed in past site assessments are storage tanks, transformers, electrical equipment, fluorescent light ballasts, building materials, and x-ray processes. These

▼ Figure 4-1 Waste Accumulation Sites



Legend



-  Existing Buildings (as of 2009)
-  Waste Accumulation Site (Building 433)
-  Satellite Accumulation Site (Building IA8)

are addressed below:

- **Storage tanks.** A total of 64 storage tanks (42 underground and 22 above ground) were located in the CRP area. Only five underground tanks remain in 2010; these have been cleaned and are temporarily closed. Three above ground tanks remain in use and all contain propane.
- **Transformers, electrical equipment, and pre-1979 fluorescent light ballasts.** These components sometimes contain small amounts of polychlorinated biphenyls (also known as PCBs) and thus may be classified by the State as hazardous waste.
- **Building materials.** The primary materials of concern are lead-based paint and asbestos. Both materials were commonly used prior to 1980. Lead paint is considered hazardous because it can slough off as dust or chips that can be inhaled or ingested. Lead may also be detected in the soil around the perimeter of buildings where such paint was used. Asbestos may be found in insulation, floor or ceiling tiles, and certain piping materials in older buildings. If not properly maintained, it can become airborne and may be inhaled. Past surveys have found evidence of both lead-based paint and asbestos materials in the remaining buildings in the CRP area.
- **X-ray facilities and materials testing.** The Navy completed an historical radiological assessment of the site in 2009. The key areas of concern were associated with x-ray facilities and materials testing. The Assessment concluded that there was low potential for residual radioactive contamination.

4.6.3 Current Activities

As noted above, most activities on the site with the potential to generate hazardous materials have been discontinued. As of 2009, the site was classified as a “small quantity generator,” with one waste accumulation site (Building 433) and one satellite accumulation site (Building IA8) in the Administrative Area. These areas are shown on Figure 4-1 Waste Accumulation Sites. The waste generated is minimal and comprises basic maintenance items, such as fluorescent light tubes, batteries, mineral spirits, paints, solvents, and cleaning compounds.

4.6.4 Property Transfer Responsibilities

Before the CRP area is conveyed, the Navy will need to make a “Finding of Suitability to Transfer” (FOST) which confirms that the property is environmentally suitable for its intended use. The Finding will also identify whether any restrictions must be placed on future uses. At a minimum, the Navy is responsible for remediating contamination to a commercial/ industrial use risk standard. The Navy must comply with all laws and regulations relating to clean up. Another option is for a Finding of Suitability for Early Transfer (FOSET), which would mean that a new property owner would agree to take the property “as is” and conduct private clean-up that is funded by the Navy and performed under regulatory agency oversight.

As of September 2010, the Navy was in the investigation and feasibility study stage for most of the contaminated sites and had not yet reached concurrence with State and federal regulators on clean-up requirements. Depending on the outcome of its feasibility studies, sites may be designated by the regulators and the Navy for “no further action” (NFA), which could allow for unrestricted land uses. However, other areas may be cleaned by the Navy only to a level suitable for commercial/industrial uses. If a site was not cleaned to the standards necessary for its ultimate land use, engineering and administrative controls (known collectively as “institutional controls”) would have to be put in place to prevent future contact with contaminants. Engineering controls are physical

barriers, while administrative controls are non-regulatory means such as deed restrictions, covenants, public notices, and warning signs to prevent exposure. Land use covenants are required by California law for any site that does not allow for unrestricted use after remediation.

DOD guidelines for property transfer generally call for clean-up based on the current use rather than more sensitive uses, in order to expedite clean-up and land transfer. This implies that clean-up on the site would only be to a commercial/industrial standard. DOD guidance suggests that if a new property owner proposes residential or other sensitive uses on such land, the clean-up costs may be borne by that owner. Regardless of the conveyance method (public auction, public benefit, economic development), when the Navy conveys property potential buyers or recipients would need to perform due diligence review to ensure that the fair market value includes a discount for any additional clean-up that needs to be performed to meet the planned land use. For Site 22, the largest remediation site in the CRP area that is planned for residential use, the Navy has agreed to fund the clean-up to unrestricted use. Such clean-up will be implemented in conjunction with implementation of the Area Plan. Coordination of development stages will ensure more effective clean-up to the higher standards.

Based on existing data on hazardous materials, there are a number of areas planned for residential use that will need to be remediated to an unrestricted use standard after the land is transferred. Future landowners will need to consult with the City and appropriate regulatory agencies will provide oversight as this takes place.

4.6.5 Construction and Demolition Activities

Grading, installation of utilities, excavation for foundations, demolition and decommissioning of existing bunkers and buildings and similar activities could occur in areas with contaminated soil and groundwater, creating potential health risks to construction workers. These activities also have the potential to generate dust that can be carried off-site. To reduce associated hazards, future property owners will be required to prepare Site Management Plans establishing requirements for worker health and safety, as well as air, soil and groundwater monitoring. The plans will also include measures to control and minimize wind-blown dust. Each Site Management Plan will also establish procedures for detecting, investigating, remediating, and managing any previously unknown contamination issues.

Future property owners will also be required to conduct surveys of any buildings planned for demolition or renovation. This will ensure that workers and visitors are appropriately protected from any hazards associated with lead-based paint, asbestos, and other materials found in structures. If new (unknown) sites are discovered during construction or demolition and after land transfer, the Navy continues to retain liability under CERCLA.

4.6.6 Post-Construction

Once the CRP Area Plan is implemented, everyday activities are likely to involve the handling of hazardous materials, just as they do in all communities. Light industrial activities may locate in the Commercial Flex area and vehicles carrying industrial products may pass through on major thoroughfares. Even the use of household cleaning products by commercial tenants and future residents poses some level of risk. A combination of strategies will be used to minimize associated future risks. This includes preparation of Hazardous Materials Management Plans for certain types of businesses, household hazardous waste collection programs, consumer education, and standard emergency response protocol in the event of spills or accidents.

Hazardous Materials Policies

- ▼ Principle SHN-5: Reduce exposure to hazardous materials in the CRP area through agency coordination, land use planning, and remediation.

Corresponding 2030 General Plan Principle S-5-1: Promote agency coordination.

- ▶ Policy SHN-5.1: Hazardous Substance Investigation and Remediation

Ensure that contaminated properties are properly designated prior to transfer, that clean-up standards reflect planned land uses, and that either the Navy or private landowners (with regulatory oversight) conduct clean-up to allow planned land uses.

- ▶ Policy SHN-5.2: Determining Pre-Development Clean-up Levels

Work collaboratively with the Navy and State and federal regulatory agencies to determine the phasing and level of pre-development clean-up necessary in various parts of the site, following the protocol established by the DOD.

At the time of adoption of this Area Plan, the presumption is that the Navy will perform remediation in all areas at least to a standard that would permit future commercial and industrial uses.

- ▶ Policy SHN-5.3: Pre-Development Clean-up Requirements

Recognize that clean-up above and beyond what is required by the DOD may be necessary before portions of the site can be developed in accordance with the Area Plan. This may be true in areas planned for housing, schools, day care centers, and other sensitive uses. In such cases, the City of Concord shall require that new property owners remediate any residual hazardous materials to a level that is consistent with the planned land use unless the Navy has agreed to a higher clean-up standard. Such actions shall be subject to oversight by State and federal agencies.

- ▶ Policy SHN-5.4: Engineering Controls to Reduce Exposure

As appropriate, require the use of engineering controls that provide physical barriers to reduce exposure to residual hazardous materials, and administrative controls that provide regulatory barriers such as covenants and deed restrictions.

- ▶ Policy SHN-5.5: Soil and Groundwater Monitoring

As necessary and required by regulatory agencies, monitor soil and groundwater conditions in the Planning Area and in nearby areas.

- ▶ Policy SHN-5.6: Site Management Plans

Require Site Management Plans and other appropriate measures to minimize on- and off-site hazards during construction.

Such plans should include measures to reduce the exposure of residents along the perimeter

of the site, construction workers, and site visitors to hazardous substances during the development phase, as well as measures to protect nearby neighborhoods from the risk of exposure to hazardous materials. This should also include provisions to ensure that construction activities do not interfere with remediation efforts or damage remediation systems such as pumps, piping, extraction and monitoring wells, and treatment systems.

▶ **Policy SHN-5.7: Removal of Hazardous Building Materials**

Avoid potential hazards associated with the demolition or renovation of any of the remaining buildings within the CRP area, such as release of lead-based paint or asbestos.

▶ **Policy SHN-5.8: Contra Costa County Fire Protection District Coordination**

Coordinate site development with emergency response planning and protocol by the Contra Costa County Fire Protection District.

▶ **Policy SHN-5.9: Minimizing Post-Development Hazards**

Incorporate best management practices to minimize the potential for spills, accidents, or health hazards associated with routine hazardous substance use during post-development conditions. Ensure compliance with Contra Costa County Fire Protection District requirements on use of hazardous materials and their handling.

▶ **Policy SHN-5.10: Compliance with Federal, State, and Local Laws**

Require compliance with all federal, State, and local laws that regulate the management of hazardous materials and wastes as development takes place and buildings are occupied. This shall include the preparation of Hazardous Materials Management Plans for individual businesses where required by the Contra Costa County Department of Health Services.

4.7 Noise

Noise is a potential environmental hazard which can substantially impact human health and well-being. It can interfere with sleep, disrupt communication and relaxation, and even have harmful physical effects such as hearing loss. The Concord 2030 General Plan includes policies to protect the public from the negative impacts of noise. It includes measurable standards to ensure that future land use decisions are compatible with existing and expected noise levels. These same standards will be applied to the CRP area as the site is developed.

As a largely undeveloped and uninhabited site, the CRP area is a relatively quiet place today. The primary sources of noise are BART, State Route 4, and the other major roads that adjoin and pass through the property. As development takes place, measures will be implemented to protect future residents, workers, and site visitors from these noise sources, as well as noise that will be generated by the construction and operation of new roadways, businesses, and other activities that occur on the site. Strategies will also be implemented to maintain the peace and quiet of neighborhoods near the site, both during construction and after the site is developed.

4.7.1 Reducing Exposure to Existing Noise Sources

Future exposure to BART noise and roadway noise will largely be controlled through site planning, design, and construction standards. The City of Concord discourages new single-unit homes in areas where the exterior noise

level is greater than 60 dB Ldn¹. New multi-unit homes are discouraged in areas where the exterior noise level is greater than 64 dB Ldn. Some of the areas that may include residential use—particularly the TOD core area which may include higher density housing—currently have noise levels which exceed these thresholds.

In mixed-use areas such as the TOD core, there is an opportunity to use detailed district planning to locate less sensitive uses—such as office buildings—closer to noise sources, thereby both increasing the distance to sensitive uses and creating noise attenuation effects with the presence of buildings. Detailed site planning can also provide an opportunity for building siting to respond to topographic features that create a suitable noise environment by blocking vehicle noise sources. As development takes place in this area and other locations affected by train, truck, and car noise, more detailed studies will identify places where existing topographic features or non-residential building mass reduces noise levels at sensitive receptors such as housing, parks and schools. Where noise exposure is expected to violate the City's standards after taking these features into account, the General Plan requires that sound be managed in a way that reduces noise levels to meet the City's standards. In similar settings elsewhere in Concord and other communities, this is often achieved through intervening structures such as sound walls and berms.

Indoor as well as outdoor noise is of concern. The California Building Standards Code requires that interior noise levels not exceed 45 dB Ldn in any residential unit or hotel guest room. Acoustical studies will be required to ensure that these standards are attained as the CRP area is developed. Measures such as insulation, acoustical seals, double glazed windows, and masonry facades can be used to effectively absorb sound in such cases. The placement and design of mechanical systems in buildings can also reduce noise levels. For example, heating, ventilation, and air conditioning systems can be located in a way that minimizes their proximity to noise-sensitive spaces (such as bedrooms) and can be placed in noise-abating enclosures when necessary.

The City of Concord has adopted noise standards for schools, parks, commercial uses, and other activities. Similar protocol will be followed for these uses, with acoustical studies required for planned projects along with design and construction measures which reduce noise to acceptable levels.

4.7.2 Reducing Exposure to New Noise Sources

Some of the uses planned for the CRP area may generate noise. This could affect future occupants of the site, as well as residents in nearby neighborhoods. For instance, there may be noise associated with large spectator events if a tournament sports facility is developed. Noise could also be associated with new parks, schools, commercial uses, roads, and outdoor gathering spaces. Again, acoustical studies will be required when necessary, and design and construction measures will be used to reduce potential conflicts.

One of the most substantial new noise sources on the site will be construction. With a buildout period that may span two to three decades, construction-related activities will be occurring for many years to come. This will not only affect residents of nearby Concord neighborhoods, it will also affect future residents of the site itself. The City has developed guidelines to ensure that construction noise is minimized. These include the use of temporary noise barriers (plywood sheeting, etc.), limits on the hours of construction, maximum allowable noise levels for construction equipment, and designation of routes for heavy construction vehicles which bypass noise-sensitive uses. Many of these measures are articulated in the Mitigation Monitoring Program for the Concord Community Reuse Plan adopted in January 2010.

1. Sound is typically measured using decibels (dB). Ldn refers to "Day-Night" average noise levels and is an expression of noise levels over a 24-hour period, with adjustments added to reflect the greater sensitivity to people to noise at night.

The 2030 General Plan anticipates the possibility that future noise levels may exceed the City's noise compatibility guidelines and includes policies to mitigate such impacts when they occur. These policies include using noise attenuation measures for single unit residences on arterial streets (S-2.1.4), developing conditions of approval for noise-generating activities (S-2.2.2), and requiring developers to reduce noise impacts through appropriate means (S-2.2.5). The Area Plan is consistent with the General Plan and supports these policies.

Noise Policies

- ▼ Principle SHN-6: Create a compatible noise environment in the CRP area.

Corresponding 2030 General Plan Principle S-2.1: Encourage land use compatibility for community noise environments.

- ▶ Policy SHN-6.1: Noise Compatibility Standards

Ensure that the ambient exterior and interior noise levels for future land uses are consistent with Concord 2030 General Plan compatibility standards and the requirements of the California Building Standards Code.

The community noise exposure level standards in the Concord Safety and Noise Element shall be applied when determining the acceptability of different uses in different locations.

- ▶ Policy SHN-6.2: Acoustical Studies

Require acoustical studies where the noise environment exceeds Concord 2030 General Plan standards, or where there is a possibility that a project will substantially affect existing noise levels. Such studies should identify the measures needed to reduce noise to acceptable levels.

- ▶ Policy SHN-6.3: Noise Attenuation Measures

Use noise attenuation measures and best available control technology to improve the acoustic environment where residences are affected by noise from nearby BART trains, State Route 4, Port Chicago Highway, Willow Pass Road, or other sources.

- ▶ Policy SHN-6.4: Stationary Noise Sources

Incorporate noise and vibration reduction measures in any development that includes new stationary noise sources with the potential to create adverse noise impacts on nearby activities or surrounding properties. This would include the development of major outdoor gathering places such as a tournament sports facility.

- ▶ Policy SHN-6.5: Construction Noise

Ensure that noise impacts from construction do not adversely affect the ambient noise levels in nearby Concord neighborhoods and in developing and new neighborhoods in the CRP area.

► **Policy SHN-6.6: West Street and Denkinger Road**

Require that new extensions of West Street and Denkinger Road be constructed using low-noise road surfaces and that measures such as traffic calming be used to reduce noise. Require developers to fund grants that will allow noise-sensitive receptors at these locations to install acoustical insulation. The alignment of these street extensions should minimize noise impacts to existing development, whenever possible.

► **Policy SHN-6.7: Land Use Compatibility in Mixed Use Areas**

Establish zoning requirements and disclosure procedures to address potential noise and nuisance problems in mixed use areas, consistent with the intent for these areas expressed in Area Plan Book One.

Residents of mixed use areas should fully understand the nature of current and future neighboring businesses when they choose their home location. Requirements and procedures addressing compatibility should seek to create conditions in which businesses consistent with the Area Plan's vision will be successful and residents will be comfortable in a mixed use setting.

4.8 Airport-Related Hazards

The northwest portion of the CRP area is located within the influence area of Buchanan Field Airport. However, it is located outside of the safety zones for the airfield. The Contra Costa County Airport Land Use Commission will review the compatibility of future site-specific development proposals with the airport's approved and planned use.

4.9 Public Health and Wellness

The final topic addressed in this chapter is the health and wellness of those who will live, work, and visit the CRP area in future years. The design of a community, including the mix of land uses, modes of travel, location of parks and open space, and design and construction of buildings can influence the health of residents in subtle but profound ways. To create healthy communities, neighborhoods will be designed to encourage physical activity. Walking or bicycling to school, work, or the store will be encouraged as convenient and safe. Nutritional food choices should be supported by providing access to community gardens, farmers markets, and fresh produce in supermarkets. Year-round exercise facilities should be available and a variety of medical services should be offered. Building materials should be non-toxic, and should support the well-being of occupants.

As a brand new community, the CRP area presents the opportunity to incorporate many of these principles in its design and construction. Residents from across Concord can benefit from the features of the Area, just as CRP area residents will benefit from the proximity of health care and fitness facilities, farmers markets and a wide range of other services in other parts of the city. Moreover, the features that constitute a healthy community include many of the same features that support reduced greenhouse gas emissions. The Transportation Chapter in Book Two and the Climate Action Plan in Book Three outline additional steps to promote walking and bicycling, reduce vehicle emissions, improve environmental quality, and achieve low emissions construction as development occurs.

Public Health and Wellness Policies

- ▼ Principle SHN-7: Promote public health and wellness through land use planning and design.

Corresponding 2030 General Plan Principle: None.

- ▶ Policy SHN-7.1: Complete Neighborhoods

Encourage the development of complete neighborhoods within the CRP area, where goods and services are located within comfortable walking and biking distance of all residences.

See Book One, Chapter 3.1: Community Framework for convenience standards for specific land uses, transportation facilities, and services.

- ▶ Policy SHN-7.2: Promoting Walking and Bicycling

Promote walking and bicycling through the design of the local circulation system, and the orientation, mix, and density of new land uses. Walking and bicycling can be encouraged by providing a well-connected system of streets, trails, and sidewalks which provide easy access to major destinations and avoid circuitous routes.

See Book One, Chapter 3.1: Community Framework for street connectivity and block length standards.

- ▶ Policy SHN-7.3: Access to Healthy Foods

Support access to fresh, healthy, locally grown and organic food by accommodating community gardens, farmers markets, and local markets.

- ▶ Policy SHN-7.4: Urban Agriculture

Promote urban agriculture by allowing small scale crop production and community gardening in appropriate locations in the open space network.

- ▶ Policy SHN-7.5: Access to Parks and Open Space

Ensure that local parks and open spaces are easily accessible on foot, bicycle, or transit, and accommodate a diverse range of physical activities.

See Chapter 6 Community Services and Parks for additional policies on parks and recreation.

- ▶ Policy SHN-7.6: Airport Land Use Compatibility

Ensure that future development is consistent with the Airport Land Use Compatibility Plan and the provisions of Federal Aviation Regulation (FAR) Part 77 (Objects Affecting Navigable Airspace). As more specific planning and site design activities occur on the site, the City will work with the Contra Costa Airport Land Use Commission, the Contra Costa County Airport Administration, and the Federal Aviation Administration to address airport-related compatibility issues.

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5.1 Overview

The Utilities Chapter provides guidance for developing the infrastructure needed to transform the CRP area from a largely undeveloped site to a sustainable mixed-use community. The design of utilities is particularly important to achieving the Plan's greenhouse gas reduction goals. Electric power generation is one the largest sources of greenhouse gas emissions in California. Development of the CRP area has the potential to substantially reduce future emissions when compared to the business-as-usual forecast presented in Book Three by focusing on renewable energy and reducing the energy required to transport water and wastewater. The City's actions will be complemented by State-level actions including the Renewable Portfolio Standard which will result in greater use of renewable energy by PG&E and other electricity providers. The Plan also addresses the potential to conserve natural resources through provisions for recycling, composting, recycled water use, and efficient delivery of other community services.

This chapter includes policies relating to the following topics:

- Utility Framework
- Water
- Wastewater
- Recycled water
- Stormwater management (drainage)
- Solid waste management
- Energy
- Telecommunications

2030 General Plan Goals Relevant to this Chapter

PF-1: Availability of Adequate Community Facilities.

GM-2: Ensure that new development pays for costs of service and does not have detrimental effects upon service levels for sanitary facilities, water, and flood control.

5.2 Utilities Framework

This chapter is underpinned by assumptions about how the CRP area will build out over the next 20 to 30 years. The assumptions relate to the number of dwelling units and jobs to be added, as well as the extent and spatial distribution of different land uses and circulation routes. This information is conveyed in Book One, Chapter 3 of the Area Plan.

This level of detail is sufficient to identify the basic infrastructure needed to serve the site, but more detailed utility system planning will be needed as development takes place. Refinements to the development program and the particulars of the timing and phasing of development are likely to affect utility planning and design, as will future advances in technology and changing federal and state requirements. The information presented in the Area Plan is broad enough to allow the site's developers to respond to such changes. It focuses on basic principles intended to ensure that utilities are adequate, available when development occurs, and consistent with the project's sustainability goals.

General Utilities Policies

- ▼ Principle U-1: Construct and operate utility systems which enable development of the CRP area as a sustainable community with an outstanding quality of life.

Corresponding 2030 General Plan Principle: None .

- ▶ Policy U-1.1: Provision of Utilities

Ensure the provision and maintenance of adequate water, wastewater, recycled water, stormwater drainage, and solid waste services to development on the CRP area by the City of Concord or by the agencies and special districts that provide these services to Concord.

- ▶ Policy U-1.2: Sustainable Design



Incorporate sustainability principles and climate action strategies into the design, operation and management of utilities to the greatest extent feasible.

- ▶ Policy U-1.3: Attractive and Compatible Utility Design

Ensure that utilities are designed to be safe, aesthetically pleasing, environmentally sensitive, and compatible with adjacent uses.

- ▶ Policy U-1.4: Undergrounding of Utilities

Generally locate all CRP area utility lines underground, with the exception of the existing Pacific Gas and Electric (PG&E) transmission lines, south of Bailey Rd.

- ▶ Policy U-1.5: Location of Utilities

Construct utility systems within public rights-of-way wherever feasible. Easements may

be used where locations within rights-of-way are unavailable or impractical. To facilitate maintenance and access, utility areas should be kept clear of obstructions unless otherwise agreed upon with the service provider.

► **Policy U-1.6: Infrastructure Concurrency**

Require infrastructure to be in place or guaranteed to a level acceptable to the City of Concord Department of Public Works, the California Department of Health Service, the Contra Costa Water District (CCWD), the Central Contra Costa Sanitary District (CCCSD), and other appropriate agencies prior to the issuance of building permits, based on an evaluation of infrastructure plans for the district which the proposed project is located.

5.3 Water

Water is supplied to the site and adjacent areas by CCWD. The major source of CCWD's water is the Sacramento–San Joaquin Delta. Water originates from rivers draining the Sierra Nevada and flows into the Sacramento and San Joaquin Rivers, eventually reaching the Delta and San Francisco Bay. The Central Valley Project diverts water from the Delta for domestic use. CCWD has a contract with the Central Valley Project ensuring water supply through 2045, although the supply is subject to reduction during drought. Other water sources available to CCWD include the East Contra Costa Irrigation District, Mallard Slough, recycled water, local groundwater from off-site wells, and water transfers. In 2011, the CCWD is in the process of building a new intake in the Delta to address problems with saltwater intrusion at its existing three intakes.

CCWD owns and operates three water treatment plants. One of the plants serves the City of Brentwood, and the other two serve residents throughout the CCWD service area. The Bollman plant, located in Concord, serves 220,000 residents in central Contra Costa County and in 2010 is operating near its capacity of 75 million gallons per day (MGD). Delta water is conveyed to this plant via the Contra Costa Canal and Mallard Reservoir, located northwest of the CRP area. The Randall-Bold plant, located in Oakley, has a capacity of 40 MGD with the potential to expand to 80 MGD. This plant provides water to Antioch, Brentwood, and the Diablo Water District. It also serves CCWD's retail customers in central Contra Costa County through a 21-mile pipeline.

Existing water infrastructure in the CRP area includes portions of the Contra Costa Canal and the Clayton Canal. Both canals are owned by the Bureau of Reclamation and managed by the CCWD. The Contra Costa Canal is currently in use, while the Clayton Canal has been discontinued. In addition to conveying water, the Clayton Canal and the Contra Costa Canal act as a drainage channel within the site and adjacent neighborhoods during the wet season.

A new water distribution system will be constructed as the CRP area is developed. If feasible, the system may incorporate existing water infrastructure on the site, including water pump stations and storage tanks.

The new system will have two integrated components—a potable water distribution system and a recycled water distribution system. There is also the potential for a third component which conveys raw or untreated water. This system could withdraw water directly from the Contra Costa Canal to supply residential, commercial, and community needs and to reduce the need to treat water for certain uses such as irrigation.

The potable system will rely on treated water from the CCWD. In June 2010, the CCWD completed a Water Supply Assessment (WSA) for the site in accordance with State of California requirements. The CCWD Board of Directors has adopted a resolution accepting the findings of the WSA and expressing a commitment to serve the anticipated development program for the CRP area. The WSA states that the proposed Planning Area development falls within the level of growth for the service area presumed by the 2005 Urban Water Management Plan (UWMP) and will not change the service area demand projections. The WSA notes that the 2005 UWMP concluded that there may be potential supply shortfalls in the latter years of a multiple-year drought period. To address this, the CCWD plans to obtain supplemental supplies through short-term conservation measures, expansion of Los Vaqueros Reservoir, and water transfers.

Potable water demand from the CRP area will be reduced when compared with typical demand by households and businesses in Concord by the use of recycled water for most outdoor purposes, including landscape irrigation, and by employing a variety of water conservation measures. These measures include the use of low-flow plumbing fixtures and appliances, cooling and refrigeration system design standards that incorporate recycled water, and water-efficient landscaping and maintenance. These measures are also recognized in Book Three as part of the Climate Action Plan.

Water Service Policies

- ▼ Principle U-2: Provide a safe and reliable water supply to the CRP area.

Corresponding 2030 General Plan Principle PF-1.1 Provide a safe and reliable water supply.

- ▶ Policy U-2.1: Water Management

Work with the CCWD to provide a safe and adequate water supply, coordinate water conservation activities, respond to water emergencies and long-term changes in water availability, and coordinate the delivery of water to future development within the CRP area.

- ▶ Policy U-2.2: Water Conservation



Implement water conservation measures to reduce overall water demand and increase water efficiency.

Water conservation measures are specifically required in further policies in this Book and in the Greenhouse Gas Reduction Program set forth in Book Three. Additional measures may be considered and required as specific projects are approved.

- ▶ Policy U-2.3: Fixture efficiency



Efficient fixtures (e.g. low-flush toilets, Energy Star dishwashers) should be installed in residential, commercial, institutional, and industrial buildings, as identified by established standards such as EPA Watersense and Energy Star.

► Policy U-2.4: Site efficiency



Minimize water used to landscape and irrigate outdoor areas. To implement this policy, the following strategies should be among those applied:

- Use water efficient landscape plantings, such as drought tolerant landscaping.
- Install permeable pavement, green streets, and other landscaping techniques that manage stormwater runoff and reduce heat island effects.
- Use non-potable water for irrigation and sewage conveyance (flushing) for commercial buildings and landscapes.

► Policy U-2.5: Cooling Efficiency



Minimize amount of water required to operate cooling towers in commercial buildings and evaporative residential air-conditioners. Non-chemical water treatment should be used to promote water safety and conservation.

► Policy U-2.6: Meter and Monitor



Commercial and residential buildings should be equipped with best-in-practice metering systems to increase awareness of use levels and help to identify leaks. This may include installing meters on high use systems to identify if water use is within suitable ranges.

► Policy U-2.7: Storage and Distribution System Standards

Ensure that water distribution systems, storage tanks, pump stations, and other water facilities serving the CRP area are constructed to meet CCWD's requirements and standards. Storage tanks will be required to meet CCWD's water supply and fire fighting design standards. Tanks may be located in Conservation Open Space consistent with provisions of natural resource permits.

► Policy U-2.8: Canals

Protect existing water supply and conveyance systems, including the Contra Costa Canal, from development impacts.

The City and future developers will work with the CCWD and US Bureau of Reclamation to evaluate options for protecting the canals, incorporating them as an open space amenity where feasible.

► Policy U-2.9: Raw/Untreated Water Use



Consider the feasibility of a raw/untreated water distribution system, in addition to the potable water distribution system.

The raw/untreated system could include filtering, storage facilities, and pumping stations and could potentially withdraw water directly from the Contra Costa Canal. Any untreated or raw water obtained from the Contra Costa Canal should be withdrawn at a metered location designated by CCWD.

► **Policy U-2.10: Golf Course Irrigation**

Continue the use of on-site wells to provide irrigation water to the Diablo Creek Golf Course.

5.4 Wastewater

The City of Concord maintains and operates the wastewater collection system in most of Concord and Clayton, as well as parts of Walnut Creek and the unincorporated Ayers Ranch area. A small portion of the wastewater collection system, primarily in North Concord and in the area around Sun Valley Mall and the Willows Shopping Center, is owned and operated by the Central Contra Costa Sanitary District (CCCSD).

Most wastewater collected in Concord flows by gravity to a large pump station at Pine Creek and the Walnut Creek Channel near Waterworld. A new relief interceptor will soon eliminate the need for the pump station by using a pipe that is deep enough to allow for gravity flow connection to the treatment plant.

The CCCSD treatment plant is located northeast of the intersection of I-680 and State Route 4. The measured dry weather flow into the plant in Fiscal Year 2008 was 35.2 MGD, while its maximum operating capacity was approximately 125 MGD. The plant's effective capacity is capped by its National Pollution Discharge Elimination System (NPDES) permit, which is intended to limit effluent discharge into San Francisco Bay. The NPDES permit allows a maximum dry weather flow of 53.8 MGD. During wet weather, the District diverts excess sewer inflow into holding basins which can store up to 140 million gallons.

Wastewater at the plant is treated to either secondary or advanced levels. The secondary treated wastewater is discharged into Suisun Bay, while wastewater receiving advanced treatment is reused for non-potable purposes through a recycled water system

The City of Concord pays a proportional share of the cost associated with operating the CCCSD treatment plant and also contributes to the capital improvements needed to maintain and improve the plant. The City has a 20-year Sewer Enterprise Plan that projects the revenue and expenditures needed to operate its sewerage system, including its annual contributions to the CCCSD plant.

New wastewater collection lines will be needed as development of the CRP area takes place. Consistent with Concord 2030 General Plan policy, all construction will be coordinated with the City of Concord Public Works Department and the CCCSD to ensure that the quality of service for established customers is maintained as new development takes place. Improvements to existing transmission mains and pumping stations in North Concord may be needed to handle the additional flow from the site to the treatment plant.

It is not yet known whether wastewater collection services will be provided by the City of Concord or the CCCSD, since both agencies have jurisdiction over portions of the site.² In either event, the CCCSD will provide wastewater treatment services. The solids-handling facilities and primary sedimentation processes at the treatment plant may need to be improved to accommodate development consistent with the Area Plan.

² At the time of Area Plan preparation, the CRP area included some areas where the CCCSD would be the wastewater collection agency, some areas where the CCCSD or the City of Concord would be the wastewater collection agency, and other areas where no sanitary sewer service provider has been identified.

Since the NPDES permit for effluent discharge at the CCCSD treatment plant did not anticipate development on the site, there is a possibility the plant could reach its permitted limit sooner than was previously anticipated. The City and Sanitary District will need to work with the RWQCB to address this issue. It is possible that the existing NPDES permit will remain sufficient if other presumed projects do not build out as planned, if there is less groundwater infiltration into the collection system, or if aggressive use of recycled wastewater results in less discharge.

Wastewater Service Policies

- ▼ Principle U-3: Ensure public health and safety by providing effective wastewater collection and treatment services to the CRP area.

Corresponding 2030 General Plan Principle PF-1.2: Ensure public health and safety by providing effective wastewater collection and treatment.

- ▶ Policy U-3.1: Wastewater Management

Protect public health and safety by ensuring that adequate, effective wastewater collection systems are in place or committed as development of the CRP area takes place. All wastewater collection improvements made by the City of Concord shall be coordinated with the CCCSD.

- ▶ Policy U-3.2: Sewerage Planning and Financing

Revise Sewer Enterprise Fund projections, wastewater forecasts, capital improvement plans, and other plans for wastewater service to reflect the added demand from development within the CRP area. Establish the programs or development fees necessary to ensure that future revenue sources will be sufficient to expand existing wastewater collection and treatment facilities and recycled water systems to accommodate projected flows.

- ▶ Policy U-3.3: Wastewater Collection Service Agreement

Reach an agreement between the City of Concord and the CCCSD regarding the provision of wastewater collection services to the Planning Area. Once this agreement is reached, revise plans, programs, and fees accordingly to accommodate the project.
This should include revised projections for the CCCSD wastewater treatment facility, and revision of the NPDES permit if necessary to permit a higher effluent discharge limit.

5.5 Recycled Water

The use of recycled water in California is regulated by Title 22 of the California Code of Regulations. Permitted uses depend on the level of treatment provided. Possible uses include irrigation, toilet flushing in non-residential buildings, car washes, water features, and building cooling systems.

In 1996, CCCSD and CCWD reached an agreement allowing CCCSD to supply recycled water from the wastewater treatment plant to parts of the service area. About 200 million gallons of recycled water are currently used each year by irrigation customers, including two golf courses, a community college, an elementary school, three middle schools, a high school, and the City of Pleasant Hill.

A recycled water system is planned for the CRP area to reduce total water demand and avoid the need to use drinking water for irrigation and other non-potable purposes. Recycled water use is one of the water-related climate action strategies included in Book Three's Greenhouse Gas Reduction Program.

In August 2009, CCCSD provided a "Will Serve" letter to the City of Concord indicating its commitment to be the supplier of recycled water. The Letter acknowledges that the precise amount of recycled water has yet to be determined, but cites CCCSD's ability and intent to provide up to 6,000 acre-feet per year. The State Water Resources Control Board has granted CCCSD the authority to provide up to 26,120 acre feet of recycled water per year for irrigation and industrial purposes throughout its service area. This is far greater than CCCSD's 2009 delivery of 700 acre feet of recycled water a year.

Delivery of recycled water to the CRP area will require construction of a pipeline connecting CCCSD's treatment facility to the site. Storage facilities could be required within the Planning Area. Expansion and renovation of CCCSD's existing tertiary treatment facility also would be required. The specific needs and associated costs for recycled water facilities would be determined through subsequent planning activities and would be incorporated into project-level development approvals.

New recycled water distribution lines ("purple pipe") and pumping stations will be required to serve new development. These facilities would allow recycled water to be used for parks, recreational facilities, and various residential and commercial purposes.

Recycled Water Policies

- ▼ Principle U-4: Reduce the use of potable water for non-potable purposes by providing a recycled water system serving the CRP area.



Corresponding 2030 General Plan Principle: None.

- ▶ Policy U-4.1: Recycled Water Quality

Ensure that recycled water complies with all applicable health and safety standards and other pertinent water quality regulations.

- ▶ Policy U-4.2: Recycled Water Use

Require use of non-potable water to irrigate all public spaces and private outdoor space managed by homeowner's associations. Prohibit use of potable water for irrigation unless there are no alternative supply sources.

Use recycled water as the primary water supply for residential and commercial building cooling and all other applications where potable water is not essential.

► **Policy U-4.3: Water System Design Flexibility**

Design buildings and irrigation systems to accommodate future use of recycled water if recycled water is not available at the time of construction.

► **Policy U-4.4: Purple Pipe**

Require developers to install “purple pipe” in outdoor irrigation systems throughout the Planning Area to maximize the use of recycled water.

5.6 Stormwater Management

The City of Concord operates and maintains a storm drainage system within the City limits, with runoff conveyed entirely by gravity flow. The City’s system is composed of 229 miles of storm drain pipes, 1,140 manholes, and almost 6,000 catch basins. Storm drain pipes discharge into a network of creeks and drainage ways. The Contra Costa County Flood Control and Water Conservation District maintains and operates the channels receiving much of this runoff, including Mt. Diablo Creek and the Holbrook Channel. The District ensures that adequate capacity exists to manage stormwater runoff from development and requires that its channels be designed to handle a 25-year storm event.

Because the CRP area is mostly undeveloped, existing drainage infrastructure is minimal. More than 75 percent of the site drains into Mt. Diablo Creek. About 22 percent of the site drains to the Holbrook Channel and associated Concord urban drainages. The Channel is a constructed drainage feature that begins near the western edge of the site and flows north through Concord until it joins Walnut Creek. It receives storm runoff from an upstream watershed in the City of Clayton through a 36-inch outfall at the intersection of Olivera Road and Willow Pass Road at the site boundary. The capacity of the Holbrook Channel may be constrained at the locations where it passes under the Contra Costa Canal and at another culvert location near the intersection of Willow Pass Road and Olivera Road.

The Contra Costa Canal and Clayton Canal also function as stormwater drainage features. During the rainy season, runoff from the CRP area flows into both channels. This may need to change as the site is urbanized.

A new storm drainage system will be constructed as the CRP area is developed. The system will use existing drainage features including Mt. Diablo Creek and will be interconnected to the existing City of Concord storm drain system. The City’s Storm Drain Master Plan will be amended to reflect the additional drainage needs of this newly urbanizing area.

The storm drainage system may incorporate stormwater detention or retention ponds that reduce runoff volumes and speeds. Some of these ponds may be located within the 300-foot buffer area along Mt. Diablo Creek; others may be located within future open spaces or other public land in the Planning Area. In addition, flood control improvements to Mt. Diablo Creek will be constructed to handle the increased volume of runoff and reduce future flood hazards. Drainage improvements also will be made in low-lying areas where development is planned, particularly near the former airfield on the western edge of the site.

Planning standards and guidelines will limit impervious surface coverage and require collection and infiltration facilities so that as much rainwater as possible can be retained on individual development sites. Some of the measures that can be used to control runoff include permeable pavement, natural stormwater management in “green street” rights of way, green roofs, cisterns, and rain gardens. In addition, sediment traps and filters can allow stormwater to dissipate, and remove pollutants from runoff. As noted in the Health and Safety chapter of the Area Plan, the overall objective is to avoid net increases in peak stormwater runoff flows as development takes place.

Stormwater Management Policies

- ▼ Principle U-5: Protect the CRP area from the adverse impacts of water runoff.

Corresponding 2030 General Plan Principle PF-1.3: Protect the community from the adverse impacts of water runoff.

- ▶ Policy U-5.1: Drainage Improvements.

Improve drainage capacity in low-lying portions of the CRP area that are planned for future development. Flows from such areas should be controlled and directed using new drainage facilities.

- ▶ Policy U-5.2: Grading and Stormwater Management Plans

Require the preparation of grading, drainage and stormwater management plans in Development Districts within the CRP area, consistent with the Concord Municipal Code and Contra Costa Clean Water Program’s Joint Municipal NPDES permit requirements.

These plans should ensure that stormwater drainage facilities are installed before development takes place, and that these facilities minimize surface runoff and the risk of flooding. All facility improvements should be coordinated with the Contra Costa Flood Control and Water Conservation District.

- ▶ Policy U-5.3: Stormwater Best Management Practices

Implement best management practices to reduce runoff rates and volumes, avoid erosion and sedimentation, and protect surface water quality during and after construction.

- ▶ Policy U-5.4: Stormwater Detention or Retention and Treatment

Implement NPDES permit provisions which require stormwater to be captured and treated or infiltrated on-site before being discharged into creeks or channels. Construct stormwater detention and/or retention facilities as needed to achieve this objective.

- ▶ Policy U-5.5: Joint Use of Stormwater Detention and Retention Ponds

Coordinate the siting of stormwater detention and retention facilities with the planning of parks, greenways, and open space buffer areas.

In some instances, parks and buffer areas may be programmed and designed to temporarily flood during major storms as a method of detention.

See the Safety, Health, and Noise Chapter for additional policies on flood control.

5.7 Solid Waste Management

Solid waste, recycling, and green waste collection services are provided to the CRP area and other residential and commercial customers in Concord by Concord Disposal Service (CDS). In 2004, there were approximately 247,000 tons of solid waste generated in the CDS service area. About 44 percent of this total was diverted through recycling and about 56 percent was landfilled. About three-quarters of the disposed waste was transported to the Potrero Hills Landfill in Solano County, with the balance taken to the Keller Canyon Landfill just northeast of the CNWS site. A major expansion of the Potrero Hills Landfill is planned, adding 35 years to its current projected life. The Keller Canyon Landfill is projected to have capacity through at least 2040.

Recycling and green waste services are provided to Concord residential customers by CDS. The City of Concord is also served by a Household Hazardous Waste Collection Facility in Martinez, operated by the CCCSD.

Waste reduction and recycling remain high priorities in Concord and the entire Bay Area. The City of Concord and other California communities have been required by State law to achieve at least a 50 percent waste diversion rate since 2000. This means that at least half of the waste generated annually in the community must be diverted from landfills through recycling, recovery, and waste reduction programs. Since 2007, the City has had a Construction and Demolition Recycling Ordinance that requires at least half of all construction and demolition waste and 75 percent of all concrete, soil, asphalt, and masonry products to be recycled or reused.

Upon buildout of the Development Program, development within the CRP area is projected to generate an estimated 137 tons of solid waste per day, or 49,884 tons of waste per year. This tonnage represents approximately 1.5 percent of the projected combined permitted capacity of the Potrero Hills and Keller Canyon Landfills. The landfills are expected to have sufficient capacity to accommodate this demand, particularly considering the expansion plans for Potrero Hills. The actual tonnage generated at the site could be substantially lower than 137 tons per day with the successful implementation of waste reduction, composting, and recycling programs included in the Climate Action Plan.

Curbside waste collection, recycling, and green waste/food scrap collection services will be established as development takes place. These services will be provided to the residential and non-residential sectors, with an array of public education and outreach measures used to achieve high levels of participation. Facilities for composting will be developed, providing a source of high quality soil amendment for community gardens, private gardening, and public use. New attached residential development, commercial/mixed-use development, and public buildings will include screened enclosures for recyclables, compostables, and trash—further encouraging reduction of landfilled waste.

Solid Waste Management Policies

- ▼ Principle U-6: Expand the City's solid waste reduction and recycling efforts to the CRP area as development occurs.



Corresponding 2030 General Plan Principle PF-1.5 Continue solid waste reduction and recycling efforts.

- ▶ Policy U-6.1: Solid Waste Management

Manage solid waste disposal in a manner that supports and advances the City's waste reduction, recycling, and composting goals.

This includes education and outreach strategies to maximize waste reduction and landfill diversion in new development districts.

- ▶ Policy U-6.2: Construction and Demolition Debris Recycling

Manage and, to the extent feasible, reuse or recycle the debris generated by the demolition of storage bunkers, roads, railroad revetments, and buildings.

5.8 Energy

Energy-related utilities include electricity, natural gas, and petroleum pipelines. A number of these facilities currently cross the site, some providing service to existing military uses and others transporting fuel or electricity to customers nearby.

Existing uses on the site receive electricity directly from the Western Area Power Administration. Electricity is distributed using 4.16 kilovolt (kv) overhead lines. In addition, PG&E has a 21 kv overhead line that generally follows the Mt. Diablo Creek Corridor and a 12 kv overhead line that runs parallel to Willow Pass Road. These distribution lines provide utility feeds to the cities of Concord and Clayton and do not provide direct service to the CRP area. PG&E also operates a 115 kv transmission line that crosses the site in its southeastern corner near Kirker Pass Road. PG&E's system is supplied by power plants within the service area as well as energy produced elsewhere and delivered through high voltage transmission lines. Power is stepped down from the transmission lines to distribution lines at substations located throughout the service area.

PG&E is the natural gas supplier for the CRP area. A natural gas distribution line terminates near the existing front entrance gate of the site north of SR 4. Two high pressure gas mains traverse the site, one north of SR 4 and the other near Kirker Pass Road.

There are also three petroleum and oil pipelines that cross the site, operated by Shell, Kinder Morgan, and Conoco Phillips. The pipeline easements are typically 20 to 25 feet wide, with petroleum pipeline warning markers posted along the alignment. The pipelines run along most of the southern boundary.

PG&E will provide gas and electric service to new development within the CRP area. New utility systems will typically be constructed in underground easements, although the existing high voltage transmission lines that cross the site will remain overhead. Electricity demand at the site should be substantially lower than in comparable developments due to green building and climate action strategies.

The statewide Renewable Portfolio Standard will require the renewable energy portion of the retail electricity portfolio to be 33 percent in 2020. For PG&E—the electricity provider for the CRP Planning Area—approximately 12 percent of the current portfolio qualifies as renewable under the RPS rules and thus the gain by 2020 would be approximately 21 percent.

A new substation will be built to provide electricity from the existing transmission grid to a new electric distribution system that will be put in place as development occurs. The substation will require a site of about 5 acres, with the location to be determined after Area Plan approval. A new overhead transmission line will need to be built to bring power from existing transmission lines near the site to the substation

Total demand for natural gas at buildout is projected to be 6 megatherms/year. A new network of gas distribution mains will be built as roads are constructed and development takes place. PG&E is proposing that a distribution feeder main would be built from the existing transmission line near Port Chicago Highway and SR 4 to the south to a gas regulator site that would be located near the south edge of the TOD area or on Willow Pass Road near planned community facilities. Distribution mains would radiate out from the gas regulator station to serve new development.

Energy Infrastructure Policies

- ▼ Principle U-7: Provide reliable energy services to the CRP area while supporting efforts to attain high levels of energy efficiency, conservation, and renewable supply.
Corresponding 2030 General Plan Principle PF-1.4: Ensure access to utility systems.

- ▶ Policy U-7.1: Coordination with PG&E

Coordinate development planning and approval with PG&E to ensure prior to occupancy that electricity and natural gas facilities will be adequate to serve development. The City shall provide PG&E with the development data necessary to make such determinations.

- ▶ Policy U-7.2: Transmission Line Easements

Ensure that land uses and activities within transmission line easements are compatible with the function of these corridors and comply with applicable public safety standards

Typical allowable uses include open space, parking, landscaping, and passive recreation. Structures shall not be allowed in such easements unless agreed upon by PG&E.

► Policy U-7.3: Petroleum and Natural Gas Pipelines

Ensure that land uses above and adjacent to the petroleum pipelines are compatible with those facilities and respect their existing easements. Alternatively, the pipelines may be rerouted as part of future development. Where appropriate, title surveys shall be required to reveal any additional information about pipelines or easements prior to development.

► Policy U-7.4: Siting of New Electric and Gas Facilities

Work with PG&E to design and site a new electric substation and a new gas regulator station.

This should include a new transmission line from the existing PG&E transmission lines to the substation, and a new natural gas transmission main from the existing line at Port Chicago Highway and SR 4 to the regulator station. The standards for the Commercial Flex District established in Book One recognize a substation as an appropriate use in the district.

5.9 Telecommunications

AT&T is the major telecommunications provider in Concord. Comcast and Astound Broadband also provide telecommunications as well as cable television services. The CRP area is within the franchise agreement area between Comcast and the City. Comcast maintains an existing aerial line running through the site. A 2-inch conduit fiber-optic cable also runs across the site in the area between Port Chicago Highway and Willow Pass Road.

Additional telecommunications infrastructure will be put in place as development occurs. This will involve laying cable or fiber optic lines in new street rights-of-way and easements and coordinating with local franchise holders or other appropriate providers. Because the CRP area is currently undeveloped, it provides an opportunity to invest in state-of-the-art telecommunications infrastructure. This can increase access to information for future residents and provide an amenity and incentive to attract new businesses.

Telecommunications Policies

- ▼ Principle U-8: Provide telecommunication services to the CRP area that support economic development and quality of life goals for the community.

Corresponding 2030 General Plan Principle PF-1.4: Ensure access to utility systems.

► Policy U-8.1: Telecommunications

Coordinate with local telecommunication and cable service providers in extending service to the site as development takes place. Recognize the opportunity to use these services to attract technology-based businesses and other information services to the city.

► Policy U-8.2: **Siting of Telecommunication Facilities**

Ensure that any telecommunication facilities developed on the site are consistent with the overall standards and policies of the Area Plan, including the preservation of scenic views and vistas; conservation of sensitive habitat areas and natural topography; and protection of public health and safety.

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Community Facilities and Parks

6.1 Overview

This chapter addresses future community facilities and services in the CRP area. New schools, libraries, fire stations, community centers, parks, and recreational facilities will be needed to serve the increased population and workforce on the site. In addition to providing essential services to residents, these facilities are an important part of creating complete neighborhoods and developing the former base as a walkable, sustainable community.

The CRP area also provides opportunities for facilities that serve persons living and working in other parts of Concord and the surrounding region. Few cities in the Bay Area have opportunities of this scale available to them. Thus, it is important to consider the demand for services in a context that is broader than the site alone. Given the potential for facilities within the Planning Area to attract users from throughout the city and the wider area, special attention must be given to the equitable financing of major public projects as well as the ongoing costs of services, operations, and maintenance.

Not all of the facilities addressed in this chapter would be operated by the City of Concord. Other agencies such as the Mount Diablo Unified School District (MDUSD) and the East Bay Regional Park District (EBRPD) will play important roles. Community facilities also may be built by the non-profit and private sectors. For instance, the CRP area is likely to include child care centers, places of worship, and private recreation facilities. It could include museums, performing arts venues, galleries, and other cultural arts facilities. Although these facilities are typically not operated by local government, they can serve as public gathering places and provide important benefits to residents. They can help build a stronger sense of community and contribute to civic identity and pride.

This chapter addresses the following topics:

- Schools and Libraries
- Public Safety (Police and Fire)
- Homeless Services
- Other Community Facilities
- Parks and Recreational Services

2030 General Plan Goals Relevant to this Chapter

POS-1: Premier parks and recreation facilities.

PF-1: Availability of adequate community facilities.

PF-2: Excellent education, culture, and arts and entertainment.

S-7: Comprehensive emergency and safety services for community protection.

GM-2: Ensure that new development pays for costs of service and does not have detrimental effects upon service levels for parks, fire, and police.

6.2 Relationship to the 2030 Citywide General Plan

This chapter of the Area Plan supplements three elements of the Concord 2030 General Plan:

- First, the General Plan’s Community Facilities and Utilities Element addresses service and infrastructure needs on a citywide basis. The topics in the citywide element include public and private schools, community centers, museums and galleries, civic buildings, libraries, and religious facilities. The citywide element also addresses drainage, water, wastewater, and solid waste. In the Area Plan, these topics are covered in a separate chapter on Utilities.
- Second, the General Plan’s Parks, Open Space, and Conservation Element includes policies for city parks, as well as conservation of open space and other natural resources. The Area Plan addresses these topics in both Books One and Two. Parks and recreational services are addressed in this chapter, recognizing the function of parks as a public facility and the City’s role in providing recreational services. Open space and conservation are addressed in Chapter 3, with a focus on biological resource management and protection of environmentally sensitive lands.
- Third, the General Plan’s Safety and Noise Element addresses police, fire, and life safety services in Concord, as well as environmental hazards. In the Area Plan, policies relating to police and fire are covered in this chapter, while environmental hazards are addressed in Chapter 4.

The Community Facilities and Parks Chapter is organized into subheadings that correspond to different service categories. In each case, a narrative description is included, followed by policies related to that service. The description is based on a consistent set of assumptions about development that will occur on the site and the location of that development.

In most cases, the CRP area Plan does not identify specific sites for community facilities such as schools or libraries. These facilities should generally be clustered in or near Village Centers, Central Neighborhoods, the TOD area, and other locations where public assembly is desired, such as the Campus district. The standards in Book One Chapter 3 indicate the “Required Mix” and “Additional Appropriate Uses” for each land use district on the site. Community facilities are part of the “Required Mix” in the North Concord TOD and Central Neighborhoods and in each of the Villages and Village Centers. In the North Concord TOD Core, they are part of the “Additional Appropriate Uses”. The Campus district offers a location for an educational, cultural or research institution that could provide some community facilities available for joint use with the larger community.

The Area Plan identifies sites for two facilities on large sites—a tournament sports facility (on the east side of Willow Pass Road, north of Mt. Diablo Creek) and an 80-acre training facility for public safety agencies, located on the north side of Highway 4 west of Willow Pass Road. The Plan also identifies a potential site for a University or institutional or corporate campus. This could either be a public or private facility. In addition to these two facilities, the Plan identifies approximately half the site as a future regional park.

6.3 General Policies for Facility Development

The vision for The Concord Reuse Project includes community services and parks that enhance the quality of life for all Concord residents and businesses. Students living in all neighborhoods should be able to walk or bicycle safely to high-quality, state-of-the-art schools in all neighborhoods. New community facilities such as recreation

centers or libraries should complement existing facilities in Concord, providing amenities for long-time residents as well as new residents. Public safety should be maintained and enhanced with the addition of new fire stations, training facilities, and expanded capacities for law enforcement, emergency response, and fire protection. Parks and Greenways will be integrated into the fabric of the community. They will eliminate deficiencies in the city-wide park system and contribute to the visual beauty and environmental quality of new neighborhoods.

Some of the sites for future community facilities may be dedicated through Public Benefit Conveyances. The conveyance process was established by the federal government as a way to transfer surplus federal property to state and local agencies and certain tax-exempt non-profit entities for public uses such as homeless housing/ services, schools, and parks. The Department of Defense has conveyance authority for properties such as the CNWS that have been closed through the Base Realignment and Closure process. Key federal sponsoring agencies include the Departments of Education, Interior, Health and Human Services, Housing and Urban Development, Justice, and Transportation. Criteria have been established for determining if an applicant is eligible for a Public Benefit Conveyance, whether the applicant has a need for the property, and what restrictions will be imposed.

The Area Plan accommodates several specific uses that were introduced through the Public Benefit Conveyance request process. While the Navy is ultimately responsible for granting the requests, the Plan assumes accommodation of those uses, which include a sheriff and fire department training and first responder training center, land set aside for self-help housing for low-income families, and large open space areas to provide habitat protection, restoration, and recreational opportunities for the region. The Public Benefit Conveyance process may also be used to support the creation of a university located in the Campus District. The City of Concord, acting as the Local Reuse Authority, has reviewed and considered these proposed uses as part of the Reuse Plan for the CNWS which was approved in advance of preparation of the Area Plan.

Development of new community facilities should follow the general policies that are articulated below, in addition to the specific policies included later in this chapter for each service category. In general, the City should strive for facilities that are fiscally and environmentally sustainable, balanced in their geographic distribution across the site, and that meet the needs of an increasingly diverse population.

General Community Facilities and Services Policies

- ▼ Principle CFP-1: Provide facilities and services which meet the educational, recreational, social, and cultural needs of the communities of the CRP area and the City of Concord.

Corresponding 2030 General Plan Principle: None

- ▶ Policy CFP-1.1: Dedication of Land

Ensure that a sufficient amount of land, in appropriately distributed locations, is set aside to meet long-term public facility needs, taking into consideration citywide needs as well as needs associated with full implementation of the Area Plan.

▶ **Policy CFP-1.2: Equitable Distribution of Facilities**

Ensure that community facilities and public services are easily accessible and equitably distributed throughout the site. Likewise, ensure that no one neighborhood or district within the Concord Reuse Project site is overburdened with high concentrations of community facilities with the potential to cause adverse impacts.

▶ **Policy CFP-1.3: Green Construction**

Incorporate 'green' design and construction practices in the development of new community facilities, including the conservation and efficient use of water, energy, and building materials.

▶ **Policy CFP-1.4: Public-Private Partnerships**

Encourage public-private partnerships, joint use agreements, and collaborative efforts between different service providers to maximize the range of new facilities that are provided while reducing public expenditures and increasing government efficiency.

This should include collaborations with the private and non-profit sectors to provide services such as child care, cultural centers, libraries, performing arts facilities, assistance to special needs groups, and workforce development.

▶ **Policy CFP-1.5: Joint-use and Co-location of Community facilities**

Explore opportunities to reduce operation and maintenance costs by co-locating functionally compatible community facilities. The planning of community facilities by different agencies should be coordinated to avoid redundancy and ensure efficient service delivery.

▶ **Policy CFP-1.6: Concurrent Development**

Develop community facilities concurrently with residential and commercial development.

▶ **Policy CFP-1.7: Fiscal Sustainability**

Strive for fiscal sustainability in the development of new facilities, ensuring that future revenues are sufficient to cover the costs of operations and maintenance. Both capital and operating funding arrangements should reflect the areas and populations anticipated to be served by the facilities.

▶ **Policy CFP-1.8: Inclusive Service Delivery**

Ensure that new community facilities and services meet the needs of people of all ages, incomes, ethnicities, social and cultural backgrounds, and levels of physical ability. This should include the application of universal design principles in new community facilities.

▶ **Policy CFP-1.9: Community Facilities and Economic Development**

Leverage the development of community facilities in the CRP area to achieve Concord's economic development objectives, including providing jobs and attracting private investment.

6.4 School and Library Facilities

6.4.1 Public Schools

The CRP area is served by Mount Diablo Unified School District (MDUSD), which includes the City of Concord and a large portion of Central Contra Costa County. In 2010, the District included 29 elementary schools, 10 middle schools, and 13 high schools, including alternative high schools. About half of the campuses are located within the City of Concord. Most of the city's schools have available capacity but a few are overcrowded.

In the absence of a plan for development of the CNWS, the City's 2030 General Plan Update estimated that citywide development would cause enrollment to increase by about 5,000 students between 2006 and 2030. Based on the distribution of this increase by grade level, one additional elementary school and one additional high school were expected to be needed to avoid capacity problems. No shortage of space was projected at the middle school level.

When buildout of the CRP area is added to these forecasts, the projected number of students increases substantially. Based on the types of housing units proposed and student generation rates used by the MDUSD, development in the Concord Reuse Project area consistent with the Plan is expected to generate approximately:

- 2,100 Grades K-5 students
- 1,000 Grades 6-8 students
- 1,200 Grades 9-12 students

The projected estimate of 4,300 students is almost double the forecast growth in the city's student population without development in the CRP area. Preliminary forecasts indicate that the Concord Reuse Project will require almost 100 acres of school facilities, including four elementary schools, one middle school, and one high school to meet this demand. Forecasts of both student population and facility needs will be adjusted over time based on demographic information and the specific character of the housing stock in the Planning Area.

At the time of Area Plan adoption, MDUSD is facing declining enrollment in Concord schools. Two schools—Holbrook Elementary and Glenbrook Middle School—were closed in June 2011. Many community members have understandable questions about planning for new schools in light of these closures. The long time frame for Area Plan buildout and the important roles of schools in neighborhood identity and cohesion make new schools an important part of the Area Plan vision. However, changing district-wide enrollment may influence the size, number, and location of schools to be built in the CRP area. To coordinate decision-making about school facilities and capacity, the City will consult with the MDUSD and the community as planning and development in the CRP area proceeds.

Funding for new school construction typically occurs through partnerships between the State of California and local school districts. Voter-approved bonds are used to generate the State's contribution, while the local share comes from General Obligation Bonds, development impact fees, and property tax overrides (e.g., parcel taxes). School districts are entitled to levy impact fees or dedication requirements on development provided they can justify that the fees or requirements are necessary for facility construction or modernization. The amount of the fee is capped by the State. The California Government Code allows school districts to go beyond the State cap if they conduct a Facility Needs Assessment.

Consistent with the opportunities to use the variety of funding sources listed above, capital investment in schools for the CRP area is expected to be partially financed by the State and the Mount Diablo Unified School District. Additionally, development agreements and impact fees will be used to offset those construction costs that are beyond the legally required funding sources. Operation of school facilities would be funded through the property taxes collected on new development on the site.

Locations for new schools are not specifically identified on the Area Plan Diagram. The City of Concord is committed to ensuring that school sites are developed on the site, as needed, through land dedication, development agreements, impact fees, and all other means necessary and appropriate. Neighborhood schools are an essential part of the development program, and will help create the sense of community desired for the site. New schools may locate within any of the Village Centers depicted on the diagram and could also be incorporated into the TOD areas, Central Neighborhoods, or Campus District. Depending on the more detailed, neighborhood-level planning and site analysis that will follow adoption of the Area Plan, it is possible that schools may also be appropriate in other locations.

6.4.2 Higher Education

The Area Plan identifies an approximately 120-acre campus for higher educational, institutional, or research uses. This area, which is located between the North Concord / Martinez BART Station and Willow Pass Road, has the potential of hosting an urban university campus for 10,000 full-time students. It is also suitable for a research and development campus, or another large-scale institutional use that can take advantage of this centrally-located, transit-accessible site.

During the reuse planning process, consideration was given to using the site as a new campus for California State University (CSU) East Bay. CSU East Bay includes a Hayward campus and a Concord campus located at 4700 Ygnacio Valley Road. Overall enrollment in 2008 was about 14,000 students, but only 10 percent of this total attended the Concord campus. Expansion of the Ygnacio Valley Road site is constrained by environmental conditions and access, limiting its potential to meet projected demand or expand its degree programs. In 2011, Contra Costa County is the only county in California with a population of over one million that does not have a four-year public institution of higher education.

The public benefit conveyance process has been considered as a way to provide a new campus for CSU-East Bay within the Planning Area. This would not only provide the opportunity for Contra Costa County's first four-year public university, it would also provide opportunities for joint development of university facilities such as libraries and theaters that could be "shared" with the public at large. Development of a new CSU campus would also provide growth opportunities for Diablo Valley College, located in Pleasant Hill.

Although the university proposal is subject to change, the site remains available for this use, or for a similar use with the potential to benefit Concord residents.

6.4.3 Private Schools and Charter Schools

While planning for private schools and charter schools is outside the City's control, it is likely that such facilities will locate in the Planning Area as the area develops. Such facilities can complement the public school system and provide alternative educational choices for children and adults. They are acceptable uses in the Village Centers, the Commercial/Flex area, and the TOD neighborhoods, subject to the development and design standards set forth in the Area Plan and more detailed Concord Reuse Project Area Planning documents.

6.4.4 Libraries

The Concord branch of the Contra Costa County Library System is located at 2900 Salvio Street. The existing facility is over 40 years old and is considered substandard relative to modern library standards. The City has established library modernization or replacement as a major goal and has discussed the possibility of partnering with Cal State-East Bay to jointly develop a new library facility. The CRP area provides an opportunity for such a facility.

Educational Facility Policies

- ▼ Principle CFP-2: Provide school and library facilities in the CRP area which promote educational excellence, enhance the quality of life, and contribute to a sense of community.

Corresponding 2030 General Plan Principles PF-2.1: Facilitate educational programs and development of facilities that meet the needs of the community; and PF.2.2: Support the provision of library and child care services.

- ▶ Policy CFP-2.1: **School Facility Planning and Land Dedication.**

Work with the MDUSD and future site developers to conduct more detailed planning for school facilities and to ensure that sufficient land is set aside for K-12 public schools as the CRP area is developed. Sites for new schools should be identified and dedicated as needed before or concurrent with approval of residential development.

- ▶ Policy CFP-2.2: **Joint Use**

Explore opportunities for joint use of school facilities such as playgrounds, athletic fields, and auditoriums for community use. Likewise, explore opportunities for students to use other community facilities within the CRP area, including parks and recreational facilities.

- ▶ Policy CFP-2.3: **Community Benefits**

Support the development of private schools, colleges and universities, vocational schools, and other large institutional uses that provide benefits to the broader community by providing opportunities for specialized education, workforce development, and shared facilities. Shared facilities might include performing arts venues, libraries, meeting rooms, recreational facilities, and similar uses

- ▶ Policy CFP-2.4: **School Design**

Ensure that the design of schools and other educational facilities supports the design and development principles in Book One of the Area Plan. Schools should be designed to facilitate safe walking and bicycling to and from home for all students.

- ▶ Policy CFP-2.5: **Library**

Continue to work with Cal State East Bay, Contra Costa County, and other potential partners to explore the feasibility of a public library in the CRP area.

6.5 Public Safety

6.5.1 Law Enforcement

As the CRP area is transferred out of Navy ownership, law enforcement responsibilities on the site will shift from federal agencies to the Concord Police Department. Additional personnel will be needed to maintain the City's service standards as the area is developed.

In 2010, the Police Department operates from a 67,180 square-foot headquarters building at 1350 Galindo Street. The department's facilities provide adequate floor space and will continue to do so the future, even with the additional population expected as a result of implementation of the Area Plan. However, a Concord Reuse Project field office has been proposed to maintain acceptable response times. Such an office could be leased within a private commercial building on the site and would not need to be a freestanding or publicly-owned facility. It may not be required for many years, depending on the rate of buildout and citywide budget considerations. The additional population and workforce associated with the CRP area will also require an increase in police personnel. Tax revenues generated by development in the Planning Area would provide the funds for such an increase.

Other law enforcement agencies in the area include the California Highway Patrol, the Contra Costa County Sheriff's Department, and the BART Police Department. As noted earlier, the Area Plan accommodates a Public Benefit Conveyance to the County Sheriff's Department and Fire Protection District for training and command facilities.

6.5.2 Fire Protection and Emergency Management

Fire protection and emergency medical services are provided to Concord, eight other cities, and the unincorporated area by the Contra Costa County Fire Protection District (CCCFPD). The CCCFPD operates 30 fire stations, including seven in the City of Concord. The District also maintains mutual aid agreements with the East Contra Costa Fire Protection District, East Bay Regional Parks District, the California Department of Forestry and Fire Protection, and private companies in the county. During Navy use of the CNWS, there was also a fire protection facility at the Planning Area which was operated by the Navy; this facility was also covered by a mutual aid agreement with CCCFPD.

The CCCFPD has a goal of dispatching personnel within 90 seconds after receiving a call for service. Emergency medical service is provided with every dispatch and administered via a contract with American Medical Response. All CCCFPD engines are equipped with advanced life support units. These units work as teams with American Medical Response, transferring patients to appropriate local hospitals as necessary. CCCFPD also operates a network of warning sirens at industrial facilities to notify residents when an incident occurs.

In 2010, the CCCFPD collects a fire facilities impact fee of \$325 per single-unit home, \$200 per multi-unit home, and \$0.15 per square foot for non-residential development. The fee provides a funding source to construct new fire stations and make other capital improvements. Revenue for fire and emergency medical service operations is provided through property taxes.

Two new fire stations are planned as part of the CRP area development. One of the stations could potentially be converted from the existing fully operational Navy facility, which will be transferred as part of the Public Benefit Conveyance for the Sheriff and Fire Training Facility. Funding for additional construction or rehabilitation would come from developer fees or special district fees, while operations would be funded by property tax revenue

from new development. The site for the second station has yet to be selected and would be identified through subsequent planning. The station should be situated in a way that minimizes response time and ensures that current service levels can be maintained or improved.

Public Safety Policies

- ▼ Principle CFP-3: Provide high levels of police and fire protection services to the CRP area.

Corresponding 2030 General Plan Principles S-7.1: Provide the highest standard of police protection services; S-7.2: Facilitate fire prevention.

- ▶ Policy CFP-3.1: Police Department Field Office

Plan for the eventual development of a Concord Police Department Field Office to serve the CRP area.

The field office should be centrally located and should ensure that law enforcement personnel can be rapidly and efficiently dispatched. Leased space may be used for this facility. Given City budget considerations and the long time period associated with project buildout, it may be many years before this policy is implemented. Existing police protection facilities will serve the site until such time that a field office is feasible.

- ▶ Policy CFP-3.2: Fire Stations

Plan for the eventual development of two new stations to serve the CRP area. Stations should be located in a way that can minimize future response time for fire and emergency medical service calls.

One of the new stations would be created through conversion of the existing Navy fire station to a CCCFPD station.

- ▶ Policy CFP-3.3: Coordination with Police and Fire Departments

Coordinate planning and future development approvals with the Concord Police Department and the CCCFPD to ensure that law enforcement and public safety issues are taken into account when reviewing CRP area development proposals.

6.6 Homeless Services

Early in the reuse planning process, the City of Concord and the federal Department of Housing and Urban Development recognized the potential for the CRP area to provide facilities and services for the homeless. Pursuant to federal law, a Homeless Assistance Plan was developed, focusing on the site's ability to meet needs throughout Central Contra Costa County. The homeless population of the Homeless Assistance Plan study area was estimated as being between 1,421 to 1,788 persons. An even larger number of households was estimated to be at risk of becoming homeless in the future.

Plans for the CRP area accommodate an estimated 260 units of permanent supportive housing for individuals, youth and families, as well as a job training and placement program for homeless people. Half of the 260 units would be created on-site through an obligation by future purchasers, while the other half may be developed off-site through contributions to a Homeless Assistance Fund. A number of legally binding agreements have been established to ensure that these units are produced.

The exact location of the 130 on-site units has not been determined but would probably be within the North Concord TOD Neighborhood or Central Neighborhood districts. Support services would either be delivered on-site, in conjunction with the new housing or through mobile service teams by existing homeless service providers. The Homeless Assistance Plan also includes provisions for a new countywide Food Bank and Homeless Employment Center. Again, the exact location has not been identified, but a site within the Commercial Flex area is presumed.

Homeless Service Policies

- ▼ Principle CFP-4: Expand housing and supportive service opportunities for the homeless within the CRP area.

Corresponding 2030 General Plan Principle (Housing Policy) H-63: Actively seek and encourage emergency, transitional, and long-term affordable housing to reduce the problem of homelessness in the City of Concord.

- ▶ Policy CFP-4.1: Supportive Housing for the Homeless

Provide land sufficient to accommodate housing units for homeless persons, as specified in detailed planning documents. The total number of homeless housing units to be constructed in the CNWS will be 130-260 units on three separate sites. The total will comprise at least 1 percent of the residential units developed in the Planning Area. Housing units should be constructed by the purchasers or through a partnership with a non-profit homeless housing developer. In compliance with federal regulations, strive to integrate multifamily housing units identified in the City's homeless assistance plan with larger affordable housing developments.

- ▶ Policy CFP-4.2: Supportive Housing Location, Design, and Unit Mix

Locate future supportive housing and homeless services on sites that are accessible to public transportation and close to social services such as child care and job training. Ensure that the design and unit mix of future supportive housing is in keeping with the findings of the Homeless Needs Assessment and any additional data on housing needs available at the time of project approval.

6.7 Other Community Facilities

In addition to schools, libraries, police and fire stations, and supportive housing, other community facilities will be needed to support the civic and social needs of the population. These facilities are not specifically shown on the Area Plan Diagram or separately listed as required mix or additional appropriate uses in Book One. They include at least one new community center at a location that has yet to be determined. The site also provides opportunities for new senior centers, child care facilities, medical clinics, and other health and human service facilities. Places of worship will also be accommodated on site, both to provide for the spiritual needs of the population and create gathering places that build a stronger sense community.

Other Community Facility Policies

- ▼ Principle CFP-5: Support development of senior centers, child care facilities, arts facilities and other facilities that contribute to the quality of life in the CRP area and the city of Concord.

Corresponding 2030 General Plan Principle PF-2.1: Facilitate education programs and development of facilities that meet the needs of the community; PF-2.3: Foster arts and entertainment.

- ▶ Policy CFP-5.1: Other Community Facilities

Strongly support the development of new child care facilities, senior centers and elder care facilities, cultural arts facilities and performance venues, and other civic and community facilities within the CRP area. Such facilities should be planned and designed in a manner that is consistent with the overall development framework for the site.

- ▶ Policy CFP-5.2: Compatibility of Community Facilities with Adjacent Uses

Ensure that new community facilities are compatible in scale and character with adjacent land uses, include provisions to mitigate impacts on traffic, noise, parking, and other impacts, and contribute to a positive community image and identity.

6.8 Parks and Recreational Facilities

Concord Reuse Project Area Plan implementation will provide the opportunity for a new network of parks and open spaces that complement those now existing in Concord and the surrounding region. Implementation of the Area Plan will add roughly 3,500 acres to the existing 635 acres of active parks and recreational facilities in Concord and result in a five-fold increase in the total acreage of parks and open space in the city.

6.8.1 Park Types

There are four primary park types accommodated by the Area Plan:

- **Conservation Open Space.** This is the largest category of parkland in terms of acreage. A majority of the Conservation Open Space is contained within the proposed 2,537-acre Regional Park; the remainder is located

in a linear open space along Mt. Diablo Creek. Public access to these two areas will be controlled in order to conserve and restore habitat and protect special status species consistent with the conditions of future natural resource permits. Recreational improvements will be limited to trails, staging areas, picnic areas, interpretive centers, and related accessory structures provided these are consistent with the provisions of relevant natural resource permits. Active programming will be strictly limited. Because of the emphasis on natural resource protection, policies governing the use of these areas are generally found in Book Two's Conservation chapter rather than in this chapter.

- **Greenways.** The Area Plan Diagram shows a connected network of linear community and neighborhood Greenways. The Greenways help to unify neighborhoods by accommodating a pedestrian and bicycle trail system and providing space for recreational amenities shared by the entire community, such as dog parks, community gardens, and urban agriculture. They also help define neighborhood identity by establishing distinct edges and buffers. Smaller parks, such as neighborhood parks and pocket parks, may be integrated into the Greenways. The Greenways include:
 - A "Central Greenway" that extends from the North Concord / Martinez BART station southeastward across the site. The greenway will be responsive to topography and habitat and include a major bicycle and pedestrian pathway. Adjacent uses should take advantage of this space as an amenity.
 - A "Neighborhood Frame" that extends along the southwestern boundary of the site and provides a buffer between new neighborhoods and established neighborhoods in northeast Concord, and between neighborhoods within the site. The Neighborhood Frame will include pedestrian and bicycle trails, and could potentially include uses such as community gardens, small scale agriculture, plant nurseries, etc.
- **Citywide Parks.** The Planning Area will also include Citywide parks similar to Concord's Newhall Park. These parks include larger community-serving facilities that draw residents from throughout Concord. Citywide parks may include specialized recreational facilities such as a tournament sports facility. Three Citywide parks are shown on the Area Plan Diagram, including Diablo Creek Golf Course, and expansion of Willow Pass Park, and a new park to be created near Willow Pass Road.
- **District Open Spaces.** District Open Spaces include a variety of improved parks and plazas, with facilities that respond to the recreational needs of residents of diverse age groups and interests. District Open Spaces include:
 - Neighborhood Parks that accommodate smaller-scale facilities and are primarily oriented toward residents of nearby neighborhoods. Each neighborhood in the CRP area should have at least one such park, with a variety of recreational facilities available. Some of the neighborhood parks may be incorporated into the greenway system.
 - Pocket Parks and Plazas, which accommodate activities such as tot-lots, shaded game tables, and outdoor eating and which are primarily intended to be gathering spaces. These parks include a central plaza near the North Concord / Martinez BART station that is large enough for activities such as small-venue outdoor concerts and food vendors serving the lunchtime diners. They also include smaller-scale plazas and green spaces in all of the residential and employment areas.

Figure 6-1 illustrates the proposed park network. The Figure indicates the general location of the two Conservation Open Space Areas, Greenways, and large Citywide Parks. The specific location of neighborhood parks and pocket parks will be determined when more detailed district and neighborhood-level planning is performed. This Area Plan provides the standards and policies necessary to ensure that future residents are well-served by all park types.

6.8.2 Park Demand and Acreage

The 2030 General Plan's Parks, Open Space and Conservation Element includes a commitment to creating additional parkland in Concord and maintaining a park system that meets residents' recreational needs and contributes to the city's positive image. The Element acknowledges that well-designed parks are essential to the health and well-being of Concord residents. Accordingly, the Growth Management Element requires new development to acquire 5 acres of public parkland per 1,000 new residents (or to contribute toward such acquisition through a park impact fee). This requirement, coupled with other local parkland acquisition efforts, is intended to help the City achieve an overall ratio of 6 acres of parkland per 1,000 residents. The actual ratio in 2010 was about 5 acres per 1,000 residents.

The Concord 2030 General Plan estimated that 89 acres of new parkland would be needed to sustain the 5 acres per 1,000 ratio through 2030, while 217 acres would be needed to meet the 6 acres per 1,000 goal. These projections are based on a Year 2030 population forecast of 142,200 and did not include development of the CRP area. The addition of another 28,800 new residents beyond the forecast would drive demand higher; 144 additional acres would be required on the site to sustain the 5-acres-per-1,000 standard and 172 additional acres would be required to reach the 6-acre standard.

Actual provisions for parks in the Planning Area far exceed 172 acres, even if the Conservation Open Space is excluded from the calculation. The Plan's provisions for Citywide Parks and Greenways on the site are approximately 786 acres. This excludes the Regional Park, Mt. Diablo Creek Corridor, and District Open Spaces such as Neighborhood Parks and Pocket Parks with sport courts; it includes the Diablo Creek Golf Course and planned estimates for a 45-acre extension to Willow Pass Park, and a 75-acre tournament sports facility with an adjacent 100-acre Citywide Park. Development of the Concord Reuse Project will thus lead to achievement of the City's standards for park acreage.

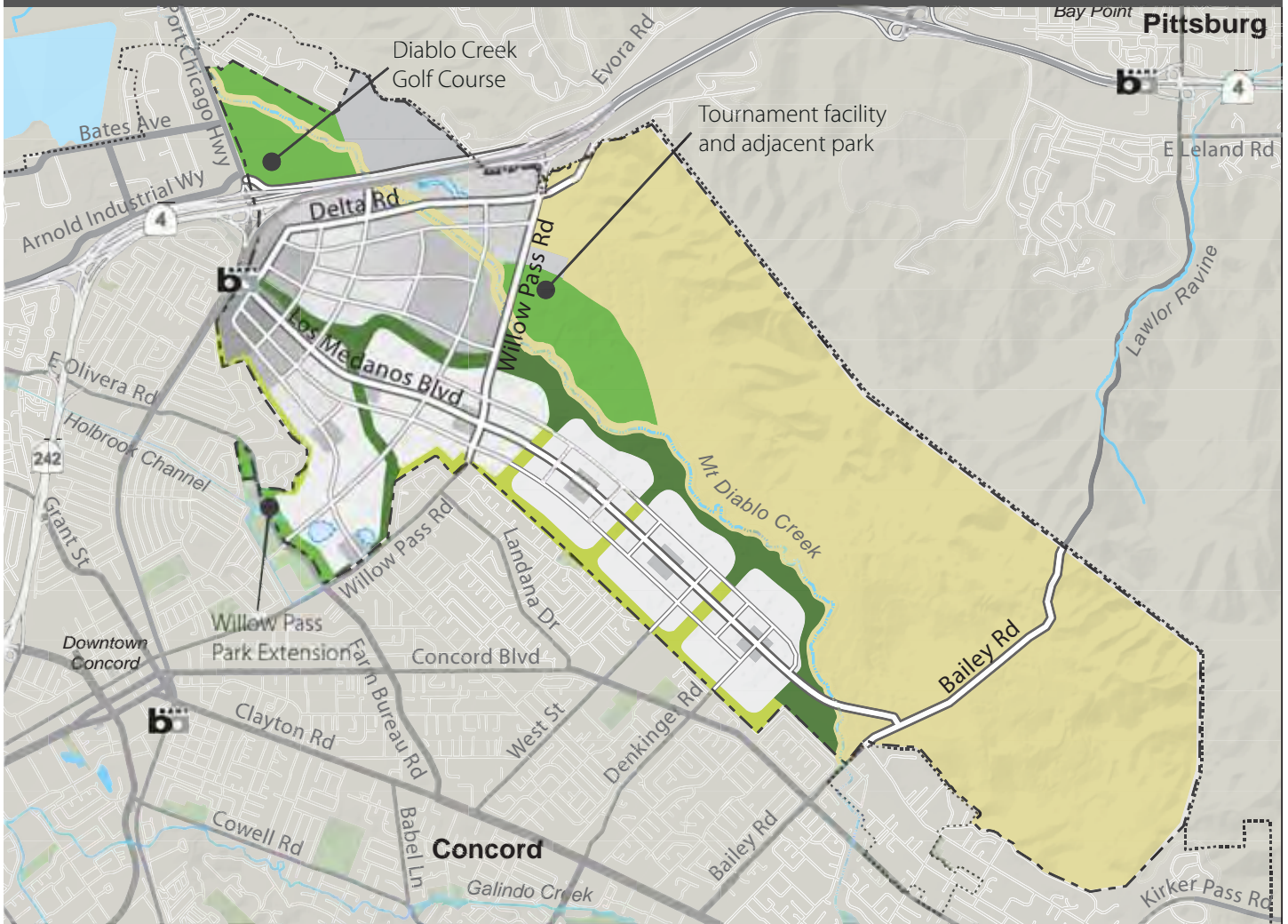
Dedicating a sufficient number of acres is only one aspect of park planning. It is also important to situate parks so they are appropriately spaced and accessible to all residents. There is also a need to logically distribute recreational facilities such as swimming pools and tennis courts, taking into consideration local needs as well as deficiencies in the existing Concord park system. Siting of park facilities also needs to balance the need for active, programmed recreational space with the need for unstructured recreational open space. Policies later in this chapter provide guidance toward meeting these objectives.

6.8.3 Highlights of the Proposed Park System

Chapter 3 of Book One describes the proposed park typology, including the required and additional appropriate features for each park category. The section below supplements this information by describing key elements of the park system. These components are highlighted on Figure 6-1.

Citywide Park and Tournament Sports Facility. The Area Plan identifies a centrally-located 100-acre site south of Willow Pass Road as a Citywide Park, which will be adjacent to a 75-acre tournament sports facility. This could become the largest active recreation area in Concord, with a blend of active and passive recreational uses that are similar to Newhall Park. Multiple sports fields and facilities could be included. The tournament sports facility could become a regional destination and could accommodate a variety of youth and adult sports such as baseball, basketball, soccer, and swimming.

▼ Figure 6-1 Open Space Network



Legend



Conservation Open Space

- Regional Park
- Mt. Diablo Creek Corridor

Not shown: Potential bike and pedestrian facilities in the Conservation Open Space planned for the EBRPD Regional Park.

Greenways and Citywide Parks

- Neighborhood Frame
- Central Greenway
- Citywide Parks

- Planning Area Boundary
- City of Concord Boundary
- 2010 Concord parks
- Seasonal wetlands (delineated as of 2010)

▼ Table 6-1: Required District Open Spaces

	TOD Core	TOD Neighborhood	Central Neighborhoods	Village Centers	Villages
Neighborhood Parks		●	●		●
Pocket Parks + Plazas	●	●	●	●	●
North Concord Plaza	●				

Locations within Development Districts to be determined through detailed planning.

Willow Pass Park Extension. A 45-acre extension will be provided adjacent to the 40-acre Willow Pass Park on Olivera Road, roughly doubling the size of the park and providing an opportunity for new community-serving recreational amenities.

Neighborhood Parks. Neighborhood parks are expected to be developed as part of Area Plan implementation, enabling all residences in the Planning Area to be within one-half mile of either a Neighborhood or Citywide Park. Neighborhood Parks would generally be two to ten acres in size and would include play equipment, shaded seating areas, sports fields, and recreational facilities such as tennis or basketball courts. As noted earlier, neighborhood parks could be integrated into the Greenways. Some parks could include recreation center buildings for programs and leisure activities.

Environmental Education and Interpretive Center. The Center will contain information about the natural and cultural history of the region and should include resources for monitoring the environmental condition of the site. The center will host activities and programs aimed at improving public awareness about sustainability and the local ecosystem. It will also be the “visitor center” mobilization point for National Park Service tours to Port Chicago Naval Magazine National Memorial. The exact site has not yet been determined, but is likely to be within the Regional Park, provided that environmental protection and restoration objectives are not compromised.

Diablo Creek Golf Course. The Diablo Creek Golf Course will be retained as a public golf course. Re-design and upgrading to more contemporary standards, including a new clubhouse and conference meeting facility, is possible.

Regional Park. As noted earlier, a majority of the park acreage on the site will comprise a regional park. This acreage is proposed to be transferred to the East Bay Regional Park District through a Public Benefit Conveyance, and will become part of the two-county regional open space system. The new park would be comparable to the District’s other parks at Briones, Diablo Foothills, and Las Trampas. It could include bike trails, hiking trails, picnic areas, staging areas, and a limited number of areas for informal recreation. It could also include interpretive nature and history facilities. Subsequent to Area Plan adoption, natural resources permits will establish conditions addressing the nature, location, extent, and management of facilities in the park. Facilities associated with infrastructure serving the CRP area such as PG&E transmission lines and/or water storage tanks, may also be sited in the park consistent with permit provisions.

Mt. Diablo Creek Corridor. The Creek Corridor would be approximately 300 feet wide and would extend several miles across the site. Provided it can be created and managed compatibly with resource protection aims, a linear trail in conjunction with the preserve will provide viewing areas and seating in key locations. A majority of the acreage would be used for habitat restoration and conservation, as well as flood control and groundwater recharge.

6.8.4 Trail System

The proposed network of Greenways will provide an opportunity to develop an off-road trail system that serves both circulation and recreation functions. The Countywide Bike and Pedestrian Plan and the City of Concord Trails Master Plan provide a framework for integrating new trails with a citywide and regional trail network that extends throughout the Bay Area. The site can potentially close a gap in the Delta de Anza Trail, which terminates at the northern edge of the site at Willow Pass Road and Highway 4. It can also link up to the Contra Costa Canal Regional Trail, which terminates near the southwestern part of the site. These trails provide linkages to a regional system that includes the Iron Horse Trail, the California Hiking and Riding Trail, the San Francisco Bay Trail, and the Ridge Trail. Trails on the site can also connect to the existing bike lane and sidewalk system in Concord, improving access to city parks, regional parks and trails, and other destinations around the region. Alignment of trails will

be determined during detailed planning following Area Plan adoption and will be subject to the provisions of natural resources permits.

Park and Recreation Policies

- ▼ Principle CFP-6: Provide and maintain a CRP area park system that meets future community needs, both on-site and throughout the city of Concord.

Corresponding 2030 General Plan Principle POS-1.1: Provide and maintain park and recreation facilities for the entire community; POS-1.2: Provide a citywide, interconnected multi-use trail system.

- ▶ Policy CFP-6.1: Park Diversity

Develop a park system that responds to the diverse recreational needs of the projected population, and that reduces or eliminates deficiencies in acreage and facilities in the existing Concord park system. Parks should provide for a variety of recreational experiences, including places for physical activity and sports, recreational programs, social events, unstructured play, and enjoyment of nature and the outdoors. Detailed planning for neighborhood parks and greenways should be accomplished through subsequent plans for the CRP area, consistent with the policies and standards of the Area Plan.

- ▶ Policy CFP-6.2: Park Service and Siting Standards

Use the Planning Area's open space system to help achieve the citywide goal of having six acres of open space per 1,000 residents. For planning purposes, acreage counted toward this ratio should exclude open space that is principally used for resource conservation, including the Regional Park and Mt. Diablo Creek Corridor. Park planning should also pursue the siting of an active neighborhood park no less than two acres in size within a one-half mile of all future homes in the Area.

- ▶ Policy CFP-6.3: Joint Use Planning

Integrate planning for parks with planning for schools and other community facilities, in order to leverage joint use opportunities, maximize access to new recreational facilities and active open space, and establish joint sources of revenue for operations, maintenance, and programming.

- ▶ Policy CFP-6.4: Greenway Design

Develop a greenway system that includes a combination of passive open spaces, which are maintained in a relatively natural state or used for stormwater management, agricultural open spaces, which are used for food production and community gardening, and active recreational open spaces, which include trails, neighborhood parks, and community recreational facilities. The design of each part of the greenway system should be based on factors including compatibility with adjoining uses, proximity to residents, buffering needs, drainage and hydrology, topography, and natural resources.

▶ **Policy CFP-6.5: Park Operations and Maintenance**

Develop provisions for recreational services, programming, and financing of park operations and maintenance in subsequent planning activities for the Planning Area. Strive for a revenue and expenditure stream that is fiscally sustainable and equitable, allocating costs between new and existing development.

▶ **Policy CFP-6.6: Park Design Quality**

Require high-quality landscape architecture in new parks that integrate sustainability features including low water use. Parks should help shape the identity of the CRP area by incorporating distinctive design features and creating lively and beautiful public spaces.

▶ **Policy CFP-6.7: Trail System**

Develop a multi-purpose, interconnected trail system within the CRP area's open spaces that links to existing city and regional trails, provides access to parks and open space features, and provides for recreation as well as transportation.

Fulfillment of this policy will require specific planning by private land owners and developers and by East Bay Regional Parks District.

▶ **Policy CFP-6.8: Private Recreation**

Encourage the development of private recreational facilities that complement those provided by the public sector.

▶ **Policy CFP-6.9: Park Safety**

Achieve a high level of safety for park users through park design and programming. This should include the design of safe park access routes, such as bicycle and pedestrian trails, streets, and crosswalks. It should also include provisions for lighting and fencing, signage and wayfinding, and park stewardship by local residents.

▶ **Policy CFP-6.10: Interagency Coordination**

Coordinate the planning and operation of the local park system with the East Bay Regional Park District and the National Park Service, including East Bay Regional Park District plans to expand and connect the regional open space system and National Park Service plans for the Port Chicago Naval Magazine National Memorial.

List of Acronyms

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ALUC	Contra Costa County Airport Land Use Commission
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit District
CACP	Clean Air Climate Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CCCSD	Central Contra Costa Sanitary District
CCRP	Concord Community Reuse Project
CCTA	Contra Costa Transportation Authority
CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CDS	Concord Disposal Service
CERCLA	U.S. Comprehensive Environmental Restoration Clean Up Liability Act
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CNWS	Concord Naval Weapons Station
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
dB Ldn	Decibels over a 24-hour period, with adjustments added to reflect the greater sensitivity to people to noise at night.
dB	Decibels
DOD	United States Department of Defense
DTSC	California State Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
FAR	Floor area ratio
FEIR	Final Environmental Impact Report
FOSET	Finding of Suitability for Early Transfer
FOST	Finding of Suitability to Transfer

List of Acronyms

GHG	Greenhouse gas
HVAC	Heating, Ventilation, and Air Conditioning
ICLEI	International Council for Local Environmental Initiatives
kv	Kilovolt
LED	Light-emitting diode
LGOP	Local Government Operations Protocol
LRA	Local Reuse Authority
MDUSD	Mount Diablo Unified School District
MGD	Million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MTC	Metropolitan Transportation Commission
MWh	Megawatt-hours
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
RCRA	United States Resource Conservation and Recovery Act
RPS	California Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
TDM	Transportation Demand Management
TMA	Transportation Management Association
TOD	Transit-Oriented Development, Transit-Oriented District
TRANSPAC	Central Contra Costa County Transportation Partnership and Cooperation
VMT	Vehicle miles travelled

Glossary of Terms

** Indicates a term defined specifically for the purposes of the Area Plan.*

100-year floodplain. The area of land expected to be reached by floodwater in that flood event that has a one-percent chance of occurrence in any one year. Also known as the 'base flood elevation'.

AB 1600 (nexus) study. The process required by California State Government Code Section 66001(a) of the Mitigation Fee (Act) (Section 66000-66025) that establishes the legal requirements for imposing development impact fees. It requires any local agency that imposes such a fee to demonstrate (through a study) the nexus—or connection—between the fee, the improvements being funded, and the projects on which the fees are imposed.

Active ground-floor use.* A set of activities in a building that generate pedestrian traffic, such as retail stores, restaurants, and personal services.

Active open space.* Citywide Park, Greenway, Neighborhood Park, or any Pocket Park with a sport court for active recreation.

Active programming. See "Active Recreation".

Active recreation. Activity that requires the use of dedicated facilities such as ball fields or play equipment, and that may or may not be designed for higher physical exertion on behalf of the participant.

Additional appropriate use.* A land use or activity that, while not mandatory, would implement key components of the vision of the Area Plan.

Affordable housing. Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household's ability to make monthly payments necessary to obtain housing. According to the United States National Affordable Housing Act, housing is considered affordable when a household pays less than 30% of its gross monthly income (GMI) for housing, including utilities.

Alleys.* Very low-speed, low-volume mid-block passageways that provide all modes with access to rear building entrances while also creating informal open space.

Anaerobic digestion. Breaking down of organic matter in the absence of oxygen to produce a mixture of gases that are burned as fuel.

Articulation (architectural). Architectural building design elements, both horizontal and vertical, that help create visual interest, define the character of a district, and create lively streetscapes.

Base flood elevation. See '100-Year floodplain'.

Glossary of Terms

Base Realignment and Closure (BRAC). The United States government's process for reuse of its domestic military installation sites, as well as for the Base Closure and Realignment Act (and amendments) and Defense Base Realignment and Closure Commission that govern and administer that process.

Berm. A mound of soil which can be used to direct water flow, absorb noise, and/or limit visibility.

Bike Network.* Connected system of facilities for bicycle use including the following types:

Class I. Paths and trails separated from vehicle traffic that provide a direct connection to the North Concord / Martinez BART Station through the site, interrupted only by infrequent street crossings, and consistent with Caltrans Class I bikeways (bike paths) standards**.

Class II. Dedicated on-street bicycle lanes that link the Class I network to neighborhood centers and other core areas, consistent with Caltrans Class II bikeways (bike lanes) standards**.

Class III. Local Streets. Local Streets will be designed for safe and comfortable shared-space use, and to be consistent with Caltrans Class III bike routes**.

** Consistency with Caltrans standards is in regard to the following Caltrans Design Criteria, which are defined in Chapter 1000 (Bikeway Planning and Design) of the Caltrans Highway Design Manual: Widths, Clearance to Obstructions, Signing and Delineation, Destination Signing of Bike Routes, At-grade Intersection Design, Design Speed, Horizontal Alignment and Superelevation, Stopping Sight Distance, Length of Crest Vertical Curves, Lateral Clearance on Horizontal Curves, Grades, Pavement Structure, Drainage, and Lighting.

Bike-share program. A system where a fleet of bicycles is available for short-term use through a program of joint ownership or membership.

Building orientation. The spatial relationship of a building (particularly its largest side) to the path of the sun, prevailing wind patterns, adjacent developments, roadway network, or other external factors. Building orientation can be changed to reduce energy demand by optimizing solar and wind exposure for daylighting, passive heating and cooling, and natural ventilation.

Carbon coefficient. A numerical factor relating the energy value of fuel to the carbon dioxide equivalent mass emitted from combustion.

Carbon dioxide equivalent. The accepted metric for measuring emissions of greenhouse gases, expressed as the amount of carbon dioxide emissions it would take to generate the same impact on the greenhouse effect, and abbreviated as CO₂e.

Carbon sequestration. The long-term storage of carbon in order to reduce atmospheric carbon dioxide levels.

Glossary of Terms

Carpool matching, ride-matching. A system to assist travelers in finding others with similar origins, destinations, and travel times to share a ride. A ride-matching service can be limited to a specific group of people (e.g., one large employer) or open to a large group of people (e.g., the entire San Francisco Bay Area) and can be low-technology (e.g., notices on a bulletin board) or high-technology (e.g., dynamic internet software). Ride-matching can be used to establish regular and long-term arrangements (e.g., for a daily commute) or a one-time trip.

Car-sharing. A system where a fleet of cars is available for short-term use through a program of joint ownership or membership.

Cash-out parking benefits. A cash payment offered to workers as an alternative to a parking space at their workplace.

Channelization. Conversion of a river or stream into a channel by replacement of bank and bed soils with concrete walls and floors.

Chaparral. A type of ecosystem found in areas with Mediterranean climates and characterized by dense coverage of evergreen shrubs. Also called scrub.

Class A offices. The highest quality office space locally available. These are likely to be buildings that have excellent location and access, attract high quality tenants, and are managed professionally; additionally, building materials are high quality and rents are competitive with other new buildings.

Class B offices. Office space that is generally good quality and functional, but does not include a high level of amenities that would be desirable for headquarters locations or other high-end office users.

Collector streets.* Low- to moderate-speed streets linking internal areas of Development Districts to the through streets.

Comfortable walking distance.* A distance up to 1/4 or 1/2 mile depending on conditions and physical ability.

Community Facility.* Facility in which public services are provided, including recreational and cultural activities, and services for youth and seniors. Places of worship may be treated as community facilities when they provide some activities that have non-religious purposes such as child care or adult day care. Community facilities may be operated by public, non-profit, or private organizations.

Community streets.* Low-speed streets linking the homes within internal areas of Development Districts to collector streets.

Complete streets. Public rights-of-way that are safe and comfortable for all users — pedestrians, bicyclists, transit riders, and drivers of motor vehicles — and people of all ages and abilities, including children, older adults, and people with disabilities.

Glossary of Terms

Concurrent development. Development at two or more locations or of two or more land use types at the same time. Sometimes concurrent development is required to ensure that projects more difficult to fund are incentivized.

Condenser water. Water typically circulated between chiller condensers and cooling towers.

Convenience standard.* The maximum walking distance, on public sidewalks or paths, between residences, workplaces and daily necessities.

Coordinated vanpool. A commuter option offered by an employer, government agency, or non-profit organization, in which several employees ride together in a van. Coordinated vanpools contrast with those that are organized by the riders themselves.

Cubic feet per minute (cfm). A volumetric measurement of air flow.

Culvert. A closed conduit used to convey water from one area to another, usually from one side of a road to the other.

Daily necessities.* Facilities and services that individuals are likely to use on a daily or near-daily basis, such as a high-frequency transit stop, a dedicated bicycle lane, a shared vehicle facility, public gathering space, open space for active recreation, community services, or a grocery or convenience store.

Daylighting. 1. (Architectural) Using natural light to illuminate building spaces. 2. (Ecological) Redirecting a buried or piped stream to be above ground. Stream daylighting is often performed to provide community amenities or ecological benefits.

Desired.* Indicates that policy implementation, while not mandatory, would promote the aims of the Area Plan.

Development District.* Portions of the Planning Area that are planned for development, including neighborhoods, TOD, and business districts.

Development impact fee. Fee collected by local government (including school districts and other special districts) to recover the cost of providing services to new development.

Dwelling units per net residential acre. A calculation of residential density based on the developable portion of a site, after streets, easements, and unbuildable areas have been factored out.

Easement. A right given by the owner of land to another party for specific limited use of that land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary.

Economizer. A system that uses air or water of an existing temperature to condition a space without additional energy input. Airside economizers typically use 100% outside air or combine outside air with return air to produce a desired indoor temperature. Waterside economizers often use return condensate to pre-cool air.

Glossary of Terms

Embodied carbon. The amount of greenhouse gas emissions (measured in carbon dioxide equivalents) emitted in all the processes leading to the production of an item, including extraction, processing, and manufacturing. Embodied carbon does not include emissions from operation or use of an item.

Energy load. The amount of energy demanded at a given time; the instantaneous energy consumption or requirement of a building or piece of equipment. Load (kW) occurring continuously over a period of time (hours) equals energy (kWh).

Energy recovery. A process that re-utilizes heating and cooling energy expended previously.

Facility Needs Assessment. A study demonstrating the need for additional school capacity based on student generation rates, demographics, enrollment trends, and existing facilities, used to justify the collection of higher development impact fees for schools than is ordinarily permitted under state law.

Fenestration. Arrangement and extent of building window openings.

Financing mechanism. A source of funding for a project or development, and the related actions necessary for its implementation.

Floor area ratio (FAR). The ratio between gross floor area of structures on a site and gross site area. Thus, a building with a floor area of 100,000 square feet on a 50,000 square-foot lot will have a FAR of 2.0.

Finding of Suitability for Early Transfer (FOSET). Finding of Suitability for Early Transfer (FOSET). The determination that military base property may be transferred into new ownership before all actions needed to protect human health and the environment have been taken. The determination must be made only in the circumstances described by the Comprehensive Environmental Restoration Clean Up Liability Act (CERCLA) and requires permission from the Governor of the state where the property is located, and in some cases also from the US Environmental Protection Agency. The Department of Defense may or may not retain responsibility for all cleanup actions.

Footprint. The total area of the ground under a building or other structure.

Franchise agreement. A contractual agreement entered into between a public agency and a grantee that sets forth rights and obligations between the city and the grantee in connection with using public resources (such as underground rights of way) for providing a service within the jurisdiction.

Frontage. The face of a building along a street on which it has primary entrances.

General obligation bond. A bond secured by a pledge of the issuer's taxing powers. The general obligation bonds of local governments are typically paid from property taxes and other general revenues.

Glossary of Terms

Glazing. Glass used in the exterior of a building.

Global warming potential. The impact of a particular gas on the greenhouse effect, as compared to the impact of an equal quantity of carbon dioxide.

Green building. A building or set of building practices designed to minimize negative impacts on the environment.

Green roof. A roof covered with a layer of living plants, which provide benefits that may include retaining stormwater, slowing the rate of stormwater runoff, natural cooling for buildings, and water treatment benefits to vegetated landscapes.

Greenhouse gas. Any of several gases that produce a warming effect within the Earth's lower atmosphere by absorbing and trapping heat from the sun that would otherwise be reflected back into space. The major GHGs are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Less prevalent—but very powerful—greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Greenway.* A connected network of linear open spaces that form part of the area's overall circulation network with integrated pedestrian and bicycle trails, and that provides space for recreational amenities shared by the entire community, such as dog parks, community gardens, and seating areas.

Gross acre.* The entire geographic extent of a Development District or portion thereof, expressed in acres. Gross acreage of development sites shall be calculated to the centerline of bounding streets or other public rights of way

Groundwater basin. Underground strata of the earth that are permeated with water.

Groundwater recharge. The process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks that provide underground storage (i.e. aquifers).

Guaranteed ride home program. An emergency service for transit, vanpool, or bike commuters. In the event that the normal commute mode for a participant is not available, the program provides transportation to home from work — either on-call rides by the sponsoring agency, coupons, or reimbursement for expenses for private ride services (e.g., taxis).

Habitat value. The capacity of a geographic area to support wildlife, especially species and communities of ecological benefit

Hazardous Materials Management Plan. A document that typically establishes policies and practices for the minimization, treatment, storage, and disposal of hazardous waste generated by a project or jurisdiction.

Hazardous waste. Substances with chemical and physical properties that could pose a substantial hazard to human health, property, or the environment if improperly handled, disposed of, or managed.

Glossary of Terms

Headway. The time between arrivals of a transit vehicle at a stop. Shorter headways indicate higher frequency of service.

High-frequency transit service.* Service with headways of not more than 7.5 minutes during peak periods of day.

High-transparency. High visibility through the surface of the building, such as through the use of large amounts of glazing in doors and windows.

Historical Radiological Assessment. A document that details the potential past use and/or storage of radioactive materials on a site.

Homeless Assistance Fund.* The Homeless Assistance Fund is one of three legally binding agreements that will be executed as part of the homeless accommodation plan for the CNWS. The Fund will assist in financing housing units and services for homeless persons at CNWS and in the vicinity of CNWS. The supportive services will be linked to the units supported by the Homeless Assistance Fund and will be designed to support residents to maintain housing stability and to improve the mental and physical health, income, and self-sufficiency and quality of life of the residents. It is expected that the services will address mental illness, substance abuse histories, medical challenges, and/or other barriers to housing and that they will be designed and delivered in accordance with best practices in the industry and appropriate to the population(s) to be served.

Impervious surface. Any material which reduces or prevents absorption of water into land.

Impoundment. A body of water created through damming or digging.

Infiltration. (Hydrological) The movement of surface water into the ground through permeable materials.

Insolation. The amount of solar radiation received by a surface.

Joint use facility. A building, park, or other resource that is shared by two or more entities. Facilities may be shared when uses are seen as compatible, such as when parks are used for recreation and for seasonal stormwater retention. Private and public entities may share a resource by agreement, such as when an auditorium houses a private theater group as well as public programs. Joint-use can result in more efficient use of resources and reduce overall costs for provision of access of those resources to the public.

Landfill diversion. A practice that reduces the amount of material sent to landfills.

Light industry. Any of a variety of manufacturing, assembly, wholesale, distribution, storage, or similar economic activities with minimal on- and off-site impacts.

Liquefaction. A sudden and large decrease in the shearing resistance of a cohesionless soil, caused by a collapse of the soil structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

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Local-serving.* Businesses and services, such as shops and medical offices, frequented primarily by residents of nearby neighborhoods.

Local streets.* Low- and very low-speed streets that link internal areas of Development Districts to each other and to collector and through streets. There are three types of local streets: community streets, yield streets, and alleys.

Main (Transmission , Gas , etc). A trunk line pipe or other conduit for distribution or collection of a utility resource (water, electricity, gas, sewage, etc.).

May.* Indicates a permissive statement that should receive consideration by project sponsors to identify opportunities to promote the aims of the Area Plan.

Mitigation. A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant measures are identified.

Mixed-mode. A hybrid approach to building interior conditioning that uses both natural ventilation from operable windows and, where necessary, mechanical systems that include air distribution equipment and refrigeration equipment for cooling.

Mobile source emissions. Emissions from on-road and off-road vehicles, engines, and equipment that generate air pollution and that move, or can be moved, from place to place.

Montane. Highland below the sub-alpine zone and thus well below the tree-line.

Multi-unit housing.* Residential buildings with common entrances and shared walls between dwellings.

Natural drainage. The use of plants, trees, and soils to slow, reduce, and pre-treat stormwater runoff before or instead of conventional stormwater systems.

Natural ventilation. Air circulation into, through, and out of a building that uses external winds and internal differences in air pressure between rooms. Natural ventilation techniques can include operable windows, partition walls, louvers, and vents, among many other features.

Net residential acre. One acre (43,560 square feet) of a site excluding all land to be used for nonresidential purposes, including land dedicated for required easements for vehicles and rights of way, either public or private.

Net zero energy. Producing as much energy on a site on an annual basis as is consumed on that site.

Nine county Bay Area. The area within San Francisco, Marin, Napa, Sonoma, Solano, Contra Costa, Alameda, Santa Clara and San Mateo Counties.

On-site detention. The practice of delaying drainage of all or some stormwater runoff from a site, thus preventing flooding both in the local drainage system and along creeks and rivers downstream.

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Open space. Any parcel or area of land or water that is essentially unimproved. Open space uses include habitat conservation, hazard mitigation, agriculture, and recreation.

Passive recreation. Activity that does not require the use of dedicated facilities such as ballfields or play equipment and requires limited physical exertion on behalf of the participant. Examples of passive recreation activities include bird watching, walking, or photography, hiking and trail-running.

Passive systems. Building design elements that provide comfortable conditions (heating, cooling lighting, etc.) without the use of electricity or consumption of fuel.

Pathway.* Circulation route on which motor vehicle traffic is not permitted.

Permeable paving. See 'Porous pavement.'

Planning Area.* The geographic extent of the Inland Area Plan, shown on Figure 1-1. This area includes the land that was operated by the US Navy as the Inland Area of the Concord Naval Weapons Station as well as properties owned in 2010 by the Bay Area Rapid Transit District (BART) at the North Concord /Martinez BART station, and the City of Concord (Diablo Creek Golf Course).

Pocket parks. Very small green spaces or open spaces that accommodate activities such as tot-lots, shaded game tables, and outdoor eating.

Porous pavement. Pavement through which water permeates into an underlying structure such as a stone reservoir, where it is stored for gradual release into the soil below.

Public Benefits Conveyance. A method of land disposition that permits the transfer of property from a federal agency at a discount or no cost to an organization that will use it for public purposes, provided that the applicant organization is sponsored by a Federal agency such as the Department of Health and Human Services or the National Park Service. Public Benefit Conveyances are allowed under the Base Realignment and Closure (BRAC) procedure.

Public gathering space.* Publicly owned buildings and outdoor spaces where groups may interact, such as libraries, parks, schools, municipal buildings, community centers, plazas, etc.

Purple pipe. A system of conduit designed to distribute reclaimed (non-potable) water and made purple to distinguish it from pipes distributing potable water.

Rain garden. A drainage facility for stormwater runoff consisting of a splash pad to slow the velocity of runoff and a slightly depressed planting bed or container that allows shallow ponding and filtering-out of the stormwater. Swales, grass filter strips, and/or sand filters may pre-treat the stormwater before it reaches the vegetation. The stored water slowly filters out of the bioretention area over a period of days into the storm sewer system or, if site conditions are favorable, into the underlying soils. Also known as bioretention depressions.

Recycled water. Non-potable water that, as a result of treatment, is suitable for a direct ben-

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official use such as irrigation, or a controlled use that would not otherwise occur and is therefore considered a valuable resource. Also known as 'recycled water'.

Region-serving*, Regional retail.* A commercial activity center of citywide and regional significance. Market area extends throughout the metropolitan area.

Relief interceptor. A sewer pipe designed to provide extra capacity to an existing pipe that collects flow from smaller sewer pipes and conveys it across long distances.

Remediation. (Ecological) The process of removing or isolating contaminants from the environment.

Renewable energy. Energy that comes from sources that do not deplete, or that replenish more quickly than they are consumed

Required.* Indicates a mandatory policy. Conformity with such policies is necessary for proposals implementing the Area Plan to be judged to be consistent with the General Plan.

Residential permit parking.* A parking district wherein local residents can park on streets near their residences through purchase of parking permits, while others are restricted to certain parking spaces or to time limits during certain times of day.

Restoration. (Ecological) The process of returning an ecosystem back to an approximation of its condition prior to disturbance.

Reuse plan.* The document adopted by the City of Concord on Feb 23, 2010 for the Concord Naval Weapons Station (CNWS), except for the Tidal Area of the CNWS, as required by Base Realignment and Closure (BRAC) laws. Also known as the Reuse Plan for the Concord Naval Weapons Station, or the Concord Community Reuse Plan (CCRP).

Revetment. Sturdy materials (e.g. rock piles, wood piles, thick fabrics, or concrete shapes) used to prevent erosion of the banks of a waterway or body of water by absorbing wave energy that may result from floods or heavy rains.

Riparian. Along a lake, river, stream, creek, or drainage channel. Riparian habitats have distinctive plant communities and are often valued for their benefits to water quality and biodiversity.

Ruderal. A type of ecological area, such as a roadside, where vegetation cover has been disturbed by humans.

Runoff. Surface water generated by rainfall that flows over land to a watercourse or urban drainage system.

Saltwater intrusion. The entrance of saltwater into freshwater aquifers due to decreased flows of underground freshwater.

Savannah. A type of ecosystem characterized by grasslands without extensive tree cover.

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Scrub. A type of ecosystem found in areas with Mediterranean climates and characterized by dense coverage of evergreen shrubs. Also called chaparral.

Seep. (Geological) A spring or pool where water, petroleum, or other fluids are surfacing from underground.

Setback. The unobstructed area between a property line and a primary building or structure.

Shall.* Indicates a binding policy. Conformity with binding policies is necessary for proposals implementing the Area Plan to be judged to be consistent with the General Plan.

Shared parking. A parking management technique that shares parking spaces between more than one use in order to use the space more efficiently, typically in cases where users create different periods of peak demand. Shared parking arrangements may share spaces between more than one use (such as between a restaurant and an office complex), and between members of a group (such as a limited number of spaces for a group of employees), among other arrangements.

Shared vehicle facility. A location where car-sharing vehicles are made available.

Sheet flow. The movement of water as a shallow layer over an area, rather than in a concentrated flow like a stream or channel.

Should.* Indicates that policy implementation, while not mandatory, is expected in order to achieve the aims of the Area Plan.

Single-unit housing.*

Attached _. A dwelling having its own entrance and sharing one or more walls with another dwelling.

Detached _. A dwelling with no shared walls or entrances except when joined to a second unit as defined by Concord General Plan Housing Element Policy 1.3 Duplexes and Second Unit.

Small quantity generator. A classification by the US Environmental Protection Agency for a site or facility that generates more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month. Small quantity generators must obtain a permit for accumulating hazardous waste on a site for more than 180 days (or 270 days if shipping a distance greater than 200 miles), must never accumulate more than 6,000 kilograms of hazardous waste on site, must always have at least one employee available to respond to an emergency, and must have detailed, written contingency plans.

Smart meter. A utility meter (e.g., for electricity, gas, or water) that allows for remote reading by utilities providers using computerized digital networks.

Solar hot water. A water-heating system that uses direct exposure to the sun's radiation to heat water, eliminating or reducing the need for conventional water heaters that use higher amounts of energy.

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Source separation. Separation of waste into organics, recyclables, and residuals by households (including multi-unit residences) and businesses.

Special district. A jurisdiction established to provide services separately and sometimes independently from local governments. Examples of special districts include mosquito-abatement districts, water districts, and parks districts, among others. Special districts have the authority to issue municipal bonds to finance community improvements. They also have legal authority to establish and collect property tax on the properties within their boundaries to redeem the bonds, though districts may use other sources of revenue (such as fees for services) also or instead of taxes. If community improvements raise a district's real estate values, property taxes similarly increase and can help pay back the bonds.

Special needs housing. Housing that is specifically designed to meet the needs of a group for which conventional housing may be unsuitable, and which often contains special design features and services to meet the needs of that group.

Special status species. Plants and animals that are legally protected under state and federal laws, as well as species that are considered rare by the scientific community.

Species of special concern. A species, subspecies, or distinct population of an animal native to California that has been exterminated from the state, or is on the state or federal lists of threatened and endangered species, or meets the state definition of threatened or endangered but has not formally been listed, or has experienced serious (noncyclical) population declines or unreversed range retractions that, if resumed, could qualify it for state threatened or endangered status, or has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

Stock pond. A pond that is supplied with live fish.

Streambed Alteration Agreement. A document required by the California Department of Fish and Game for activities that may substantially adversely affect fish and wildlife resources. The agreement must include reasonable conditions necessary to protect those resources and comply with the California Environmental Quality Act (CEQA). Activities that prompt evaluation by the Department to determine if an Agreement is necessary include any that: substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Superfund. Designated by the United States National Priority List as an area requiring further hazardous materials evaluation. When a site is listed on the National Priority List, some part or all of the property has known or threatened releases of hazardous substances.

Sustainable Communities Strategy (SCS). A feasible growth forecast of development in a city or a region that, in combination with transportation measures, meets greenhouse gas

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emissions reductions targets set by the California Air Resources Board. A Sustainable Community Strategy (SCS) is required by California Senate Bill (SB) 375 (Chapter 728, Statutes of 2008).

Threatened species. Federally, a species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. In California, a species of animal or plant is endangered when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors; or when although not presently threatened with extinction, the species is existing in such small numbers that it may become endangered if its environment worsens. A species of animal or plant shall be presumed to be rare or endangered as it is listed in Sections 670.2 or 670.5, Title 14, California Code of Regulations; or Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

Through streets.* Moderate speed rights-of-way that balance the needs of pedestrians, high-frequency transit service, and drivers.

Transportation Demand Management (TDM). Measures to improve the movement of persons and goods through more efficient utilization of transportation systems (e.g., streets and roads, freeways, bus systems, and BART) and measures to reduce the level of single-occupant vehicle use.

Unbundling. Separating the cost of parking from the cost of housing such that residents can pay for only the amount of parking they need.

Unstructured play. Play activities without clearly defined goals or rules.

Vehicle miles travelled (VMT). The cumulative number of miles that motor vehicles travel within a specific area over a specified period of time. (Also known as 'vehicle miles of travel'.) VMT is the basis for most traffic-related greenhouse gas emissions calculations.

Vertical mixed use. A multi-story building which combines two or more different activities separated on upper and lower floors. The most typical format for vertical mixed use consists of ground floor retail uses and upper story housing or offices.

Walking distance. The distance along pedestrian circulation facilities between specified points.

Water transmission. The process of obtaining, conveying, treating, and distributing water from sources to users for potable or non-potable end uses and waste water treatment. Sources of the water may be reservoir, river, rainwater harvesting, recycled water, or groundwater. End uses can be agricultural, commercial, industrial, residential, etc.

Watershed. The total area above a given point on a watercourse which contributes water to the flow of the watercourse; the entire region drained by a watercourse

Yield streets.* Very low-speed streets with a single shared lane wide enough for two automobiles to pass each other, but designed for individual cars to yield while another car passes.

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