Concord Hills Regional Park

LAND USE PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

2019

East Bay Regional Park District

Healthy Parks Healthy People



Photos: Stephen Joseph

Concord Hills Regional Park

LAND USE PLAN • ***DRAFT*** ENVIRONMENTAL IMPACT REPORT

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East Bay Regional Park District

Healthy Parks Healthy People

Planning and GIS Department
Acquisition, Stewardship and Development Division

East Bay Regional Park District
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1. Executive Summary

This chapter presents an overview of the proposed Concord Hills Regional Park Land Use Plan, herein referred to as the "proposed project" or "proposed Plan." This executive summary also provides a summary of the alternatives to the proposed project, identifies issues to be resolved, areas of controversy, and conclusions of the analysis contained in Chapters 4.0 through 4.16 of this Draft Environmental Impact Report (EIR). For a complete description of the proposed project, see Chapter 3, Project Description. For a discussion of alternatives to the proposed project, see Chapter 5, Alternatives to the Proposed Project.

This Draft EIR addresses the environmental effects associated with adoption and implementation of the proposed project. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An EIR is a public document designed to provide the public and governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making.

This Draft EIR has been prepared pursuant to the requirements of CEQA (California Public Resources Code, Division 13, Section 21000 *et seq.*) and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000 *et seq.*) to determine if approval of the identified discretionary actions could have a significant impact on the environment. The East Bay Regional Park District (District), as the Lead Agency, has reviewed and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment, including reliance on applicable District technical personnel and review of all technical reports. Information for this Draft EIR was obtained from on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, greenhouse gas (GHG) emissions, noise, geotechnical, and transportation and traffic).

1.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed project. The six main objectives of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

- To disclose to the public reasons for agency approval of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the CEQA statute and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

1.1.1 EIR ORGANIZATION

This Draft EIR is organized into the following chapters:

- Chapter 1: Executive Summary. Summarizes environmental consequences that could result from implementation of the proposed project, describes recommended mitigation measures, indicates the level of significance of environmental impacts before and after mitigation, and includes a summary of alternatives.
- Chapter 2: Introduction. Provides an overview describing the Draft EIR document.
- Chapter 3: Project Description. Describes the proposed project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- Chapter 4: Environmental Evaluation. Organized into 16 sub-chapters corresponding to the environmental resource categories identified in Appendix G of the CEQA Guidelines, this section provides a description of the physical environmental conditions in the vicinity of the proposed project as they existed at the time the Notice of Preparation was published, from both a local and regional perspective. Additionally, this chapter provides an analysis of the potential environmental impacts of the proposed project, and recommended mitigation measures, if required, to reduce the impacts to less than significant where possible, and to reduce their magnitude or significance when impacts cannot be reduced to a less-than-significant level.
- Chapter 5: Alternatives to the Proposed Project. Considers alternatives to the proposed project, including the CEQA-required "No Project" Alternative and a Limited Footprint Alternative.
- Chapter 6: CEQA-Mandated Sections. Discusses growth inducing impacts, unavoidable significant effects, and significant irreversible changes as a result of the proposed project.

- Chapter 7: Organizations and Persons Consulted. Lists the people and organizations that were contacted during the preparation of this EIR.
- Appendices: The appendices for this document contain the following supporting documents:
  - Appendix A: Notice of Preparation (NOP) and NOP Comment Letters
  - Appendix B: Air Quality and Greenhouse Gas Data
  - Appendix C: Biological Resources

1.1.2 TYPE AND PURPOSE OF THIS DRAFT EIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

> Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

As described in the CEQA Guidelines, different types of EIRs are used for varying situations and intended uses. Because of the long-term planning horizon of the proposed project and the permitting, planning, and development actions that are related both geographically and as logical parts in the chain of contemplated actions for implementation, this Draft EIR has been prepared as a program EIR for the proposed project, pursuant to Section 15168 of the CEQA Guidelines.

Once a program EIR has been certified, subsequent activities within the program must be evaluated to determine whether additional CEQA review needs to be prepared. However, if the program EIR addresses the program's effects as specifically and comprehensively as possible, subsequent activities could be found to be within the program EIR scope, and additional environmental review may not be required (CEQA Guidelines Section 15168[c]). When a program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent actions (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects that are not within the scope of a program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR. For these subsequent environmental review documents, this program EIR will serve as the first-tier environmental analysis.

1.1.3 RELATIONSHIP TO PREVIOUS ENVIRONMENTAL REVIEW DOCUMENTS

Recent environmental review documents that have evaluated the project site are described below:

- Concord Community Reuse Plan Environmental Impact Report (City of Concord, SCH# 2007052094) and Final Environmental Impact Report Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan. The Final EIR prepared by the City of Concord for the Concord Community Reuse Plan (Reuse Plan) analyzed a Preferred Alternative that included over 2,300 acres of open space as part of an anticipated Public Benefit Conveyance (PBC) from the United States Department of the Navy (Navy) to the District. The Draft EIR for the Reuse Plan was released in May 2008 and a Draft Revised EIR was released in August 2009. The Final EIR was certified in January 2010.

The component of the Reuse Plan for the proposed Regional Park site was described as "Large open space area to provide habitat protection/restoration and recreational opportunities on a regional scale,"[1] including a trail system for hiking and biking, picnic areas, campgrounds, interpretive facilities, staging areas, and environmental education, historical interpretation, and Port Chicago Naval Magazine National Memorial visitors center locations.

In 2012, the City of Concord refined the Reuse Plan, adopted the resulting Concord Reuse Project Area Plan (Area Plan), certified an addendum to the Reuse Plan Final EIR, and amended the City of Concord's 2030 General Plan to include the Area Plan. The Addendum prepared for the Area Plan did not identify any new impacts or mitigation measures beyond those identified in the Reuse Plan EIR.

- Concord Reuse Project Specific Plan (City of Concord, SCH #2018112056). In November 2018, the City of Concord released a Notice of Preparation for the environmental review of a Specific Plan that the City is preparing for the Concord Reuse Project. The Specific Plan, to be released in 2020, intends to implement, refine, and augment the City's Area Plan. The Notice of Preparation states that the City will prepare an EIR to evaluate the potential physical environmental effects of the multi-phase development project, including the Tournament Sports Park. [2] Lennar Concord LLC has been selected as the Master Developer for Phase 1 of the Specific Plan Area, with development to occur based on parameters defined in the Specific Plan as lands become available for transfer from the United States Navy, and as areas owned by BART and the United States Coast Guard become available for development.
- Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord (US Department of the Navy). The Navy prepared an Environmental Impact Statement (EIS) to evaluate the Navy's proposal to dispose of surplus property at the Concord Naval Weapons Station (CNWS), and the potential subsequent redevelopment of the property in accordance with the Area Plan. The Draft EIS was released in October 2014 and the Final EIS was released in August 2017. The Preferred Alternative evaluated in the EIS includes "a 2,537-acre regional park, which would encompass the east side of the property along the ridgeline of Los Medanos Hills, and the Mount Diablo Creek corridor."[3] The regional park would also "include some limited recreational uses, including trails, picnic areas, shaded seating areas, and interpretive areas."[4] The EIS acknowledges the District's planning process but, since the proposed Land Use Plan had not yet been formally adopted at the time that the EIS was prepared, "the proposed action evaluated in [the Navy] EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan."[5]

[1] City of Concord, 2010, Concord Community Reuse Project Final EIR, page 2-14.

[2] This boundary does not extend north beyond Highway 4 and is different than the earlier Concord Reuse Project Area Plan boundary, which extended beyond Highway 4 and did not include the Coast Guard base.

[3] US Department of the Navy, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, page ES-3.

[4] US Department of the Navy, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, page ES-8.

[5] US Department of the Navy, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, page 1-16.

- Biological Opinion (United States Fish and Wildlife Service). Concurrent with preparation of the EIS, the Navy initiated formal consultation with the United States Fish and Wildlife Service (USFWS) for the proposed transfer and redevelopment of the CNWS in accordance with the City of Concord's Area Plan. On May 30, 2017, the USFWS issued its Biological Opinion, which concludes the formal consultation with the USFWS. The Biological Opinion outlines the proposed project, existing biological resource conditions on the project site, proposed conservation measures, and the USFWS' conservation recommendations.

1.2 SUMMARY OF PROPOSED PROJECT

The proposed Plan is a long-term plan for the management and operations of a new Regional Park that has been prepared by the District. The project site is located on approximately 2,543 acres in the eastern portion of Concord. The vast majority of the new Regional Park, approximately 2,417 acres, or 95 percent of the site, would be designated as a conservation area and preserved for conservation and management of natural and cultural resources. Public access within the conservation area would be limited to passive recreation trails. The remainder of the property, approximately 126 acres, or 5 percent of the site, would be located in Recreation/Staging Units and would be available for park facilities and passive recreation. These facilities would be located primarily on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the Navy operation of the property) that would be reused. One significant reuse of existing facilities is the proposed "Concord Hills and Port Chicago Naval Magazine National Memorial Visitor Center Complex," to be built inside a refurbished machine shop and warehouse. Of these 126 acres, only 35 acres would be developed with recreational facilities.

1.3 SUMMARY OF PROJECT ALTERNATIVES

Chapter 5, Alternatives to the Proposed Project, of this Draft EIR analyzes the following alternatives:

- No Project Alternative. Under the No Project Alternative, the proposed Plan would not be adopted, the new Regional Park would not be developed, and the project site would remain largely in its existing use, with the exception that the remediation activities planned by the Navy would occur. The site may still be used as grazing land, as it is currently, and it is expected that the City would pursue utilizing the site for mitigation for the Area Plan (and the Specific Plan) but would largely remain unutilized and closed to the public. The District would not manage the project site. However, because the Regional Park would not be developed, the site would not be placed under a restrictive covenant pursuant to the Biological Opinion, and it is therefore possible that the project site could be made available for urban development.
- Limited Footprint Alternative. Under Limited Footprint Alternative, the proposed Plan would be amended such that future Regional Park uses would be scaled back to focus the intensity of use in the previously developed areas of the project site. North of Bailey Road, proposed facilities and trails within the western portion of the site would be maintained. South of Bailey Road, the inner loop of proposed trails would be maintained, but the trails and roadways extending out from this loop and

South Park Road would not be developed. Under this alternative, areas where features or improvements of the proposed Land Use Plan would not be constructed would be left in their existing conditions undisturbed. Under this alternative, the Regional Park would accommodate fewer visitors and fewer employees, and would provide less programming. With its smaller footprint, it is unknown whether the park would be created and managed by the District. It is assumed that this alternative would adhere to the Biological Opinion within the Regional Park area; however, the portions of the project site that would not be included in the Regional Park would not be managed to the same level as they would be under the proposed project.

1.4 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the District, as Lead Agency, related to:

- Whether this Draft EIR adequately describes the environmental impacts of the proposed project.
- Whether the benefits of the proposed project override those environmental impacts that cannot be feasibly avoided or mitigated to a level of insignificance (if applicable).
- Whether the proposed land use changes are compatible with the character of the existing area.
- Whether the identified mitigation measures should be adopted or modified.
- Whether there are other mitigation measures that should be applied to the proposed project besides those identified in the Draft EIR.
- Whether there are any alternatives to the proposed project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic objectives.

1.5 AREAS OF CONTROVERSY

The District issued a Notice of Preparation (NOP) on June 23, 2017. The CEQA-mandated scoping period for this EIR was between June 23, 2017 and July 26, 2017, during which interested agencies and the public could submit comments about the potential environmental impacts of the proposed project. During this time, the District received comment letters from regional and local agencies, as well as an organization and members of the general public. The comments received focused primarily on the following issues:

- Visual impacts.
- Biological resource impacts.
- Creek restoration.
- Erosion.
- Flooding and drainage.
- Mosquito control.
- Impacts from recreation uses.

- Site access and circulation and associated impacts.
- Traffic impacts.

To the extent that these issues could potentially result in environmental impacts and to the extent that analysis is required under CEQA, they are addressed in Chapter 4 of this Draft EIR.

1.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1-1 summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of impacts and mitigation measures identified. It is organized to correspond with the environmental issues discussed in Chapters 4.1 through 4.16. The table is arranged in four columns: 1) impact; 2) significance without mitigation; 3) mitigation measures; and 4) significance with mitigation. For a complete description of potential impacts, please refer to the specific discussions in Chapters 4.1 through 4.16. Significance notations throughout the table are:

- S—Significant impact of the proposed Plan on the environment.
- PS—Potentially significant impact of the proposed Plan on the environment.
- LTS—Less than significant impact of the proposed Plan on the environment.
- N/A—Not applicable to the proposed Plan.

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
AESTHETICS			
AES-1: The project would not have a substantial adverse effect on a scenic vista.	LTS	N/A	N/A
AES-2: The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact	N/A	N/A
AES-3: The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.	LTS	N/A	N/A
AES-4: The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	LTS	N/A	N/A
AES-5: The project would not contribute to significant cumulative aesthetic impacts.	LTS	N/A	N/A
AIR QUALITY			
AQ-1: Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LTS	N/A	N/A
AQ-2: Implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	LTS	N/A	N/A
AQ-3: Construction and operation activities associated with the proposed project would not expose sensitive receptors to substantial concentrations of air pollution.	LTS	N/A	N/A
AQ-4: Implementation of the proposed project would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people	LTS	N/A	N/A
AQ-5: Implementation of the proposed project would not cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.	LTS	N/A	N/A

LTS = Less than Significant; PS = Potentially Significant; S = Significant; N/A = Not Applicable

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
BIOLOGICAL RESOURCES			
BIO-1.1: Construction and operation of Regional Park facilities would result in direct and indirect impacts to up to 16.5 acres of California annual grassland, which provides suitable habitat for special-status plant species. This would be a significant impact.	S	**BIO-1.1a: Pre-Activity Survey.** A focused survey for big tarplant will be conducted within suitable habitat in areas of the project site that may experience ground disturbing activities. The surveys will be conducted prior to initial ground disturbance and during the appropriate blooming period (late summer and early fall). The survey area will include all suitable habitat that may be impacted as well as a 50-foot buffer. Surveys are to be conducted in a year with near-average or above-average precipitation. The purpose of the surveys will be to assess the presence or absence of big tarplant. If this species is not found in the survey area, then no further mitigation will be warranted. If big tarplant is found in the impact area, then Mitigation Measures BIO-1.1b and BIO-1.1c will be implemented.	LTS
		BIO-1.1b: Avoidance Buffer. Populations of big tarplant shall be avoided to the extent feasible. Avoided populations shall be protected by establishing and observing a 50-foot buffer between plant populations and the impact area. All such populations located in the impact area, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around special-status plants to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities. If complete avoidance is not feasible, Mitigation Measure 1.1c will be implemented.	
		BIO-1.1c: **Implementation of Plan Management Prescriptions BIO 8 through BIO 16.** The destruction of populations of big tarplant on the project site shall be mitigated by specifically managing portions of the Regional Park's open grasslands within designated Natural Units for this species. The vast majority of the Los Medanos Hills and areas located southeast of Bailey Road are not proposed for development. These same areas represent the most suitable habitat for big tarplant on the project site. A review of the regional	

LTS = Less than Significant; PS = Potentially Significant; S = Significant; N/A = Not Applicable

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		occurrences of this species reported in various databases reveals that off-site populations generally occur on specific soil types (namely Altamont clay, Altamont-Fontana Complex, and Diablo clay). These same soil types underlie much of the Natural Units within the project boundaries. As such, specific habitat management measures (i.e., Plan management prescriptions BIO 8 through BIO 16 identified in Chapter 4 of the proposed Land Use Plan) to enhance the open space for the California red-legged frog, California tiger salamander, and burrowing owl, will also benefit the germination, growth, and long-term viability of populations of the big tarplant, if it is present.	
BIO-1.2: Implementation of the proposed Land Use Plan could result in harm to or loss of western pond turtles or their eggs. This would be a significant impact.	S	**BIO-1.2: Preconstruction Surveys**. The East Bay Regional Park District shall require a qualified biologist to conduct surveys for communal/traditional western pond turtle nesting areas prior to initiating any ground-disturbing activities with 0.25-mile of potential western pond turtle aquatic habitat. If a communal/traditional nesting area is detected, the East Bay Regional Park District shall install temporary exclusion fencing around any construction areas within 0.25-mile of the aquatic habitat; have a qualified biologist conduct a preconstruction survey for individual turtles within 0.25-mile of the communal/traditional nesting area, and relocate any turtles detected during the survey or during construction to suitable habitat outside of the active construction areas; and have a qualified biologist conduct a Worker Environmental Awareness Program that includes discussion of the western pond turtle.	LTS
BIO-1.3: Regional Park development and recreation could result in the disturbance of an active golden eagle nest. This would be a significant impact.	S	**BIO-1.3a**: **Pre-Activity Survey**. Within 15 days prior to the initiation of ground-disturbing activities during the breeding season (February 1 to August 31), a qualified biologist shall conduct a preconstruction survey for nesting golden eagles within 0.5-mile of the limits of work areas, including access and staging areas.	LTS
		BIO-1.3b: Nest Buffers. If nesting eagles are present, a buffer free from new construction disturbance shall be established within a 0.5-mile radius of the nest. No new project-related construction activities (i.e., activities that were not already ongoing when the	

LTS = Less than Significant; PS = Potentially Significant; S = Significant; N/A = Not Applicable

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		nest was established, or that are of a substantially greater intensity than when the nest was established) shall be undertaken within the buffer. In some cases (e.g., if the activity is not visible from the nest site), it is possible that a lesser buffer would be adequate to avoid disturbance of the nesting eagles, but such a variance would be set by a qualified biologist in consultation with the CDFW and USFWS. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW and USFWS shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW and USFWS) for as long as the nest is active and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities. Any required buffer shall remain in place until young are no longer dependent on the nest, or until the nesting attempt fails (for reasons other than project activities) and it is determined that the birds will not attempt to re-nest. A qualified biologist shall determine through direct observation when the nest is no longer in use (e.g., if the young have fledged or the nesting fails for non-project-related reasons). Constant monitoring of the nest is not necessary, but before construction activities occur within the buffer area, the biologist must confirm that the nest is no longer active.	
		BIO-1.3c: Recreational Facilities Siting and Design. If, prior to the establishment of trails or other recreational features on the project site, the eagles move to a new nest tree and breed successfully there, no new trails or other recreational features that can be seen by eagles on the nest will be established within 0.25-mile of the nest tree unless the new trail and all existing trails and other	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		recreational features within this distance are closed during the breeding season when the nest is active. However, any ongoing activities that were part of the existing environmental background at the time of nest establishment can continue, since by establishing a nest in a given area the eagles would be demonstrating tolerance of ongoing conditions in the area.	
BIO-1.4: Regional Park development and maintenance activities in occupied burrowing owl habitat could result in loss of burrowing owls. This would be a significant impact.	S	**BIO-1.4a: Pre-Activity Survey.** Pre-activity surveys for burrowing owls shall be performed by a qualified biologist no more than 15 days before initial ground disturbance activities within a development area. A survey to determine presence or absence may be performed at any time to facilitate passive relocation efforts (which can only occur outside of the nesting season of February 1 to August 31). In addition, a pre-activity survey by a qualified biologist must be conducted no more than 15 days prior to the commencement of grading, to confirm the absence of burrowing owls. This survey shall be conducted in all areas on and within 250 feet of the impact area and shall be conducted in accordance with the California Burrowing Owl Consortium guidelines.	LTS
		BIO-1.4b: Buffers. For burrowing owls present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone shall be maintained around the occupied burrow(s) if practicable. If such a buffer is not practicable, then a buffer adequate to avoid injury or mortality of owls (based on the determination of a qualified biologist) shall be maintained. If an adequate buffer (as determined by a qualified biologist) cannot be maintained, the birds shall be passively relocated. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no new activity will be permissible, shall be maintained between project activities and occupied burrows. Owls present on the site after February 1 will be assumed to be nesting unless evidence indicates otherwise as confirmed by a qualified biologist. This protected buffer area shall remain in effect until August 31, or based upon monitoring evidence, until the young owls are foraging independently or a qualified biologist has	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		determined that the nest is no longer active. In some cases (e.g., if an activity is not visible from the nest site), it is possible that a breeding-season buffer less than 250 feet would be adequate to avoid disturbance of nesting burrowing owls, but such a variance would be set by a qualified biologist in consultation with the CDFW. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW) for as long as the nest is active and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities.	
		BIO-1.4c: Passive Relocation. If construction will directly impact occupied burrows, eviction of owls should occur outside the nesting season to prevent injury or mortality of individual owls. No burrowing owls may be evicted from burrows during the nesting season (February 1 through August 31) unless evidence indicates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Relocation of owls during the nonbreeding season shall be performed by a qualified biologist using one-way doors, which should be installed in all burrows within the impact area and left in place for at least two nights. These one-way doors shall then be removed and the burrows backfilled immediately prior to the initiation of grading.	
BIO-1.5: Regional Park construction activities during nesting season could reduce the productivity of nesting white-tailed kites.	S	**BIO-1.5a: Avoidance**. To the extent feasible, construction and tree removal activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the	LTS

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		nesting season, all impacts on nesting white-tailed kites will be avoided. The nesting season in Contra Costa County typically extends from February 1 through August 31.	
		BIO-1.5b: Pre-Activity Surveys. If it is not possible to schedule construction and vegetation removal activities between September 1 and January 31, then pre-activity surveys for nesting white-tailed kites shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. The survey shall be conducted by a qualified biologist no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats in the impact area plus a 300-foot buffer for nests. If removal of potential nesting substrate or project grading will occur during more than one nesting season, or in different parts of the site in phases over the course of a single season, then additional pre-activity surveys shall be performed within seven days prior to initiation of work in any particular area. If the pre-activity survey does not identify the presence of any active nests of white-tailed kites on or within 250 feet of the site, construction activities may proceed. If active nests are identified within 250 feet of the activity area, Mitigation Measure BIO-1.7c will be implemented.	
		BIO-1.5c: Nest Buffers. If white-tailed kite nests known to have eggs or young, or that cannot be confirmed to be inactive or to lack eggs or young, are found, a qualified biologist shall establish an appropriate construction-free buffer around each nest in consultation with the CDFW. Generally, a buffer of 300 feet for white-tailed kites is adequate to avoid causing nest abandonment. The buffer shall remain in place until the qualified biologist has confirmed that the nest is no longer active.	
BIO-1.6: Regional Park development activities during the nesting season could reduce the productivity of nesting shrikes and common yellowthroats. This would be a potentially significant impact.	S	**BIO-1.6a: Avoidance**. To the extent feasible, construction and tree removal activities should be scheduled to avoid the nesting season. If construction activities involving removal of trees, shrubs, or other vegetation; demolition of buildings; or grading are scheduled to take place outside the nesting season, all impacts on nesting birds	LTS

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Contra Costa County, including the loggerhead shrike and San Francisco common yellowthroat, extends from February 1 through August 31.	
		BIO-1.6b: Pre-Activity Survey. If it is not possible to schedule construction and vegetation removal activities between September 1 and January 31, then pre-activity surveys for nesting loggerhead shrikes and San Francisco common yellowthroats will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. Surveys will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., shrubs and buildings) in the impact area plus a 100-foot buffer for nests. If removal of potential nesting substrate or project grading will occur during more than one nesting season, or in different parts of the site in phases over the course of a single season, then additional pre-activity surveys must be performed within seven days prior to initiation of work in any particular area. If the pre-activity survey does not identify the presence of any active nests of loggerhead shrikes or San Francisco common yellowthroats on or within 100 feet of the site, construction activities may proceed. If active nests of either species are identified within 100 feet of the activity area, Mitigation Measure BIO-1.5c will be implemented.	
		BIO-1.6c: Nest Buffers. If nests known to have eggs or young, or that cannot be confirmed to be inactive or lack eggs or young, are found, a qualified biologist shall establish an appropriate construction-free buffer around each nest in consultation with the CDFW. Generally, a buffer of 100 feet for loggerhead shrikes and San Francisco common yellowthroats is adequate to avoid causing nest abandonment. The buffer shall remain in place until the qualified biologist has confirmed that the nest is no longer active.	
BIO-1.7: Removal of trees or structures within the project site could result in the loss of day-roost habitat, the injury or mortality of	PS	**BIO-1.7a: Pre-Activity Survey**. A pre-activity survey for roosting bats shall be conducted by a qualified bat biologist prior to any removal	LTS

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
individual bats, or the abandonment of active roosts. This would be a potentially significant impact.		of trees, buildings, magazines, or other structures that could potentially support roosting bats. Any trees or structures immediately adjacent to the impact areas that are identified by a qualified bat biologist as being high-potential roost sites shall be surveyed as well. If suitable roost sites are found but a visual survey is not adequate to determine presence or absence of bats (which would be particularly likely in the case of potential roost trees), acoustical equipment shall be used to determine occupancy. This survey shall be conducted prior to the beginning of the breeding season (i.e., prior to March 1) in the year in which construction or demolition in a given area is scheduled to occur so that adequate measures can be implemented, if feasible, to relocate the bats during the nonbreeding season. Because the aforementioned survey will be conducted prior to the breeding season, weeks or months may pass between that survey and the initiation of construction or demolition in a given area. Therefore, a second pre-activity survey for roosting bats, following the methods described above, shall be conducted by a qualified bat biologist within 15 days prior to the commencement of these activities in a given area to determine whether bats have occupied a roost in or near the project's impact areas.	
		BIO-1.7b: Roost Buffers. If a maternity roost of any bat species is present, the qualified bat biologist (in consultation with the CDFW) shall determine the extent of a buffer free from new construction-related disturbance that will be maintained around the active roost. A typical buffer is 100 feet, though this buffer may be reduced in consultation with the CDFW. This buffer shall be maintained from April 1 until the young are flying, typically after August 31, as determined by a qualified bat biologist.	
		BIO-1.7c: Eviction. If a bat day roost is found in a structure or in a tree that is to be completely removed or replaced, individual bats shall be safely evicted under the direction of a qualified bat biologist. Eviction of bats shall occur at night, so that bats will have less potential for predation compared to daytime roost	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		abandonment. Eviction shall occur between September and March 31, outside the maternity season, but may not occur during long periods of inclement or cold weather (as determined by the bat biologist) when prey are not available or bats are in torpor. If a roost is found in a building or magazine, bats shall be evicted by installing one-way doors on entry/exit points, or by opening the roosting area to allow air flow through the cavity. Demolition should then follow no sooner than the following day (i.e., there should be no less than one night between initial disturbance for air flow and the demolition). This action should allow bats to leave during hours of darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. If feasible, one-way doors shall also be used to evict bats from tree roosts. If use of a one-way door is not feasible, or the exact location of the roost entrance in a tree is not known, the tree(s) with roosts that need to be removed shall first be disturbed by removal of some of the tree's limbs not containing the bats. Such disturbance shall occur at dusk to allow bats to escape during the darker hours. The tree would then be removed the following day. All of these activities shall be performed under the supervision of the bat biologist. In some circumstances in which construction will occur near a roost but the roost itself will not be destroyed or altered, it may be beneficial to the bats to allow them to continue using a roost while construction is occurring on or near the roost site. If a qualified bat biologist, in consultation with the CDFW, determines that the risks to bats from eviction (e.g., increased predation or exposure, or competition for roost sites) are greater than the risk of colony abandonment, then the bats shall not be evicted.	
		BIO-1.7d: Alternative Bat Roost. If a day roost of pallid bats or Townsend's big-eared bats, both California species of special concern, will be impacted, an alternative bat roost structure shall be provided because suitable roosts of these special-status bats are likely more limited than those of other, more common species. The	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		design and placement of this structure shall be determined by a qualified bat biologist based on the species of bat to be displaced, the location of the original roost, and the habitat conditions in the vicinity. This bat structure shall be erected at least one month prior to removal of the original roost structure. This structure shall be checked during the breeding season for up to three years following completion of the project, or until it is found by a qualified bat biologist to be occupied by bats, to provide information for future projects regarding the effectiveness of such structures in minimizing impacts to bats.	
BIO-1.8: Construction activities could result in injury or mortality of badgers, and increased human activity on the site may increase vehicular mortality or disturbance of badger dens. This would be a potentially significant impact.	PS	**BIO-1.8a: Pre-Activity Survey.** Pre-activity surveys for badger dens shall be performed within 15 days prior to commencement of grading or other ground-disturbing activities. These surveys shall be conducted by a qualified biologist familiar with the characteristics of badger burrows. If active badger burrows are identified within the proposed development area, they should be avoided to the maximum extent practicable. If avoidance is not feasible, a qualified biologist should determine if the burrow is being used as a maternity den. If young are determined to be present, a buffer free from new construction-related disturbance shall be established around the den; the dimensions of this buffer shall be determined by the biologist in consultation with the CDFW. The buffer shall be maintained until young vacate the den, as determined by a qualified biologist.	LTS
		BIO-1.8b: Relocation. If the occupied burrow is simply being used as a refugium by a single badger, or after young have been weaned from a maternity den, one of the following measures shall be implemented to avoid potential impacts on individual badgers: ▪ Active trapping and relocation of badgers to suitable off-site habitat by a qualified biologist. ▪ An on-site passive relocation program, through which badgers are excluded from occupied burrows by installation of a one-way door in burrow entrances, monitoring of the burrow for one	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		week to confirm badger usage has been discontinued, and hand-excavation and collapse of the burrow to prevent reoccupation. If relocation of badgers is necessary, the biologist shall conduct a follow-up survey of the impact areas the day that grading or construction is to commence to determine whether any relocated badgers have returned to the construction site. If badgers have returned to the construction site, they shall be relocated again using one of the measures described above.	
BIO-2: The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.	LTS	N/A	N/A
BIO-3: Regional Park development would result in the loss of up to 0.05-acre of jurisdictional wetlands and/or other waters. This would be a significant impact.	S	**BIO-3a: Permitting.** Prior to placing any fill in jurisdictional wetlands and/or other waters of the U.S. or state, the District will provide the necessary permit application/notification materials to the USACE for a Clean Water Act Section 404 permit, to the RWQCB for Clean Water Act Section 401 water quality certification, and to the CDFW for a Fish and Game Code Section 1602 Streambed Alteration Agreement, as applicable (e.g., impacts to jurisdictional wetlands that are not in a channel may not necessitate CDFW notification). The District will comply with all conditions of these permits/ agreements when performing the work; for example, if any compensatory mitigation is required by one or more permit/ agreement, then the District will provide such mitigation in accordance with permit/agreement requirements.	N/A
		BIO-3b: Impact Minimization. Impacts to jurisdictional wetlands and/or other waters of the U.S. or state will be minimized to the smallest area necessary to perform the activity, and all temporary impact areas will be restored to pre-activity conditions after construction has been completed.	
BIO-4: The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	LTS	N/A	N/A

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
BIO-5: Regional Park development could result in the loss of heritage trees protected by the City of Concord's Tree Preservation and Protection Ordinance. This would be a significant impact.	S	**BIO-5: Tree Removal Permit.** Prior to removing or trimming any heritage tree protected by the City of Concord's Tree Preservation and Protection Ordinance, the District will obtain any necessary permit from the City of Concord to impact that tree. The District will then comply with any conditions of the permit, including any tree replacement that might be required.	LTS
BIO-6: The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	LTS	N/A	N/A
BIO-7: The project would not contribute to significant biological resource impacts.	LTS	N/A	N/A
CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES			
CULT-1: The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.	LTS	N/A	N/A
CULT-2: Implementation of the proposed Plan could result in the inadvertent disturbance to unknown archaeological resources. This would be a potentially significant impact.	PS	**CULT-2: Preconstruction Training, Archaeological Monitoring, and Inadvertent Discovery of Archaeological Resources.** Prior to construction, a qualified archaeologist with expertise in California archaeology will develop an archaeological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of archaeological resources, and establishes accidental discovery procedures should archaeological resources be encountered during construction. Project personnel would be provided the detailed information of who to contact at the District if resources are encountered. In accordance with the executed MOA, archaeological monitoring is necessary when ground-disturbing activities occur within or adjacent to the boundaries of any National Register-eligible historic properties, including prehistoric site P-07-000861. Monitoring is not necessary in other portions of the project site. Monitoring should	LTS

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		be conducted by a qualified archaeological monitor that meets the standards of the Register of Professional Archaeologists. If an archaeological resource is encountered, all activity within 100 feet of the find should immediately halt until it can be evaluated by a qualified archaeologist (and a Native American representative if the artifacts are prehistoric). Prehistoric archaeological materials include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. If the archaeologist (and Native American representative) determines that the resources may be significant, they shall notify the East Bay Regional Park District (District). The archaeologist shall consult with Native American representatives in determining appropriate treatment for prehistoric or Native American cultural resources. In considering any suggested mitigation proposed by the archaeologist and Native American representative, the District shall determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is not feasible, other appropriate measures (e.g., capping, data recovery, and/or interpretation as agreed upon between the District, the archaeological consultant, and Native American representatives) shall be instituted. In accordance with PRC 15126.4(b)(3)(C) when data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Work may proceed in other parts of the project site while mitigation for archaeological resources is being carried out.	

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
CULT-3: Implementation of the proposed Plan could result in the accidental discovery of human remains. This would be a potentially significant impact.	PS	**CULT-4: CULT-3: Inadvertent Discovery of Human Remains.** If human skeletal remains are uncovered during project construction, work shall immediately halt within 100 feet of the find. The District shall contact the Contra Costa County coroner to evaluate the remains and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines and Health and Safety Code Section 7050.5(c). If the County coroner determines that the remains are Native American, the District shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission would then identify the person(s) thought to be the most likely descendent of the deceased Native American, who would help determine what course of action should be taken in treating the remains (PRC Section 5097.98).	LTS
CULT-4: Construction activities during implementation of the proposed Plan could result in the discovery of archaeological resources or human remains and the determination that such discoveries are tribal cultural resources. This would be a potentially significant impact.	PS	**CULT-4**: Implement Mitigation Measures CULT-2 and CULT-3.	LTS
CULT-5: The project would not contribute to significant cultural resource impacts.	LTS	N/A	N/A
ENERGY			
ENE-1: The project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.	LTS	N/A	N/A
ENE-2: The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	LTS	N/A	N/A
ENE-3: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	N/A	N/A

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
ENE-4: The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy conservation.	**LTS**	N/A	**N/A**
GEOLOGY AND SOILS			
GEO-1: The project would not result in significant impacts from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides.	**LTS**	N/A	**N/A**
GEO-2: The project would not result in substantial soil erosion or the loss of topsoil.	**LTS**	N/A	**N/A**
GEO-3: The project would not result in significant impacts associated with location on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	**LTS**	N/A	**N/A**
GEO-4: The project would not result in a significant impact associated with its location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	**LTS**	N/A	**N/A**
GEO-5: The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	**LTS**	N/A	**N/A**
GEO-6: Implementation of the proposed Plan could result in the accidental discovery of paleontological resources. This would be a potentially significant impact.	**PS**	**GEO-6:** Preconstruction Training, Paleontological Monitoring, and Inadvertent Discovery of Paleontological Resources. Prior to construction, a qualified paleontologist meeting the standards of the SVP with expertise in California paleontology shall develop a paleontological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of paleontological resources, and establishes accidental discovery procedures should paleontological resources be encountered during construction.	**LTS**

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		Paleontological monitoring is necessary for all ground-disturbing activities that occur in previously undisturbed formations mapped as Pleistocene-aged Older Alluvium, Eocene-aged Markley, or Kreyenhagen formations. Monitoring is also necessary for ground-disturbing activities that exceed 10 feet in depth in previously undisturbed sediments mapped as Holocene alluvium. Monitoring is not necessary in other locations on the project site, including artificial fill, landslide deposits, Oro Loma Formation, or in areas that have been previously disturbed. Monitoring shall be conducted by a qualified paleontological monitor that meets the standards of the SVP. If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified paleontologist can assess the nature and importance of the find and, if necessary, develop appropriate salvage measures in conformance with SVP standards, and in consultation with the East Bay Regional Park District.	
GEO-7: The project would not contribute to significant cumulative geology and soils impacts.	**LTS**	N/A	**N/A**
GREENHOUSE GAS EMISSIONS			
GHG-1: Implementation of the proposed project would not directly or indirectly generate GHG emissions that would result in a significant impact on the environment.	**LTS**	N/A	**N/A**
GHG-2: Implementation of the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	**LTS**	N/A	**N/A**
GHG-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to GHG emissions.	**LTS**	N/A	**N/A**

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
HAZARDS AND HAZARDOUS MATERIALS			
HAZ-1: The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	**LTS**	N/A	**N/A**
HAZ-2: The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	**LTS**	N/A	**N/A**
HAZ-3: The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.	**LTS**	N/A	**N/A**
HAZ-4: The project would not result in a significant impact associated with location on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	**LTS**	N/A	**N/A**
HAZ-5: The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport and therefore would not result in a safety hazard or excessive noise for people residing or working in the project area.	**No Impact**	N/A	**N/A**
HAZ-6: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**LTS**	N/A	**N/A**
HAZ-7: The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	**LTS**	N/A	**N/A**
HAZ-8: The project would not contribute to significant cumulative hazards and hazardous materials impacts.	**LTS**	N/A	**N/A**
HYDROLOGY AND WATER QUALITY			
HYD-1.1: In the absence of appropriate stormwater runoff controls, Plan construction would result in non-point source pollution that could violate water quality standards or waste discharge	**PS**	**HYD-1.1:** Prior to construction, the District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the statewide NPDES Construction General Permit. The SWPPP shall be designed, without limitation, to address the	**LTS**

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.		following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a Regional Water Quality Control Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization best management practices (BMPs) are installed to reduce or eliminate pollutants after construction are completed. The SWPPP shall be prepared by a qualified SWPPP developer and included as part of construction specifications. The SWPPP shall include the minimum BMPs required for the identified Risk Level in accordance with NPDES Construction General Permit requirements. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual.	
HYD-1.2: In the absence of appropriate stormwater runoff controls, Plan operations would result in non-point source pollution that could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.	PS	**HYD-1.2:** Prior to issuance of building permits for proposed improvements, the City shall verify that the District has included post-construction stormwater controls in the site design in accordance with the requirements of Chapter 16 of the City's Municipal Code 16 and the regional NPDES MS4 Permit. The City shall review the final Stormwater Control Plan (SCP) and any necessary changes by the City shall be incorporated into project design plans to ensure the required controls are in place and adhere to the requirements of the NPDES MS4 Permit including all applicable C.3 stormwater control requirements. At a minimum, the SCP shall demonstrate how the following measures would be incorporated into the Project: ▪ Low impact development (LID) site design principles (e.g., preserving natural drainage channels, treating stormwater	LTS

LTS = Less than Significant; PS = Potentially Significant; S = Significant; N/A = Not Applicable

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		runoff at its source rather than in downstream centralized controls) ▪ Source control BMPs in the form of design standards and structural features for all proposed areas of development. ▪ Source control BMPs for landscaped areas shall be documented in the form of a Landscape Management Plan that relies on Integrated Pest Management and also includes pesticide and fertilizer application guidelines designed to minimize any off-site discharges. ▪ Treatment control measures (e.g., bioretention, porous pavement, vegetated swales) targeting any potential pollutants such as sediment, pathogens, metals, nutrients (nitrogen and phosphorus compounds), oxygen-demanding substances, organic compounds (e.g., PCBs, pesticides), oil and grease, and trash and debris. The SCP shall demonstrate that the project has the land area available to support the proposed BMP facilities sized per the required water quality design storm.	
HYD-2: The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS	N/A	N/A
HYD-3: If not designed appropriately, Project elements whose locations and designs have yet to be finalized, could cause substantial erosion or siltation of Mount Diablo Creek. This would be a potentially significant impact.	PS	**HYD-3:** Implement Mitigation Measures HYD-1.1 and HYD-1.2.	LTS
HYD-4: Without appropriate design, Project elements whose locations and designs have yet to be finalized, could inadvertently cause localized flooding on-site. The impact would be potentially significant.	PS	**HYD-4:** Implement Mitigation Measures HYD-1.2	LTS
HYD-5: Without appropriate consideration for existing drainage patterns, Project elements whose locations and designs have yet to be finalized, could inadvertently result in substantial additional sources of polluted runoff. This would be a potentially significant impact.	PS	**HYD-5**: Implement Mitigation Measure HYD-1.2.	LTS

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
HYD-6: In the absence of appropriate stormwater runoff controls, Plan construction and operation would result in non-point source pollution that could conflict with a water quality control plan. This would be a potentially significant impact.	PS	**HYD-6:** Implement Mitigation Measures HYD-1a and HYD-1b.	LTS
HYD-7: The project would not be in a flood hazard, tsunami, or seiche zones with risk of release of pollutants due to project inundation.	LTS	N/A	N/A
HYD-8: The project would not contribute to significant cumulative hydrology and water quality impacts.	LTS	N/A	N/A
LAND USE AND PLANNING			
LAND-1: The project would not physically divide an established community.	No Impact	N/A	N/A
LAND-2: The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	N/A	N/A
LAND-3: The project would not contribute to significant cumulative land use and planning impacts.	LTS	N/A	N/A
NOISE			
NOI-1: The project would not cause a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	N/A	N/A
NOI-2: The project would not cause a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	N/A	N/A
NOI-3: The project would not cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	LTS	N/A	N/A
NOI-4: The project would not expose people residing or working in the project area to excessive aircraft noise levels.	No Impact	N/A	N/A

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
NOI-5: The project would not contribute to significant cumulative noise impacts.	LTS	N/A	N/A
POPULATION AND HOUSING			
POP-1: The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	LTS	N/A	N/A
POP-2: The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No Impact	N/A	N/A
POP-3: The project would not contribute to significant cumulative population and housing impacts.	LTS	N/A	N/A
PUBLIC SERVICES AND RECREATION			
PS-1: The project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
PS-2: The project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to fire protection services.	LTS	N/A	N/A
PS-3: The project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
PS-4: The project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.	LTS	N/A	N/A
PS-5: The project would not result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	LTS	N/A	N/A

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
PS-6: The project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.	**LTS**	N/A	**N/A**
PS-7: The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	**LTS**	N/A	**N/A**
PS-8: The project, in combination with past, present and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to parks.	**LTS**	N/A	**N/A**
TRANSPORTATION			
TRAF-1: Construction activity associated with the proposed Regional Park could result in temporary impacts to the circulation system. This would be a potentially significant impact	**PS**	**TRAF-1**: *Traffic Control Plan.* The District shall prepare, or shall require construction contractor(s) to prepare, and implement a traffic control plan (TCP) for each of the three Plan phases, prior to commencing construction on that phase. The TCPs will aim to reduce traffic impacts on the roadways at and near the work sites, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders and construction vehicles, as appropriate. The District and construction contractor(s) shall coordinate development and implementation of the TCPs with the City of Concord, as appropriate. To the extent applicable, the TCP shall conform to the California Manual on Uniform Traffic Control Devices (MUTCD), Part 6 (Temporary Traffic Control) (Caltrans, 2014). The TCP shall include, but not be limited to, the following elements: ▪ Circulation and detour plans to minimize impacts on local road circulation during unanticipated road and lane closures (if any). Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone. ▪ Identifying truck routes designated by the County. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible.	**LTS**

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Sufficient staging areas for trucks accessing construction zones to minimize disruption of access to adjacent public right-of-ways. ▪ Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by on-site inspectors. ▪ Scheduling truck trips outside the peak morning and evening commute hours to the extent possible. ▪ Limiting the duration of unanticipated road and lane closures (if any) to the extent possible. ▪ Construction activities that may encroach on bicycle routes or multi-use paths, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") shall be posted that indicate the presence of such users. ▪ Implementing roadside safety protocols. Advance "Road Work Ahead" warning and speed control signs (including those informing drivers of State legislated double fines for speed infractions in a construction zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone. ▪ Coordinating construction administrators of police and fire stations (including all fire protection agencies), and recreational facility managers. Operators shall be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. ▪ Repairing and restoring affected roadway rights-of-way to their original condition after construction is completed.	
TRAF-2: The project would increase traffic volumes on area roadways, but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	**No Impact**	N/A	**N/A**
TRAF-3: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	**LTS**	N/A	**N/A**
TRAF-4: The project would not result in inadequate emergency access.	**LTS**	N/A	**N/A**

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
TRAF-5: The project would increase traffic volumes on area roadways, but would not contribute in a considerable way to cumulative transportation and traffic impacts.	**LTS**	N/A	**N/A**
UTILITY AND SERVICE SYSTEMS			
UTIL-1: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	**LTS**	N/A	**N/A**
UTIL-2: Despite implementation of the proposed project policies, implementation of the proposed project could result in an increase in water demand that could exceed the capacity of CCWD and City facilities, resulting in the need to construct additional facilities, the effects of which could be significant.	**S**	**UTIL-2:** The District shall work with the City's Local Reuse Authority and the Engineering Division to ensure that all required water distribution systems, water storage tanks, pump stations, and other facilities at the site to supply the demand for potable water are constructed to meet the CCWD's requirements and standards.	**LTS**
UTIL-3: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.	**LTS**	N/A	**N/A**
UTIL-4: The project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which would cause significant environmental effects.	**LTS**	N/A	**N/A**
UTIL-5: The project would not result in the determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	**LTS**	N/A	**N/A**
UTIL-6: The project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.	**LTS**	N/A	**N/A**
UTIL-7: The project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	**LTS**	N/A	**N/A**
UTIL-8: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.	**LTS**	N/A	**N/A**

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
UTIL-9: The project, in combination with past, present, and reasonably foreseeable development, would not result in significant impacts with respect to solid waste.	LTS	N/A	N/A
UTIL-10: The proposed project would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which would cause significant environmental effects.	LTS	N/A	N/A
UTIL-11: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.	LTS	N/A	N/A
WILDFIRE			
FIRE-1: The project would be located near a State Responsibility Area but it would not substantially impair an adopted emergency response plan or emergency evacuation plan.	LTS	N/A	N/A
FIRE-2: The project would be located near a State Responsibility Area but it would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	LTS	N/A	N/a
FIRE-3: The project would be located near a State Responsibility Area and would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) but would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.	LTS	N/A	N/A
FIRE-4: The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	LTS	N/A	N/A
FIRE-5: The project would not contribute to significant cumulative wildfire impacts.	LTS	N/A	LTS

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2. Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15378(a), "Project," the East Bay Regional Park District (District) Concord Hills Regional Park Land Use Plan (Plan) is considered a "project" subject to environmental review as its implementation is "an action [undertaken by a public agency] which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment." This Draft Environmental Impact Report (EIR) provides an assessment of the potential environmental consequences of implementation of the project, herein referred to as "proposed project." Additionally, this Draft EIR identifies mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR compares the development of the proposed project with the existing baseline condition, described in detail in each section of Chapter 4.0, Environmental Analysis. The District is the lead agency for the proposed project. This assessment is intended to inform the District's decision makers, other responsible agencies, and the public of the nature of the proposed project and its effect on the environment.

2.1 PROPOSED ACTION

The proposed Plan is intended to guide development of a future Regional Park through the 2050 buildout horizon of this Plan. The Plan describes the planned recreation facilities and conservation areas, where those land uses should be located, how those land uses may be accessed and connected, and how development of those uses should be managed so as to minimize impacts and maximize benefits to visitors. The Plan's five goals guide the ongoing development and management of the Regional Park:

- Biological Resources: Develop and manage the Regional Park for the protection, enhancement and restoration of natural resources and reduced risk of wildfire.
- Cultural and Historic Resources: Develop and manage the Regional Park to benefit the overall landscape character of the parklands and specific cultural and historic resources.
- Circulation and Trails: Develop and manage the Regional Park to complete gaps in regional trails networks, provide a range of recreational trails throughout the Regional Park, and facilitate and encourage multi-modal access to the site (e.g. bike, pedestrian, vehicular, public transit).
- Recreation and Education Facilities: Develop and manage recreational and educational facilities that offer a range of opportunities to experience the unique natural, cultural, social, and military history of the CNWS and the Central Contra Costa County region.
- Interpretive Facilities: Establish a historical interpretation program and visitor center in partnership with the National Park Service, with support from and in collaboration with the Friends of Port Chicago and others, to honor the veterans who served at the CNWS, convey the significance of the events at Port Chicago, and provide displays on the history of Concord and the Diablo Valley region, and facilitates access to the National Park Service's Port Chicago Naval Magazine National Memorial.

The Plan has been written to be consistent with the Contra Costa County, City of Pittsburg, and City of Concord General Plans as well as the City of Concord Reuse Project Area Plan.

2.2 ENVIRONMENTAL REVIEW PROCESS

2.2.1 DRAFT EIR

Pursuant to CEQA Guidelines Section 15063, "Initial Study," the District determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. In compliance with CEQA Guidelines Section 15082, "Notice of Preparation and Determination of Scope of EIR," the District circulated the Notice of Preparation (NOP) of an EIR for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse (SCH) and interested agencies and persons on June 23, 2017, for a 30-day review period. A public Scoping Meeting was held on June 29, 2017, at 6:30 p.m. at the Concord Senior Center. The NOP and scoping process solicited comments from responsible and trustee agencies as well as interested parties regarding the scope of the Draft EIR. Appendix A of this Draft EIR contains the NOP as well as the six comments received by the District in response to the NOP from the Contra Costa Mosquito & Vector Control District, the City of Concord, the Contra Costa Flood Control and Water Conservation District, the California Native Plant Society, and residents John Mercurio and Bruce Feld; all comments were considered by the District in preparing the Draft EIR.

2.2.2 DRAFT EIR ORGANIZATION

This Draft EIR is organized into the following chapters:

- Chapter 1: Executive Summary. Summarizes environmental consequences that could result from implementation of the proposed project, describes recommended mitigation measures, and indicates the level of significance of environmental impacts before and after mitigation.
- Chapter 2: Introduction. Provides an overview describing the Draft EIR document.
- Chapter 3: Project Description. Describes the proposed project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- Chapter 4: Environmental Evaluation. Organized into 16 sub-chapters corresponding to the environmental resource categories identified in Appendix G of the CEQA Guidelines, this section provides a description of the physical environmental conditions in the vicinity of the proposed project as they existed at the time the NOP was published, from both a local and regional perspective. Additionally, this chapter provides an analysis of the potential environmental impacts of the proposed project, and recommended mitigation measures, if required, to reduce the impacts to less than significant where possible, and to reduce their magnitude or significance when impacts cannot be reduced to a less-than-significant level.
- Chapter 5: Alternatives to the Proposed Project. Considers alternatives to the proposed project, including the CEQA-required "No Project" Alternative and a Limited Footprint Alternative.
- Chapter 6: CEQA-Mandated Sections. Discusses growth inducing impacts, unavoidable significant effects, and significant irreversible changes as a result of the proposed project.

- Chapter 7: Organizations and Persons Consulted. Lists the people and organizations that were contacted during the preparation of this EIR.
- Appendices: The appendices for this document contain the following supporting documents:
  - Appendix A: Notice of Preparation (NOP) and NOP Comment Letters
  - Appendix B: Air Quality and Greenhouse Gas Data
  - Appendix C: Biological Resources

2.2.3 CEQA IMPACTS

The scope of this EIR was established by the District through the EIR scoping process and includes an analysis of both the proposed project's impact and the cumulative impacts in the following issue areas

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Traffic
- Utilities and Service Systems
- Wildfire
- CEQA-Mandated Assessment Conclusions:
  - Impacts Found Not To Be Significant
  - Significant Unavoidable Impacts
  - Growth-Inducing Impacts
  - Significant Irreversible Changes

The implementation of the proposed project was found to have no impacts related to Agricultural and Forestry Resources or Mineral Resources. A complete discussion of the impacts to Agricultural and Forestry Resources and Mineral Resources is provided in Chapter 7, CEQA-Mandated Assessment, of this Draft EIR.

2.2.4 FINAL EIR

Upon completion of the 45-day review period for the Draft EIR, the District will review all written comments received and prepare written responses to each comment on the adequacy of the Draft EIR. A Final EIR will then be prepared that contains all of the comments received, responses to comments raising environmental issues, and any changes to the Draft EIR. The Final EIR will then be presented to the East

Bay Regional Park District Board for certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the District.

All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to certification of the EIR. The District will make findings regarding the extent and nature of the impacts as presented in the EIR. The EIR will need to be certified as having been prepared in compliance with CEQA by the District prior to making a decision to approve or deny the proposed project. Public meetings and hearings to consider the Land Use Plan and Final EIR will be held at the District's Board Executive Committee, the Parks Advisory Committee and at a regular Board of Directors hearing. Notice of the public meetings and hearings will be published on the District's webpage, emailed or mailed to individuals on the Concord Hills Regional Park contact list, and public comment is encouraged at all public hearings before the District.

After the District certifies the EIR, it may then consider action on the proposed project. If approved, the District will adopt and incorporate into the project all feasible mitigation measures identified in the EIR and may also require other feasible mitigation measures.

In some cases, the District may find that certain mitigation measures are outside the jurisdiction of the District to implement, or that no feasible mitigation measures have been identified for a given significant impact. In that case, the District will have to adopt a statement of overriding considerations that determines that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable, significant effects on the environment.

2.2.5 MITIGATION MONITORING

CEQA Guidelines Section 15097, "Mitigation Monitoring or Reporting," requires that the lead agency adopt a Mitigation Monitoring and Reporting Program (MMRP) for any project for which it has made findings pursuant to CEQA Guidelines Section 15091, "Findings," or adopted a Negative Declaration pursuant to CEQA Guidelines Section 15074, "Consideration and Adoption of a Negative Declaration or Mitigated Negative Declaration." Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration. The MMRP for the proposed project will be completed as part of the environmental review process.

2.3 PROGRAM-LEVEL EIR

This Draft EIR is a program-level EIR that analyzes implementation of the proposed project. CEQA and the CEQA Guidelines allow lead agencies to prepare a number of types of EIRs for varying situations and intended uses. As described in Section 15161, "Project EIR," of the CEQA Guidelines, the most common type of EIR is a *project* EIR, which examines the environmental impacts of a specific development project. As described in Section 15168, "Program EIR," of the CEQA Guidelines, *program* EIRs are appropriate when a project consists of a series of actions characterized as one large project and are related geographically or in connection with the issuance of a plan.

In this case, the proposed project that is the subject of this EIR consists of the Concord Hills Regional Park Land Use Plan, a long-term program to convert a former United States Naval weapons station into a regional park. The Plan will be implemented over a 31-year buildout horizon (e.g., 2019 to 2050) as policy documents guiding future development activities and District actions. No specific development projects are proposed as part of the project. Therefore, this EIR is a program-level EIR that analyzes the potential significant environmental effects of the adoption of the proposed Plan.

Where the program EIR addresses the program's effects as specifically and comprehensively as is reasonably possible and future development projects are within scope of the effects examined in the program EIR, then additional environmental review may not be required for those future projects. When a program EIR is relied on for a subsequent future development project, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent activities (CEQA Guidelines Section 15168(c)(3)).

However, as stated above, this program EIR is not project-specific, and does not evaluate the impacts of individual projects that may be proposed in the future. All future development projects within the Concord Hills Regional Park area that qualify as a "project" under CEQA are subject to compliance with CEQA, which may require additional, project-specific environmental analysis. Under a program-level EIR approach, in order to identify whether additional analysis would be necessary when a future development project is proposed, the District, acting as the lead agency, will need to determine the following:

- Whether the planned characteristics of the project are substantially different from those defined in the programmatic EIR;
- Whether the project would require additional mitigation measures; or
- Whether specific impacts were not evaluated in sufficient detail in the programmatic EIR.

If any of these conditions apply and the subsequent activity would have effects that are not within the scope of the program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR, unless the activity qualifies for an exemption from the CEQA process.

For all subsequent environmental review documents, within or outside of the scope of the Plan, this program EIR will serve as the first-tier environmental analysis, which may serve to streamline future environmental review of subsequent projects.

2.4 STREAMLINED ENVIRONMENTAL REVIEW

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the program EIR and by incorporating those analyses by reference.

Section 15168(d) of the State CEQA Guidelines provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152(d)).

By tiering from the Concord Hills Regional Park Plan EIR, the environmental analysis for a future project would rely on the Plan EIR for the following:

- A discussion of general background and setting information for environmental topic areas;
- Overall growth-related issues;
- Issues that were evaluated in sufficient detail in the Plan EIR for which there is no significant new information or change in circumstances that would require further analysis;
- Assessment of cumulative impacts; and
- Mitigation measures adopted and incorporated into the Plan.

As previously stated, an Initial Study could be prepared for future projects to evaluate the potential environmental impacts of the future projects with respect to the Plan EIR to determine what level of additional environmental review, if any, is appropriate.

2.5 PUBLIC REVIEW AND PARTICIPATION PROCESS

Consistent with the requirements of CEQA, efforts have been made during the preparation of this Draft EIR to contact affected agencies, organizations, and individuals who may have an interest in the Project. As describe above, this effort included the circulation of the NOP on June 23, 2017 and a public scoping meeting on June 29, 2017 in Concord. Early consultation with relevant agencies, organizations and individuals assisted in the preparation of this Draft EIR.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 49-day comment period starting October 18, 2019 and ending December 6, 2019.

One public meeting will be held on this Draft EIR during the review period to receive comments on the document as sated in the Notice of Availability accompanying this Draft EIR.

2.5.1 PUBLIC REVIEW AND MEETINGS

Hard copies of the Draft EIR can be reviewed at the locations listed below and an electronic version can be viewed online at the District website: https://www.ebparks.org/about/planning/cnws.htm.

East Bay Regional Park District
Administrative Office
2950 Peralta Oaks Court
Oakland, California 94605-0381

Contra Costa County Library, Concord Branch
2900 Salvio Street
Concord, California 94519

Contra Costa County Library, Pittsburg Branch
80 Power Avenue
Pittsburg, California 94565

Contra Costa County Library, Martinez Branch
740 Court Street
Martinez, California 94553

2.5.2 WRITTEN COMMENTS

During the comment period, the public is invited to provide written comments via mail or e-mail on the Draft EIR to the East Bay Regional Park Planning Division by 4:00 p.m. on Friday, December 6, 2019.

Written comments should be submitted to:

Devan Reiff, AICP, Principal Planner,
East Bay Regional Park District, Planning Division
2950 Peralta Oaks Court
P.O. Box 5581
Oakland, CA 94605
Phone: (510) 544-2325
Email: dreiff@ebparks.org with “Concord Hills Regional Park Plan EIR” as the subject.

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3. *Project Description*

The Concord Hills Regional Park Land Use Plan (proposed project or proposed Plan) is a long-term plan for the management and operations of a new Regional Park that has been prepared by the East Bay Regional Park District (the District). The project site is located on approximately 2,543 acres in the City of Concord. The vast majority of the proposed project, approximately 2,417 acres, or 95 percent of the site, would be designated as a conservation area and preserved for conservation and management of natural and cultural resources. Public access within the conservation area would be limited to passive recreation trails. The remainder of the property, approximately 126 acres, or 5 percent of the site, would be available for recreation and park facilities, primarily on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the United States Department of the Navy's (Navy) operation of the property) that will be reused. This chapter details the components of the proposed project.

The District is the Lead Agency for this Environmental Impact Report (EIR).

3.1 PROJECT SITE LOCATION AND CHARACTERISTICS

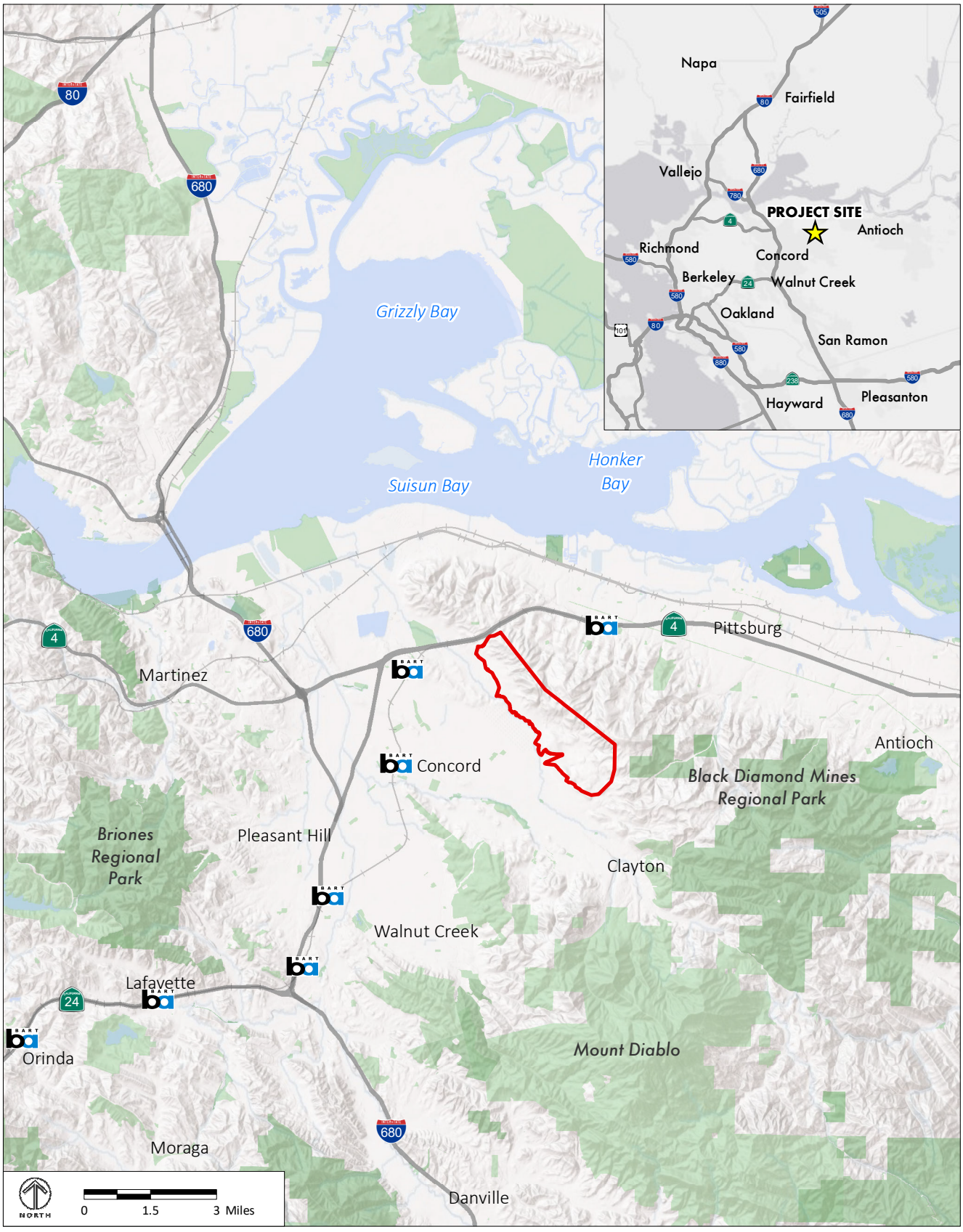
3.1.1 REGIONAL LOCATION AND ACCESS

Figure 3-1 shows the regional setting of the project site. The project site is located on approximately 2,543 acres within the eastern portion of the City of Concord's incorporated boundaries, along the border with the City of Pittsburg and unincorporated Contra Costa County, and approximately 35 miles east-northeast of San Francisco in northern Contra Costa County, California (see Figure 3-3). The project site is located approximately 20 miles east of San Francisco Bay and 3 miles south of Suisun Bay. There are three highways in proximity to the northwest boundary of the project site, Highways 4 and 242 and Interstate 680. Willow Pass Road and Bailey Road cross the site and connect to Highway 4. The primary entrance point to the site is through the Military Ocean Terminal of Concord off Port Chicago Highway to the north of Highway 4.

3.1.2 EXISTING SITE CONDITIONS

The project site is situated along the Los Medanos Hills and east of Mount Diablo Creek. Elevations at the site range from about 100 feet above sea level in the northwestern portion of the site to 1,000 feet above sea level along the ridge.

The project site is bisected into two segments north and south of Bailey Road. The northern section (referred to in the proposed Plan as the "Primary Area"), located between Bailey Road and Highway 4, is significantly larger, totaling approximately 1,653 acres, and contains most of the existing structures and a



Source: PlaceWorks, 2016; ESRI 2015, EBRPD, 2018.

Project Site
East Bay Regional Park District Lands
Parks/Open Space
BART Station
Railway

Figure 3-1
Regional Location

more complex road and rail network. Willow Pass Road crosses the Primary Area along an overpass at the northwestern edge. The southern section (referred to as the "Southern Area"), totaling approximately 890 acres, is less developed, with a small network of concrete, earth-covered bunkers (also known as magazines) along a loop road. Total proposed project site acreage of 2,543 acres does not match the acreage included in the Biological Opinion (2,516 acres) because the Biological Opinion was based on a slightly smaller site area then the current version of the Draft Land Use Plan. Figure 3-2 shows existing topography, roads, rail line, magazines, and waterways on the project site.

3.1.3 SURROUNDING LAND USES

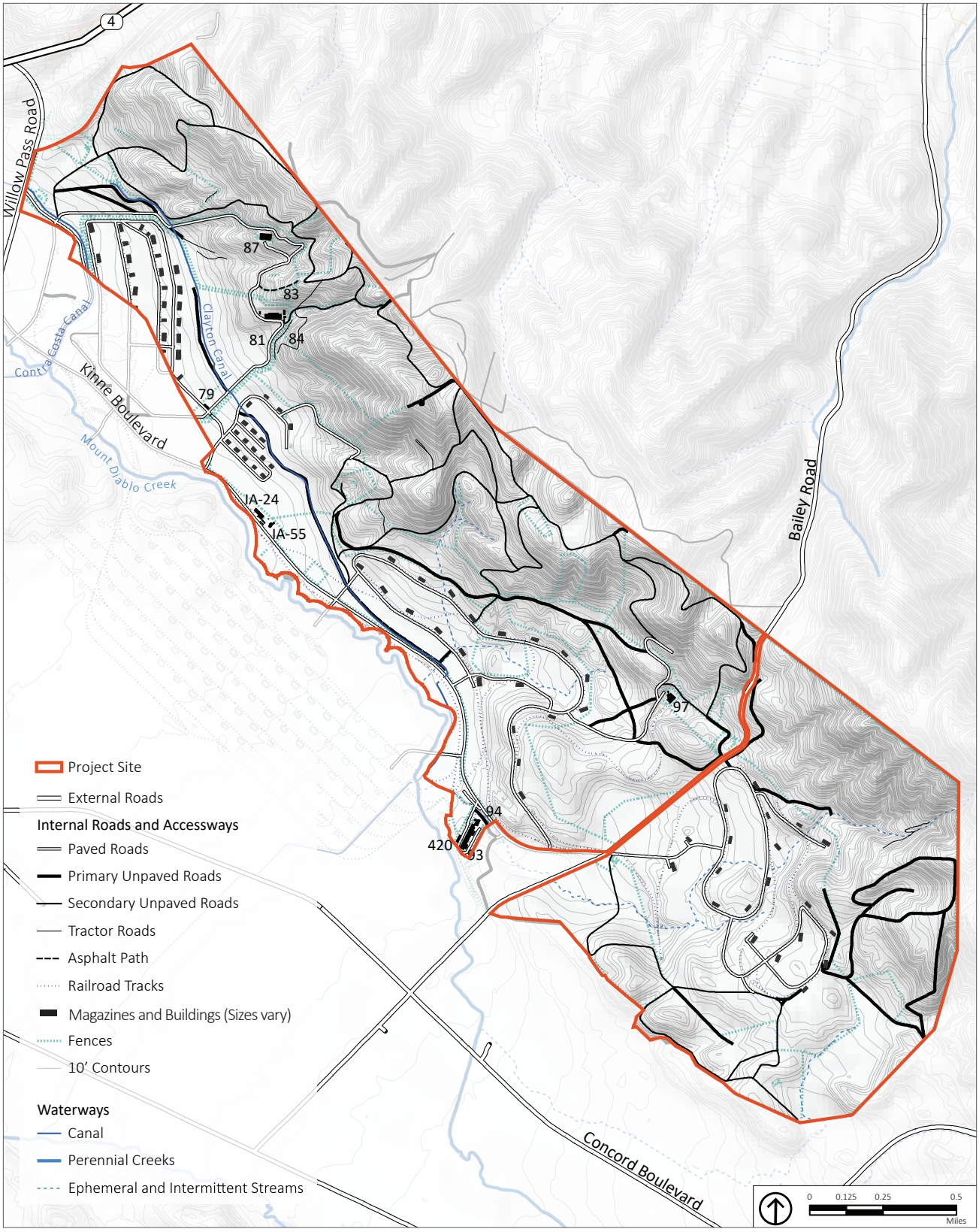
As shown in Figures 3-1 and 3-3, the project site is located within the City of Concord's incorporated boundaries, adjacent to the City of Pittsburg and unincorporated areas of Contra Costa County. The site, along with undeveloped land along this border, forms a greenbelt between the two municipalities. The project site is bounded on the north and west by the remainder of the "Inland Area" of the Concord Naval Weapons Station (CNWS), on the southwest by existing residential neighborhoods within the City of Concord, and on the south and east by undeveloped land within the City of Pittsburg and unincorporated Contra Costa County. Primary uses adjacent to the project site include residential neighborhoods within the City of Concord, residential and open space land in the City of Pittsburg, and open space land in unincorporated Contra Costa County. The eastern edge is predominantly used for agricultural grazing. It is privately owned and located within the City of Pittsburg's Sphere of Influence.

The Concord Pavilion, an amphitheater commonly used for concerts and local community events, is located to the south of the site. As shown in Figure 3-3, the project site is located west of the Keller Canyon Landfill, which extends to the northeast of the project site and has been in operation since 1992. The landfill is currently negotiating an agreement with the County to expand capacity from 3,500 to 4,900 tons per day.

3.1.4 WILDFIRE ZONES AND FEDERAL RESPONSIBILITY AREAS

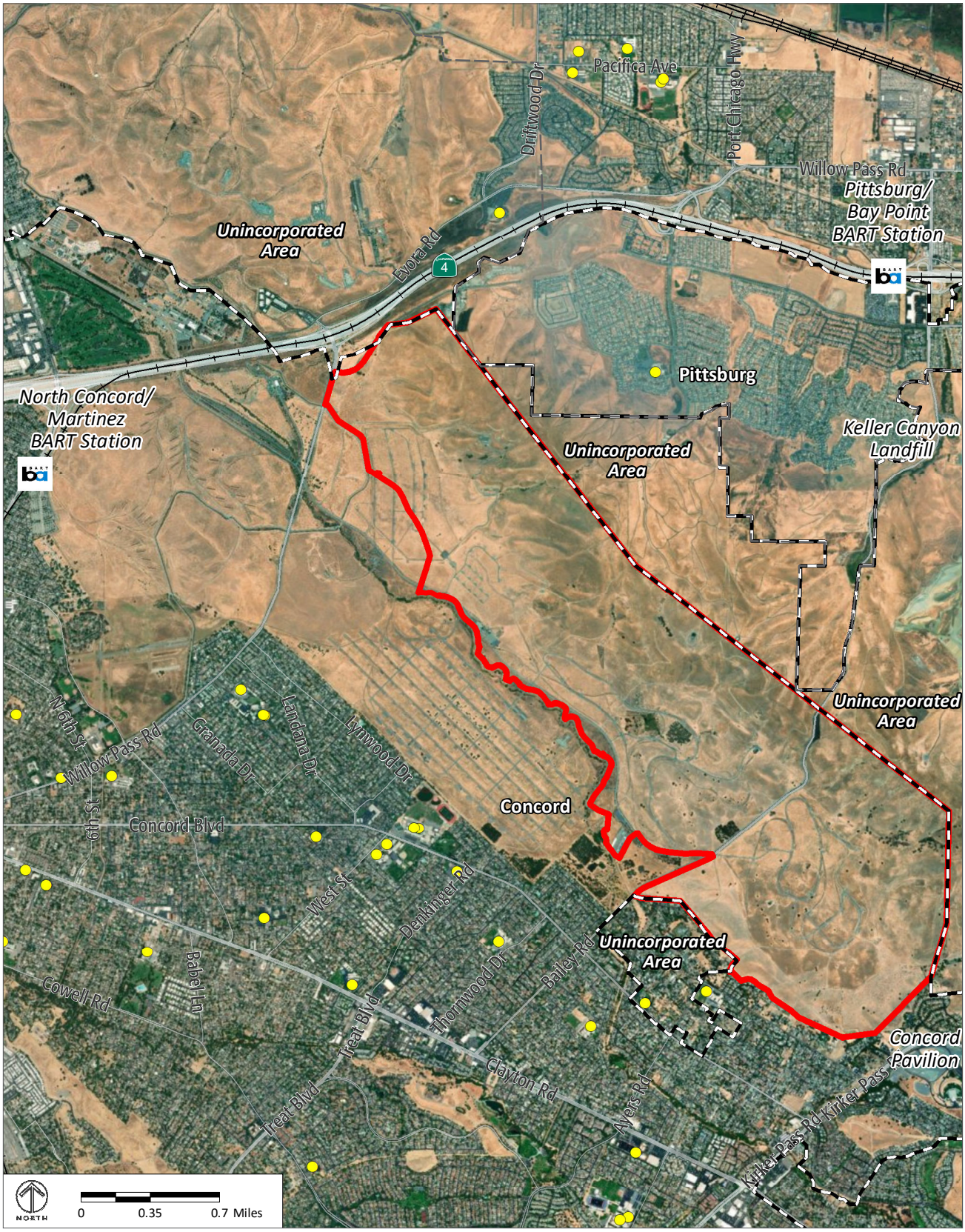
The California Department of Forestry and Fire Protection (CAL FIRE) publishes maps recommending fire hazard severity zones for every California county. The maps identify lands in California as falling within one of the following management areas: Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). Within each of these areas, a single agency has direct responsibility: in LRAs, local fire departments or fire protection districts are responsible; in SRAs, CAL FIRE is responsible; in FRAs, federal agencies such as the United States Forest Service, National Park Service, Bureau of Land Management, United States Department of Defense, United States Fish and Wildlife Service, and Department of the Interior are responsible.

The CAL FIRE map for the SRA in Contra Costa County identifies the project site as within the FRA. Although CAL FIRE maps the site as within the FRA, upon transfer to the District, the site would no longer be under the management of the federal government and would become part of the LRA. The CAL FIRE map for the LRA in Contra Costa County identifies the project site as not being within the Very High Fire Hazard Severity Zone. The project site is adjacent to lands to the east and north that are within the SRA



Source: Concord Hills Regional Park Land Use Plan, 2017.

Figure 3-2
Existing Site Conditions



Source: PlaceWorks, 2019; ESRI 2015.

Project Site
Schools
City Limit
BART Station
Railway
City of Pittsburg's Sphere of Influence

PLACEWORKS

Figure 3-3
Local Context

and designated as being within the Moderate and High Fire Hazard Severity Zone. Please see Chapter 4.16, Wildfire, of this Draft EIR for more information and fire hazard zone maps.

3.1.5 GENERAL PLAN LAND USE DESIGNATION AND ZONING

General Plan land use designations and Zoning applicable to the project site and surrounding areas are shown in Figure 3-4 and Figure 3-5, respectively.

3.1.5.1 ON-SITE GENERAL PLAN LAND USE DESIGNATION AND ZONING

The project site currently has a General Plan land use designation of Concord Reuse Project Open Space (CRP-OS). The Concord Reuse Project Area Plan is consistent with the City's General Plan but provides more detail and designates the project site as Conservation Open Space. The project site, as well as other land to the west of the project site within the Concord Reuse Area Plan, is currently zoned Study (S).

3.1.5.2 SURROUNDING GENERAL PLAN LAND USE DESIGNATION AND ZONING

As described above, the project site is located within the City of Concord and abuts land within the City of Pittsburg and unincorporated Contra Costa County. The sections below describe the General Plan land use designations and zoning districts that apply to land surrounding the project site within each of these jurisdictions.

City of Concord

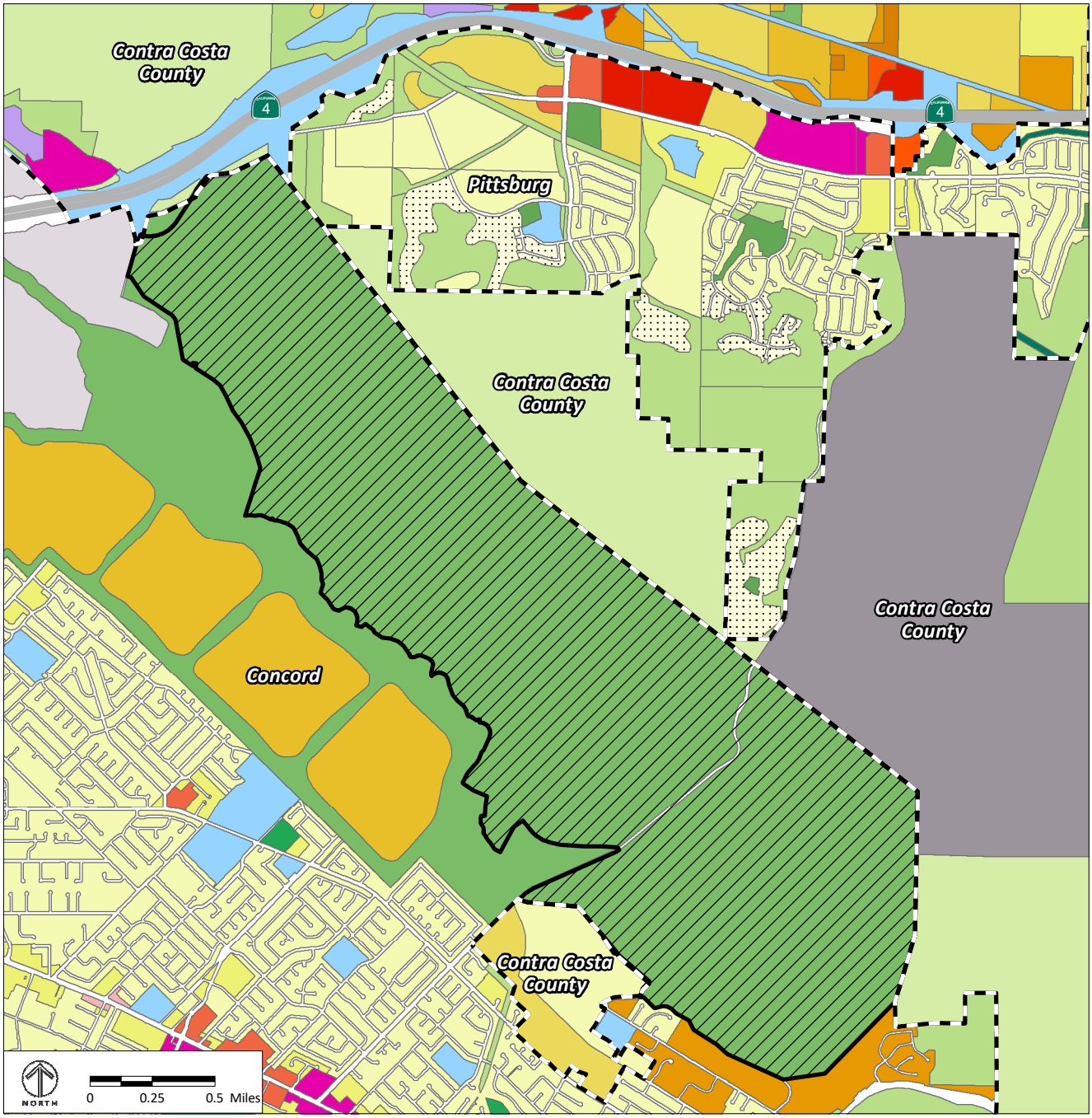
Most of the land adjacent to the project site to the west, north of Bailey Road, is designated by the City of Concord's General Plan as CPR-OS. The Concord Reuse Project Area Plan designates these open space lands as Greenways, Citywide Parks, and Tournament Facilities. A small area of land adjacent to the northwest corner of the project site is designated by the City's General Plan as Concord Reuse Project Non-Residential Development District (CRP-NR) and is designated by the Concord Reuse Project Area Plan as Commercial Flex.

To the west of the project site south of Bailey Road, outside of the unincorporated County pocket, land within the City of Concord is zoned for rural residential and single-family residential use.

City of Pittsburg

Some areas within the City of Pittsburg abut the project site to the east. Lands within the City of Pittsburg's city limit adjacent to the project site are designated in the City of Pittsburg's General Plan as Open Space and Hillside Low Density Residential.

The areas within the City of Pittsburg that abut the project site to the east are zoned for open space, planned development, hillside planned district uses.



Source: PlaceWorks, 2019; ESRI, 2019

City Boundaries
Project Site

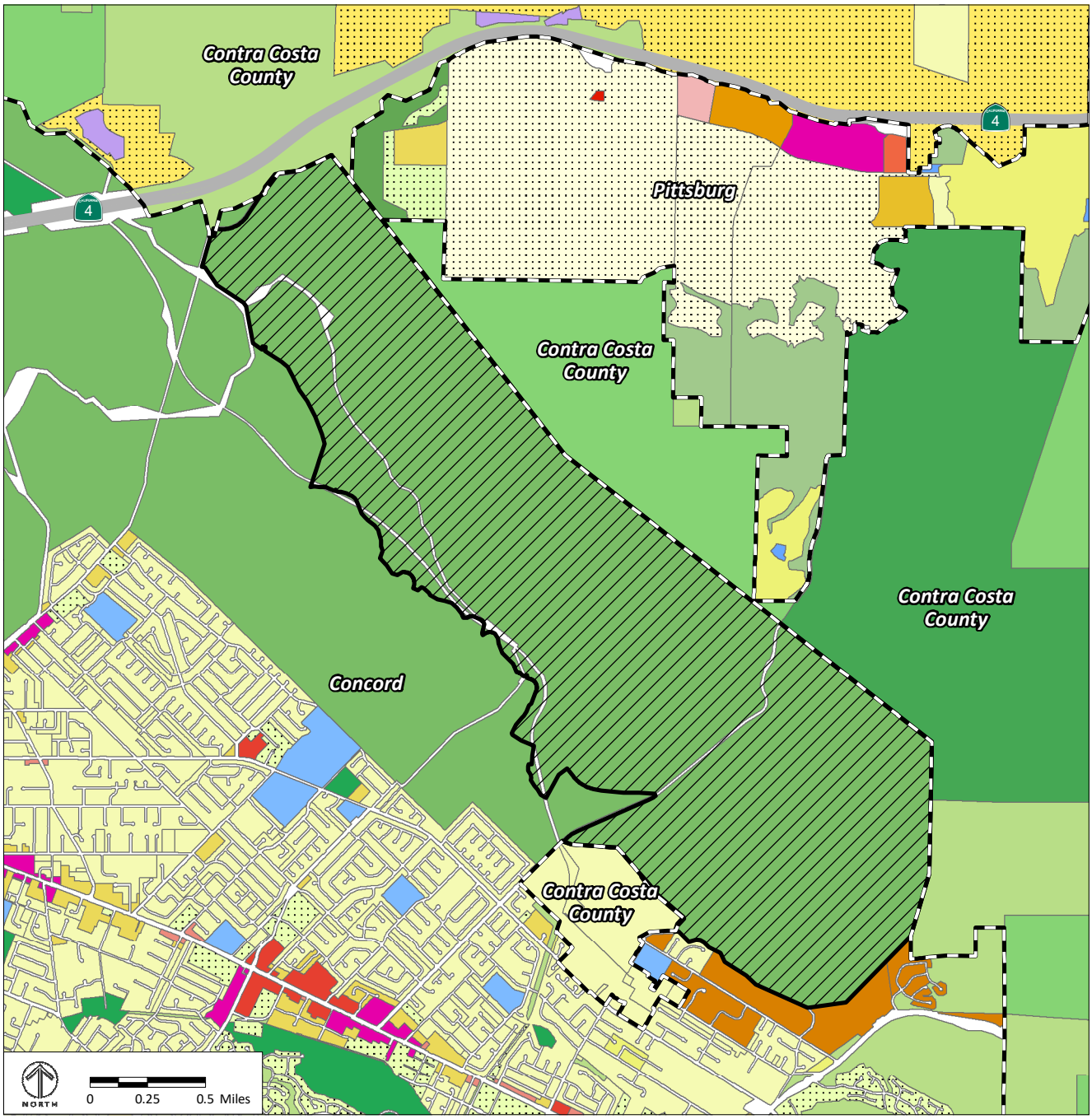
City of Concord General Plan
- Low Density Residential
- Medium Denstiy Residential
- CRP* Neighborhood and Village Districts
- Rural Residential
- CRP* Non-Residential Development Districts
- Commercial Office
- Neighborhood Commercial
- Commercial Mixed Use
- Public/Quasi-Public
- Parks and Recreation
- CRP* Open Space
- Open Space

* CRP = Concord Reuse Project

Contra Costa County General Plan
- Single-Family Residential - Low Density
- Single-Family Residential - Medium Density
- Single-Family Residential - High Density
- Multiple-Family Residential - Low Density
- Multiple-Family Residential - Medium Density
- Multiple-Family Residential - High Density
- Bay Point Residential Mixed Use
- Commercial
- Willow Pass Business Park Mixed Use
- Light Industry
- Landfill
- Public and Semi-Public
- Parks and Recreation
- Open Space
- Agricultural Lands

City of Pittsburg General Plan
- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Community Commercial
- Business Commercial
- Mixed Use
- Public/Institutional
- Utility/ROW
- Park
- Open Space

Figure 3-4
General Plan Land Use Designations



Source: PlaceWorks, 2019; ESRI 2019

City Boundaries
Project Site

City of Concord Zoning
Planned District
Single Family Residential
Residential, Low Density
Residential, Medium Density
Rural Residential
Community Office
Neighborhood Commercial
Commercial Mixed Use
Public/Quasi-Public
Parks and Recreation
Study District
Open Space

City of Pittsburg Zoning
Hillside Planned District
Planned Development
Single Family Residential (6,000 sf min. lot size) Limited Overlay
Single Family Residential (6,000 sf min. lot size)
Single Family Residential (10,000 sf min. lot size)
Medium-Density Residential
High-Density Residential - Master Plan Overlay
Commercial Office-Master Plan Overlay
Community Commercial
Service Commercial
Mixed Use
Governmental and Quasipublic
Open Space District-Limited Overlay
Open Space District

Contra Costa County Zoning
Planned Unit
Single Family Residential
Light Industrial
Heavy Agricultural
Agricultural Preserve
General Agricultural

Figure 3-5
Zoning

Contra Costa County

South of Bailey Road, land adjacent to the project site to the west lies within an unincorporated pocket. The County's General Plan designates this area for Single Family Residential – Low (SL) and Single Family Residential – High (SH). South of the unincorporated pocket, along the west side of the project site, land is designated by the City of Concord's General Plan as Rural Residential (RR).

Most of the land adjacent to the project site to the east and southeast lies within unincorporated Contra Costa County. This land is designated in the County's General Plan as Agricultural Lands (AL) and Landfill (LF) and zoned as Agricultural Preserve (A-4), Heavy Agriculture (A-3), and General Agriculture (A-2).

To the north of the project site, the project site is abutted by land within unincorporated Contra Costa County that is designated in the County's General Plan as Public/Semi-Public (PS) and zoned as General Agriculture (A-2).

3.1.6 EAST BAY REGIONAL PARK DISTRICT MASTER PLAN

The District operates over 121,000 acres of parkland for passive and active recreational use, and its facilities vary based on location, amenities, and access. Additionally, the District operates a network of over 150 miles of non-motorized inter-park regional trails. The District's 2013 Master Plan identifies the project site as potential parkland.

The Master Plan categorizes recreational amenities as described below:

- Trails. Hiking and biking along trails are among of the most popular recreational activities for East Bay Regional Park District users. The current trail network, composed of trails within parks and regional connectors between parklands, spans more than 1,200 miles and is designed to accommodate hikers, joggers, bicyclists, equestrians, and people with dogs. The 2013 Master Plan identifies three types of trails in the District's network: Dedicated and Shared Use Narrow Trails, Unpaved Multi-use Trails, and Paved Multi-use Trails.
- Picnic Areas. The District is the major provider of outdoor gathering and picnic space in the East Bay, and the 2013 Master Plan acknowledges that demand is growing for these facilities. These spaces are general centrally located within the park and accompanied by restrooms and waste receptacles. The Plan identified the following types of space used as picnic areas:
  - Group picnic areas with cooking facilities and tables that can be reserved through the District's reservations program.
  - Meadows and lawns for informal, unreserved picnic and gathering space.
- Children's Play Areas. In parks that serve large populations of children, the District provides play areas. These are typically associated with group picnic areas or swim facilities and located near the central gathering place of the park. Some play areas incorporate an environmental theme and are considered parts of the interpretive elements of the park. The District would like to continue to design play facilities with interpretive components consistent with the ecological or cultural setting of its parks.

- Aquatics. Aquatic facilities are located at shoreline parks and parks with large water bodies. There are pools at three East Bay Regional Park District facilities.
- Camping. East Bay Regional Park District parklands are the major source of day and overnight camping facilities in the East Bay. The Master Plan acknowledges the District's ongoing efforts to improve and expand facilities to accommodate varying degrees of accessibility and different user groups. The Master Plan identified the following camping types:
  - Day Camps serve the youth population and provide daytime recreation on-site.
  - Group Camps include sites for overnight tent camping for large groups.
  - Backpack Camps are located along trails and provide space for overnight tent camping to accommodate multi-day trail use.
  - Family Camps provide sites for overnight car-camping and RV use.
  - Residential Camps are large facilities that provide overnight camping and recreational activities for youth or large adult retreat groups. The District currently owns Camp Arroyo in Livermore, which is the only Residential Camp in the District.
  - Hostels are indoor facilities providing minimal accommodations. The District does not currently operate any hostel facilities.
- Special Facilities. Within the District's parklands, there are numerous special facilities that create an iconic experience for park visitors and amenities that provide a unique recreational opportunity. Within the current park system, this includes: equestrian centers, a boating center, meeting and conference areas, a botanical garden, golf courses, archery and marksmanship ranges, a hang gliding area, model boat and train areas, a historic merry-go-round, and two historic farms. Typically, these facilities are remnants from a previous use of the property. The Master Plan points out that while these facilities must be consistent with the District's overall vision and mission, they can help to provide a distinctive recreational, economic, and cultural destination.

3.1.7 PROJECT SITE HISTORY AND PLANNING HISTORY

3.1.7.1 HISTORICAL CONTEXT[1]

As early as 4000 BCE, Native American groups are known to have inhabited the East Bay region. A group now known as the Bay Miwok lived in the general vicinity of the project area in terrain that extended from East Contra Costa County to the Sacramento-San Joaquin Delta. The Bay Miwok were part of the Utian language–based group along with Ohlone peoples who lived throughout the San Francisco Bay Area. A 300- to 400-member subgroup, known as the Chupcan, inhabited the lower Diablo Valley, including the project area and what are now the nearby city sites of Concord, Walnut Creek, and Clayton.

The earliest European presence in the present-day Concord area was a 1772 visit to the East Bay by Spanish explorers Captain Pedro Fages and Father Juan Crespi. According to one account, Spanish soldiers

[1] East Bay Regional Park District, 2018, Public Review Draft Concord Hills Regional Park Land Use Plan, Chapter 2.

later captured a group of Chupcan in 1805. The Chupcan escaped, and the astonished Spanish named the area Mount Diablo (devil) in response.

Early Spanish expeditions led to occupation and new settlements. In 1776, Mission San Francisco de Asis, or commonly known as *Mission Dolores*, was founded across the San Francisco Bay in what is now the City of San Francisco. Missions all around the San Francisco Bay followed in the next few years. After Mexico gained independence from Spain in 1821, the new government took over what is now California and disbanded, or secularized, the Spanish missions. In a program intended to encourage colonization and make land more accessible to the average Californio (as Mexican citizens in California were called), church land and property were redistributed through land grants. This project site area is part of the historic Monte del Diablo land grant area, which included a 17,921-acre area from the Mount Diablo foothills to the San Francisco Bay deeded to Don Salvio in 1834.

The American period in California began in 1848 when California was ceded to the United States after the Mexican-American War. With California officially under American control, land grants, deeds, and titles to property became even more clouded—it generally took nearly 50 years to resolve the situation and led to slow development of land.

The California Gold Rush of 1848 transformed the state and initiated California's multiple cycles of economic dependence on extraction industries. At the same time, wharves and warehouses were erected along the waterfront in what is now known as the Tidal Area of the CNWS. The area, then known as Seal Bluff, was found to be ideal for transshipment because new rail lines could reach ships using the deep-water passage of the Carquinez Strait. From the 1890s to the early 1900s, the Copper King Smelting Company operated from Seal Bluff Landing. The failed copper smelting business was replaced in 1908 by the C.A. Smith Lumber Company, a large lumber processing plant that employed over 2,000 workers. C.A. Smith established the company town community of Bay Point, which was later renamed Port Chicago.

The Navy began contemplating the establishment of an ammunition-shipping facility somewhere in the Bay Area during 1927, but it was not until two days after the December 7, 1941, bombing of Pearl Harbor that a site on Suisun Bay was recommended for this purpose. Within the month, Congress had approved the purchase and/or condemnation of over 576 acres for terminal facilities at Port Chicago. By the end of World War II, the Inland Area of US Naval Magazine Port Chicago (NMPC) included 75 high-explosives magazines located in the hills, a group of 93 gun-ammunition magazines on the flat land, and 30 barricaded railroad sidings. The facility was described by the Bureau of Ordnance as the principal ammunition loading port and storage point for ammunition and high explosives on the Pacific Coast. In 1944, an ammunition detonation destroyed the Tidal Area's pier and two munitions ships docked at NMPC, killing 320 people and subsequently causing the "Port Chicago Mutiny." The Port Chicago Naval Magazine National Memorial now commemorates this tragic event. From 1945 to 1963, NMPC continued to serve as a weapons storage facility while providing support to the naval fleet. In 1963, it was re-designated the US Naval Weapons Station Concord, or CNWS.

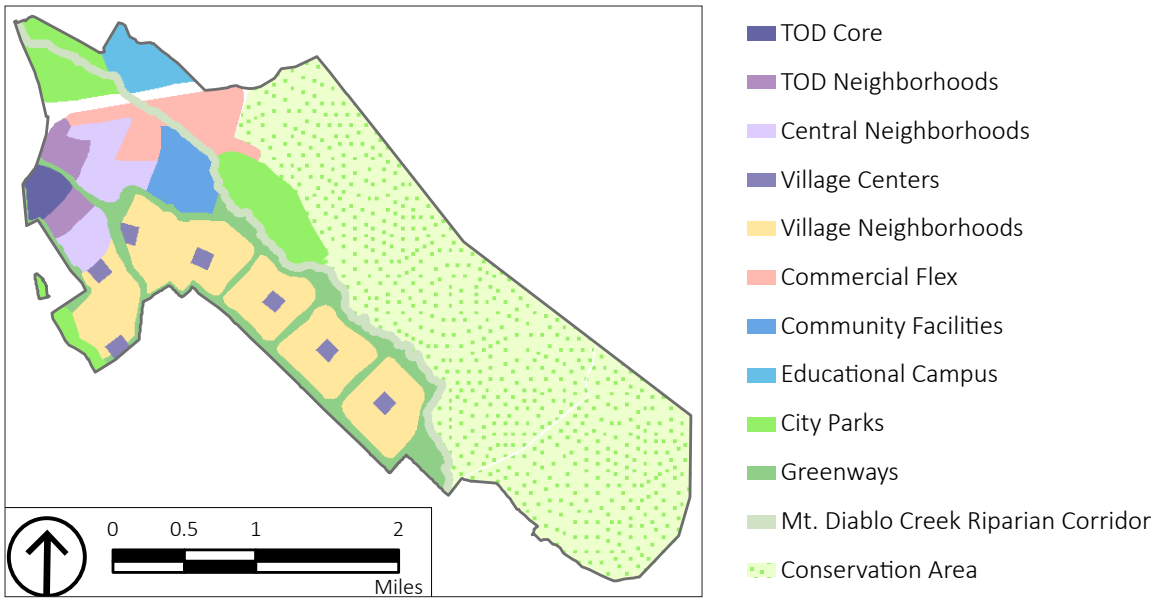
CNWS was the principal site for transshipment of ordnance and other supplies to US troops in all branches of the military during the Vietnam War. The Inland Area of the CNWS was mothballed in 1999 due to changes in military operations, and the Inland Area was officially approved for closure by the Base Closure and Realignment Commission (BRAC) in November of 2005.

The project site is located on the eastern portion of the former CNWS. The planning processes that followed and set the stage for the development of the new regional park are described below.

3.1.7.2 RECENT PLANNING PROCESSES

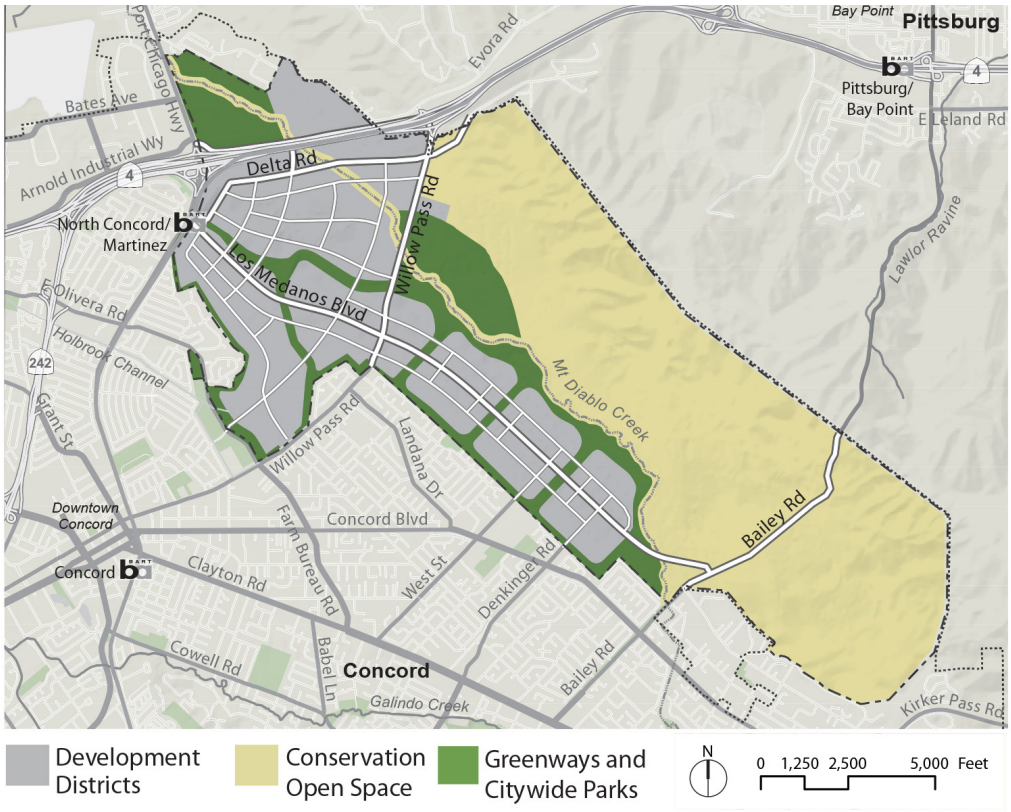
The mothballing and subsequent closure of the Inland Area of the CNWS led to the development of several studies intended to guide future use of the Inland Area. This section provides a brief timeline of planning efforts focused on the Inland Area and summarizes key documents as they relate to the development of the proposed project.

- 1999. The CNWS was mothballed due to changes in military operations. At this time, Congressman George Miller facilitated a preliminary study of potential joint uses for the Inland Area of the CNWS. A list of potential joint use concepts, focusing on recreation and open space use, was generated by the study and provided to the Navy in 2000. While the study was favorably received, the events of September 11, 2001, led to a revision of security operations that reduced potential use areas to a 154-acre area of the CNWS that borders Willow Pass Road and Olivera Road, immediately west of the project site. This 154-acre area for potential joint use was identified as a potential park site by City of Concord officials.
- 2002. The Navy and City of Concord initiated discussions on the City's acquisition of property for park development. By the end of 2002, the City and Navy had developed a conceptual lease agreement for the development of a City park, and the City had initiated development of a draft Master Plan for the 154-acre area west of Willow Pass Road. However, this process was halted upon announcement by the Department of Defense that a number of bases would be closed.
- 2005. The Inland Area of the CNWS was approved for closure by the BRAC. The City of Concord City Council was designated the Local Reuse Authority (LRA).
- 2006 to 2010. The City developed the Concord Community Reuse Plan (Reuse Plan) with significant community input. The project site is within the planning area of the Reuse Plan. The preferred alternative concept under the Reuse Plan designates the project site as a conservation area very similar to the proposed project. Community engagement included a 21-member Community Advisory Committee and public workshops in 2007 and 2008 to provide input on development and refinement of alternative concepts. In winter 2008, the LRA designated the Clustered Village Alternative as the Preferred Alternative, and the Reuse Plan was prepared based on this alternative. In winter 2010, an EIR assessing potential impacts of the Reuse Plan was certified, and the Reuse Plan was adopted by the City of Concord City Council.
- 2010 to 2012. In 2010, a Draft Concord Reuse Project Area Plan (Area Plan) was issued for community consideration. The planning area in the Area Plan includes the project site and designates it as Conservation Open Space. The Area Plan and consistency amendments to the Concord 2030 General Plan were prepared following adoption of the Reuse Plan. The Area Plan was based on the Reuse Plan but provided specific policies and development standards to ensure realization of the vision identified within the Reuse Plan. The land use frameworks for the Reuse Plan and Area Plan are shown in Figure 3-6. The Area Plan involved development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks. The proposed community development under the Area Plan would primarily be clustered on the western



Concord Community Reuse Plan

Concord Reuse Project Area Plan



Source: CRP Area Plan, City of Concord, 2012; Concord Hills Regional Park Land Use Plan, 2017.

Figure 3-6

Reuse Plan and Area Plan Land Use Frameworks

portion of the former base. The project site occupies the eastern portion of the Plan Area and is identified for resource conservation and low impact recreation, with East Bay Regional Park District as the anticipated long-term owner and manager. In 2012, the Concord Reuse Project Area Plan was adopted by City of Concord City Council and incorporated into the General Plan.

- 2013 to 2014. Federal land that is no longer needed by the federal government, such as the Inland Area of the CNWS, can be conveyed to other government entities for public park and recreation purposes through the National Park Service's Federal Lands to Parks Program. The National Park Service's Federal Lands to Parks Program typically results in conveyance of land at no cost to the receiving entity. In September 2013, the District submitted a Notice of Interest in a Public Benefit Conveyance (PBC) for a future regional park through the Federal Lands to Parks Program. In May 2014, the District was informed that the application was approved and a public benefit allowance would be granted of 100 percent of the fair market value of the property to be conveyed.
- 2015. East Bay Regional Park District initiates development of a Park Land Use Plan to further guide regional park development.
- 2016 to 2017. The Navy prepared an Environmental Impact Statement (EIS) to evaluate the Navy's proposal to dispose of surplus property at the CNWS and the potential subsequent redevelopment of the property in accordance with the Area Plan. The Draft EIS was released in October 2014, and the Final EIS was released in August 2017; a record of decision was made by the Navy in 2017. The Navy completed a Finding of Suitability to Transfer (FOST) in 2017, which determined that a 2,288-acre area of land is suitable to be transferred with consideration to potential contamination. Concurrently, the Navy and U.S. Army Corps of Engineers consulted with the U.S. Fish and Wildlife Service under Section 7 of the federal Endangered Species Act for the transfer and redevelopment of the CNWS. The Service issued its Biological Opinion on May 30, 2017, which serves to address incidental "take" of endangered and threatened species and provide protection and management for their habitats. The remaining acreage will require additional remediation prior to transfer and conveyance.
- 2017 to 2020. In November 2017, the City of Concord Community Advisory Committee designated a preferred land use plan as the basis for further study through the preparation of a more detailed Specific Plan document, technical studies, and environmental analysis. On August 22, 2018, the City Council directed staff and the master developer to proceed in the drafting of a Specific Plan and City staff to proceed with the preparation of an EIR based on revisions to the land use plan. In November 2018, the City released a Notice of Preparation of a Draft Environmental Impact Report for the Concord Reuse Project Specific Plan. The Concord Reuse Project Specific Plan (Specific Plan), when released in 2020, will be the land use regulation for the former Naval Weapons Station; a Draft EIR is currently being prepared to evaluate the potential physical environmental effects of a multi-phase development, including the Tournament Sports Park.[2]

  Most recently, on July 2, 2019, the District's Board of Directors authorized the acceptance from the National Park Service of 2,216 acres of the former Weapons Station. The total size of the former CNWS conveyed or leased to the District is 2,543 acres.

[2] This boundary does not extend north beyond Highway 4 and is different than the earlier Concord Reuse Project Area Plan boundary, which did extend beyond Highway 4 and did not include the Coast Guard base.

3.2 PROJECT OBJECTIVES

The Land Use Plan establishes the following goals for the proposed project which will guide the ongoing development and management of the Regional Park and which constitute the project objectives for the purposes of this EIR.

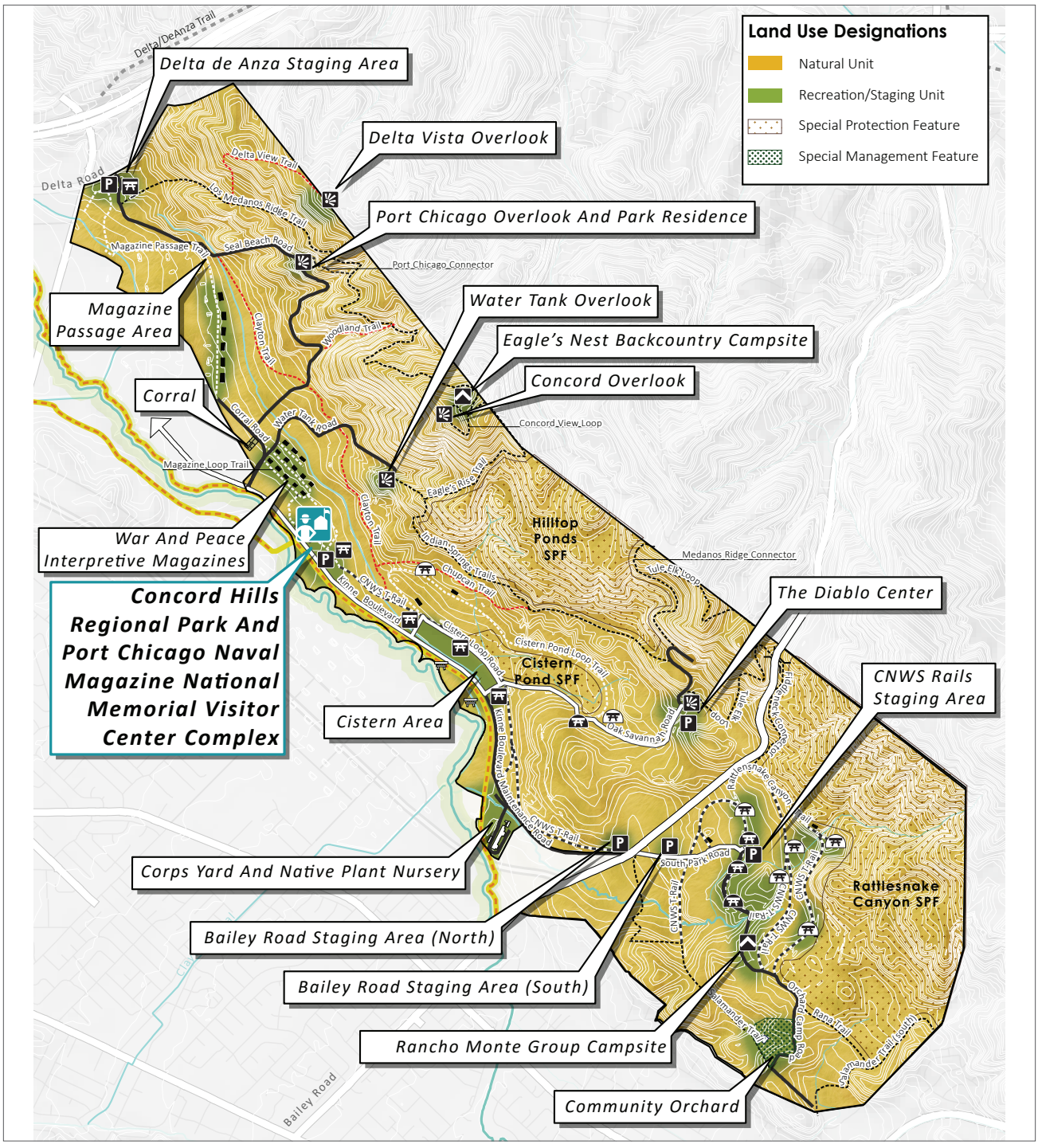
- Biological Resources. Develop and manage the Regional Park for the protection, enhancement, and restoration of natural resources.
- Cultural and Historic Resources. Develop and manage the Regional Park to benefit the overall landscape character of the parklands and specific cultural and historic resources.
- Circulation and Trails. Develop and manage the Regional Park to complete gaps in regional trails networks, provide a range of recreational trails throughout the Regional Park, and facilitate and encourage multi-modal access to the site (e.g., bike, pedestrian, vehicular, public transit).
- Recreation and Education Facilities. Develop and manage recreational and educational facilities that offer a range of opportunities to experience the unique natural, cultural, social, and military history of the CNWS and the Central Contra Costa County region.
- Interpretive Facilities. Establish a historical interpretation program and visitor center in partnership with the National Park Service, Friends of Port Chicago, and others which honors the veterans who served at the CNWS, conveys the significance of the events at Port Chicago, provides displays on the history of Concord and the Diablo Valley region, and facilitates access to the National Park Service's Port Chicago Naval Magazine National Memorial.

3.3 PROPOSED PROJECT

The Land Use Plan for the Regional Park is organized to ensure resource protection and to provide a range of recreational and educational opportunities that connect visitors to the landscape and stories of the site and region.

Figure 3-7 illustrates the schematic organization of the proposed Regional Park, with park uses concentrated along the lower elevations, limited road and trail development in the hills and along the ridge, and trail connections that connect the Regional Park to the surrounding open spaces and communities. Within the 2,543-acre Regional Park, only 86 acres (3.4 percent) of the overall park space have been planned for trails and recreational facilities. Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, will be concentrated within these 86 acres, in previously disturbed areas to limit impacts to natural ecosystems.

The *heart of the park* would be the Concord Hills Regional Park and Port Chicago Naval Magazine National Memorial Visitor Center (Visitor Center), which would be jointly operated by the National Park Service and the District. The Visitor Center would serve as the primary gateway point for park activities. Many recreational and visitor-serving amenities would be located within the immediate area around the Visitor Center building, collectively referred to as the Visitor Center Complex.



Source: Concord Hills Regional Park Land Use Plan, 2019.

- overlook
- picnic area with parking
- picnic area with parking at existing magazines
- picnic area without parking
- picnic area at existing magazines without parking
- staging area with parking
- campsite
- magazine incorporated into park programming
- irrigation canal
- 10' contour line
- hiking-only trail (narrow natural surface)
- multi-use trail (narrow natural surface)
- paved multi-use trail
- rail to multi-use trail conversion
- multi-use trail along Mount Diablo Creek and connection to N. Concord BART (rail to trail conversion where appropriate)
- existing regional trail
- public road
- maintenance road (hikers, bikers, and equestrians permitted)

0 2,000
Scale (Feet)

SPF = Special Protection Feature

Figure 3-7
Overview of the Proposed Regional Park

Staging areas in the north and south areas of the Regional Park would distribute recreational use and extend the range of opportunities to experience the Regional Park.

An approximately 28-mile trail network, largely utilizing the existing road and rail network established by the Navy, would provide a range of trail opportunities for all users, connect key use areas within the Regional Park, and provide numerous connections to regional trails and to the surrounding communities.

3.3.1 PARKLAND PLANNING UNITS[3]

Planning units provide the basic framework for developing the Regional Park, defining the range of potential uses and management goals for various regions of the Regional Park. Planning units are identified in Figure 3-7 and described below.

The District's 2013 Master Plan provides guidelines for parkland planning units, which have been incorporated into the planning for the proposed project. The planning units within the proposed Regional Park would be managed in a manner consistent with these guidelines.

Natural Units would constitute approximately 95 percent of the proposed Regional Park, and Recreation/Staging Units will constitute approximately 5 percent of the park. There would be up to 620 acres of Special Protection Features located within Natural Units where public access would be restricted, and there would be approximately 30 acres of Special Management Features within Recreation/Staging Units which would be managed for specific uses.

3.3.1.1 NATURAL UNITS

Natural Units are planned and managed to preserve and enhance natural habitat. The District's 2013 Master Plan indicates that Natural Units will comprise the majority of parkland acreage within Regional Parks and will include natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails). To the extent possible, Natural Units are intended to provide continuous and cohesive open space to support large and robust ecosystems.

Natural Units within the proposed Regional Park would comprise approximately 2,417 acres, including significant terrestrial and aquatic habitat areas and much of the upper elevations of the park. Designated uses within the Natural Units would include on-trail hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education or interpretation. Maintenance roads and trails would be accessible for fire prevention, police, and maintenance staff. Off-trail access or developed recreational facilities would not be provided in Natural Units.

[3] The Biological Opinion prepared by the U.S. Fish and Wildlife Service (USFWS) for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station references three classifications for Regional Park use: Conservation Zone 1, Conservation Zone 2, and Resource Protection Zones. Conservation Zone 1 corresponds to the Natural Units for the future Regional Plan, Conservation Zone 2 corresponds to Recreation/Staging Planning Units, and Resource Protection Zones correspond to Special Protection Features. The project would be required to comply with the measures in the Biological Opinion.

Areas within the District's Regional Parkland that have unique resources are distinguished as Special Protection Features, and special planning efforts and management strategies are utilized to preserve and enhance their unique features. The District's 2013 Master Plan describes Special Protection Features as "areas with unique or fragile natural, cultural, aesthetic or education features, such as biologic, hydrologic, archaeological, historic, or geologic features." For each Special Protection Feature, the District develops specialized management prescriptions.

Within the Regional Park's Natural Units, approximately 620 acres would be managed primarily for resource protection, and public access would be restricted. These Special Protection Features are identified in Figure 3-7 and include:

- Rattlesnake Canyon Special Protection Feature- approximately 400 acres, with habitat and breeding sites for the California red-legged frog and the California tiger salamander.
- Hilltop Ponds Special Protection Feature – approximately 185 acres, with habitat and breeding sites for the California red-legged frog and the California tiger salamander and nesting sites for the golden eagle.
- Cistern Pond Special Protection Feature – approximately 35 acres, with habitat and breeding sites for the California red-legged frog and the California tiger salamander. The Cistern Pond Special Protection Feature also includes an experimental forest planted by the United States Forest Service to measure tree quality for wood production. While these trees are not native to the site, the large trees provide habitat for some species and provide carbon sequestration.

Management prescriptions for the protection and enhancement of Special Protection Features in the Regional Park are included in the management strategies presented in Chapter 4 of the proposed Plan.

3.3.1.2 RECREATION/STAGING UNITS

Recreation/Staging Units are areas within the District's Regional Parkland dedicated to visitor use. The District's 2013 Master Plan describes Recreation/Staging Units as "suitable for more intensive public recreational use and are of sufficient size to support the necessary parking, utilities, and infrastructures needed for such use." To the extent possible, Recreation/Staging Units are intended to be located near access roads, clustered together, and near the edges of parks.

Recreation/Staging Units would comprise approximately 126 acres of the proposed Regional Park. Within these zones, there would be approximately 35 acres of developed recreation and operations facilities. All facilities, with the exception of trails, would be located within Recreation/Staging Units. These facilities would include a visitor center, event and educational spaces, picnic areas, campsites, overlooks, and interpretive elements.

Operations facilities would include the Corporation Yard (Corp Yard), a native plant nursey, a Caretaker's Residence, and a livestock corral. Access to these facilities would be limited to the District staff, partner agencies, and contractors (such as the grazer) approved by the District.

Areas with distinctive management within Regional Parkland are proposed to be set aside as Special Management Features to alert staff to be aware of the unique conditions within these areas and the need

for a different management approach. The proposed project includes one Special Management Feature, a community orchard that would be located in the footprint of a historic homestead and orchard. The community orchard would be planted with fruit trees and managed for productive harvest, community gathering, and education.

3.3.2 BIOLOGICAL RESOURCES PROGRAM

An important objective of the proposed project is to protect and enhance the biological resources at the park site. As the designated conservation area for the Area Plan, the proposed Regional Park provides compensatory mitigation for impacts to two federally- and State-listed species resulting from development of the non-conservation areas of the Area Plan. These species include the California red-legged frog (*Rana draytonii*) and California tiger salamander (*Ambystoma californiense)*. In addition, the proposed Regional Park provides habitat for a third listed species, the Alameda whipsnake (*Masticophis lateralis euryxanthus*), which would not be impacted by development of the non-conservation areas of the Area Plan. Collectively, these three species are referred to as "Covered Species." While the biological resources program is designed to benefit overall biodiversity, the focus of the program is on the protection and enhancement of habitat for the Covered Species. No designated critical habitat for any federally listed species is present on the project site

This section describes the planning elements and physical improvements that will be utilized for biological resources protection and enhancement. The proposed Plan identifies management prescriptions (also referred to as tasks) for the management of existing and restored habitat areas. The proposed project establishes management prescriptions for the ongoing maintenance, monitoring, and management of biological resources that are provided for seven program areas: Amphibian Breeding Ponds, Upland Habitat, Nonnative Invasive Plant Species, Nonnative Animal Species, California Red-Legged Frog, California Tiger Salamander, and Other Sensitive Wildlife Species.

3.3.2.1 BIOLOGICAL RESOURCE PROTECTION

Allowable uses within each type of planning units correspond to level of resource sensitivity and resource protection needs.

- Nearly 95 percent of the Regional Park is within Natural Units. Park development would be limited to trails and roads, and recreational access would be limited to on-trail uses.
- Within the approximately 620 acres of Special Protection Features located within Natural Units, public access would be restricted. The Regional Park's most sensitive habitat, including most of the habitat for Covered Species, is located within Special Protection Features.

Limitations on allowable uses, including on-leash requirements for dogs and limitations on nighttime activities, also support protection of resources.

3.3.2.2 HABITAT IMPROVEMENTS

The proposed project would include habitat improvements to complement the protection of resources. Habitat improvements would focus on the removal of existing infrastructure. Remnant infrastructure,

including roads, rails, buildings, and magazines, that is not used for park uses (including interpretive programming) will be removed if feasible and as funding becomes available. Testing would be conducted prior to removal of infrastructure to determine if contaminants are present, and if contaminants are found they would be dealt with appropriately.

Priorities for initial habitat improvements consist of:

- Removal of 10.3 miles of rail lines in biologically-sensitive areas. Rail ties and associated rock will also be removed along a 5.6-mile portion of these former rail lines, which will be converted to trail.
- Restoration of up to 5.7 miles of unutilized unpaved roads within Special Protection Features to deter public use of areas closed to recreation. This may include the restoration of certain segments of existing roads near sensitive areas such that access for management would still be possible, but any existing unpaved roads that would make attractive hiking loops would be restored to natural habitats to deter use.

In order to minimize unauthorized use of existing roads and railroad tracks that are not designated as Regional Park facilities, entrance points to these features would be mechanically removed and revegetated as feasible and as funding becomes available. These entrance points would be closed using signage or barriers (e.g., fencing or planted vegetation) until they are removed and restored.

The project site contains limited oak woodland/savannah habitat. In addition to preserving existing oak and native trees wherever feasible, the proposed project would plant new trees in association with Regional Park development. Target areas for oak tree plantings include along natural drainages and in areas with high levels of public use, such as picnic areas. All plantings would emphasize the use of native, regionally appropriate plants.

3.3.2.3 BIOLOGICAL RESOURCES MANAGEMENT AND MONITORING MEASURES

Chapter 4 of the proposed Plan outlines tasks related to the management and monitoring of biological resources. These tasks are organized into seven program areas, each with a unique objective, as described below:

- Amphibian Breeding Ponds. The management goal for ponds would be to provide multiple aquatic habitats of varying hydrological conditions that are suitable for breeding by California red-legged frogs and California tiger salamanders in order to maintain populations of these species in the Regional Park.
- Upland Habitat Management (Grazing Management). The targeted grazing to be utilized at the Regional Park would emphasize a flexible and adaptive approach to maintaining habitat values for California red-legged frogs, California tiger salamanders, and burrowing mammals through the reduction of accumulated dense, annual grass biomass (known as residual dry matter), which may impede amphibian movement and reduce habitat suitability for some species of small mammals. While this approach would emphasize these species, it would also benefit other special-status species, such as burrowing owls, which rely on California ground squirrels to create suitable roosting habitat (i.e., burrows), and golden eagles, for which ground squirrels are a major prey species.

- Nonnative Invasive Plant Species Management. Invasive plants are typically associated with disturbance, can be spread by vehicles and other anthropogenic means, and can create monocultural stands that severely reduce the habitat function and quality for both native plant and wildlife species, including California red-legged frogs, California tiger salamanders, and Alameda whipsnakes. If not managed, invasive species all have the potential to adversely affect habitat values for the California red-legged frog and California tiger salamander. The goal would be to minimize the spread of existing non-native invasive plants and any newly introduced invasive plants by conducting surveys and prioritizing and treating populations of invasive plants.
- Non-Native Animal Species Management. Non-native fish, crayfish, and in particular bullfrogs could potentially threaten the conservation values of the Regional Park. The goal for non-native animal species management would be to minimize the impacts of invasive animal species on the California red-legged frog and California tiger salamander.
- California Red-Legged Frog. The management goal for California red-legged frog would be to maintain suitable breeding, aquatic foraging, and upland habitat. Monitoring would be used to document presence and characterize relative population sizes, distribution, and breeding status in the Regional Park to help direct management decisions on these breeding and upland habitats.
- California Tiger Salamander. The management goal for California tiger salamander is to maintain suitable breeding and upland habitat. Monitoring would be used to document presence and characterize relative population sizes and distribution in the Regional Park to help direct management decisions regarding these breeding and upland habitats.
- Other Sensitive Wildlife Species. The management approach for the California tiger salamander and California red-legged frog described above would be consistent with the maintenance of suitable habitat for other sensitive species, including the Alameda whipsnake, western pond turtle, burrowing owl, golden eagle, northern harrier, white-tailed kite, loggerhead shrike, San Francisco common yellowthroat, American badger, pallid bat, and Townsend's big-eared bat (as well as the big tarplant and round-leaved filaree, should they occur in the park). Monitoring would document the presence and relative abundance of these species in the park over time and inform management to benefit these species.

Chapter 4 of the proposed Plan also lists objectives and tasks to be completed under each category and summarizes the expected frequency and timing of management and monitoring activities. In addition to the tasks listed in Chapter 4 of the proposed Plan, for at least the first 12 years of long-term management, focused surveys would be conducted every three years to determine the status of California red-legged frog and California tiger salamander in the Regional Park. After the first 12 years of management, the frequency of surveys would be reduced to every five years if monitoring has indicated that the Regional Park's populations of these species are stable or increasing.

3.3.2.4 CITY CONSERVATION AREA

A portion of the project site is planned for habitat improvements that would be implemented by the City of Concord. The improvements are intended to balance residential and commercial development under the Area Plan. Improvements in the City conservation area would focus on improving breeding, foraging, and dispersal habitat for Covered Species. Initial improvements would include:

- Enhancement of existing ponds by repairing pond outlets, excavating and compacting soils to increase water retention, repairing and reconfiguring fencing, and allowing livestock to graze to remove excess biomass from areas around ponds.
- Construction of three to four ponds, with protection fencing provided. The new ponds would improve connectivity between existing breeding sites, provide new breeding sites that would allow populations of California tiger salamanders and California red-legged frogs to increase, and expand the breeding distribution of these species in the Regional Park.
- Improvement of upland refugial and dispersal habitat for the California red-legged frog and California tiger salamander through site improvements near ponds that encourage burrowing rodents.

Once these enhancements have been completed, they could be managed by the District subject to further agreement with the City of Concord.

3.3.3 CULTURAL AND HISTORIC RESOURCES PROGRAM

Chapter 4 of the proposed Plan includes strategies for the protection of known historic and archaeological resources and for adaptation and integration of cultural resources that are not considered eligible for listing but will provide value for creating a cultural landscape. Potential tribal cultural resources are addressed in Chapter 4.5 of this Draft EIR.

3.3.3.1 CULTURAL RESOURCE PROTECTION

Cultural resources that are listed or eligible for listing on the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register) would be protected in place during Regional Park development and use. Methods for protection would include siting recreational facilities to avoid these resources and providing interpretive and regulatory signage to educate visitors about the resources and protective regulations.

The Contra Costa/Clayton Canal and its extension, the Clayton Canal, have been previously recommended eligible for listing in the National and California Registers as contributors to the Central Valley Project. These resources are currently owned by the Bureau of Reclamation. No change in ownership of or modifications to the Clayton Canal are included in the proposed project that is the subject of this EIR; however, the Clayton Canal may be conveyed to the District at some point in the future.

Ten archaeological sites and two prehistoric isolated finds have been identified within the Regional Park; of these resources, five were subject to additional testing and evaluation, including a prehistoric bedrock milling site. One of these sites is eligible for protection under Section 106 of the National Historic Preservation Act. In order to protect these archaeological sites, their specific locations would not be available to the general public. The proposed project would route trails to avoid these areas. Public access would be restricted, and vegetation would be used to screen the sites from public view along the nearby trail to minimize indirect effects.

The proposed project includes an archive building for storing historic artifacts and documents related to the Regional Park site and the surrounding area.

3.3.3.2 CULTURAL RESOURCE ADAPTATION AND INTEGRATION

While the infrastructure developed during operation of the CNWS is not eligible for listing in either the National or California Registers, these resources would be integrated into planned facilities as part of the proposed project. Strategies for adaptation and integration are described below according to resource type:

- Magazines. The most distinctive landscape features remaining from the CNWS period are earthen magazines, which create a pattern of uniform hills of grassland and concrete. The proposed project would retain up to 40 of these munitions magazines, including some that would be restored and opened to the public.
- Buildings. Existing buildings would be evaluated for Regional Park use and renovated where possible. This would include the adaptive reuse of Building IA-24 as the Visitor Center and Buildings 93, 94, and 420 as structures within the Park Operations and Support Facility (Corp Yard). (Existing building numbers are mapped on Figure 3-2.)
- Building Sites. Other existing buildings are less compatible with future park uses due to their size or configuration associated with previous use. Many of the building locations, particularly those in the hills, have been identified as locations for future park amenities, such as overlooks, event centers, or a Caretaker's Residence. While the structures many not be able to be fully renovated, some building materials or foundations may be reused for the new facilities to reduce overall construction waste. Additionally, the existing footprints would provide a flat space for new amenities, reducing the need for extensive grading in these areas.
- Other CNWS Elements. Other remnant elements would also be integrated into Regional Park use. Existing rail lines would be repurposed as trails and follow along alignments that served CNWS.
- Pre-CNWS Resources. Historic sites that exist from owners and activities prior to CNWS would also be integrated into the site. The historic homestead and windmill in the Cistern Area would be retained, and the foundations and orchard trees of the historic homestead south of Bailey Road would be retained and restored to become a community orchard.

3.3.4 VISUAL RESOURCES

The project site provides views across the Diablo Valley and to the Sacramento-San Joaquin Delta, Suisun Bay and Bayfront lands, and surrounding open space such as Black Diamond Mines Regional Preserve and Mount Diablo State Park. The proposed Regional Park would provide overlooks to highlight these views and provide destinations for landscape viewing.

To improve scenic views, creation of the proposed Regional Park would involve removal of unutilized utility lines and infrastructure that obstructs long-range views and/or detracts from the character of the Regional Park. In addition, native vegetation and existing topography would be used to frame views and screen undesirable features.

To improve scenic views of the Regional Park from the surrounding region, the proposed Regional Park would reduce the overall road density within the hills and focus the most intense park development in the lower, less visible elevations of the Regional Park.

3.3.5 PARK ACCESS

The Regional Park would be accessible by personal vehicle, mass transit, and non-vehicular trails.

The Visitor Center Complex would serve as the gateway into the Regional Park, and it is anticipated that many visitors would enter the Regional Park at or near this area. The primary non-vehicular access point would be from the Mount Diablo Creek Trail, which outside of the project site is planned as part of the Area Plan and would connect via a greenway to the North Concord/Martinez Bay Area Rapid Transit (BART) Station. The primary vehicle entrance to the Regional Park would be along Kinne Boulevard, which would provide access from Willow Pass Road.

Other park entrances will serve secondary areas of the park. It is anticipated that neighborhood connections will be used as entrances for residents living near the Regional Park and will not contain parking.

All new facilities constructed for the Regional Park would comply with the Americans with Disabilities Act (ADA) and the corresponding California State Parks Accessibility Guidelines to ensure that all residents have the opportunity to experience the park benefits.

3.3.5.1 VEHICULAR ACCESS

The Regional Park is bisected by Bailey Road, a public road maintained by Contra Costa County. There would be three vehicular park entrance points for the area north of Bailey Road, including the primary entrance near the Visitor Center along Kinne Boulevard and two secondary entrances, one along Bailey Road and one along Delta Road.[4] Kinne Boulevard would enter the Regional Park north of the Visitor Center, and the public portion of the road would terminate at the Visitor Center staging area. The alignment of this road outside of the park would be finalized during development of the Concord Reuse Project Specific Plan; however, within the Regional Park, it would follow the current alignment of Kinne Boulevard. The secondary entrances would provide staging for the public and access to maintenance roads for service vehicles only.

There would be one vehicular entrance point for the area south of Bailey Road that would provide access to the recreational facilities located in this area of the Regional Park.

There would be no vehicular access between the Delta Road and Bailey Road parking areas and the Visitor Center Complex. All vehicular access to the Visitor Center Complex, the Diablo Center, and recreational facilities along Kinne Boulevard, Cistern Loop Road, and Oak Savannah Road would utilize the vehicular entrance near the Visitor Center.

[4] Delta Road is a planned vehicular road, and the alignment was not determined as of the writing of the Public Review Draft Land Use Plan, although it is assumed that it will pass along the northern edge of the future Regional Park. The precise location of the future park entrance and parking will be determined once the road alignment is determined.

3.3.5.2 STAGING AREAS

In total there would be approximately 4 acres of dedicated staging areas within the Regional Park providing vehicular parking, bicycle parking, trash and recycling receptacles, restrooms, and other amenities. Staging areas include:

- Visitor Center Staging Area would be the primary parking area for the Regional Park and would accommodate approximately 65 cars and four buses.
- Diablo Center Staging Area would be available for use during events. Larger events would likely require the use of the main parking area and shuttling up to the space.
- Delta de Anza Staging Area would be located near Delta Road and would accommodate personal vehicles and equestrian trailers.
- Bailey Road Staging Area North would be located along the north side of Bailey Road for park users accessing trails to the north of Bailey Road.
- Bailey Road Staging Area South would be located along the south side of Bailey Road for park users accessing trails in the area south of Bailey Road.
- CNWS Rails Staging Area would be located south of Bailey Road and serve the group campground and recreational amenities in this area. This staging area would accommodate personal vehicles, buses, and equestrian trailers.

A staging area along Kirker Pass Road could be considered in future planning efforts.

3.3.5.3 PEDESTRIAN/BICYCLE/EQUESTRIAN ACCESS AND CONNECTIONS

The Regional Park would be accessible for hikers, bikers, and equestrians from the future regional trail along Mount Diablo Creek and local neighborhood trails that would connect to the North Concord/Martinez BART Station.[5]

Future regional trail connections would link the Regional Park to the City of Pittsburg and to neighboring open spaces, including Black Diamond Mines Regional Preserve and Mount Diablo State Park. Priorities for regional connectivity outside of the Regional Park include:

- Regional trail connections between Concord Hills Regional Park, Black Diamond Mines Regional Park, and Mount Diablo State Park Trail.
- Juan Bautista de Anza National Historic Trail.
- Contra Costa Canal to Delta DeAnza Regional Trail Connector.
- Mount Diablo Creek Trail.

[5] The alignment of the regional trail along Mount Diablo Creek and trails within the remaining portions of the inland area of the CNWS would be determined by the City as part of its implementation of the Area Plan (through the more detailed preparation of the Specific Plan underway). It is assumed that these trails would connect hikers and bikers to the future Regional Park.

3.3.5.4 TRANSIT

As discussed above, the Regional Park is located near the North Concord/Martinez BART Station. There is potential for transit providers (e.g., Central Contra Costa County Transit Authority and Tri Delta Transit) to provide bus connections to link the BART station and the Regional Park.

3.3.5.5 PARK SHUTTLE TO PORT CHICAGO NAVAL MAGAZINE NATIONAL MEMORIAL

The Regional Park would be the staging area for visitors to the Port Chicago Naval Magazine National Memorial, and the proposed Visitor Center would serve as a joint facility for the National Memorial and the Regional Park. Visitors to the National Memorial would utilize a park shuttle to travel between the Regional Park and the memorial located along the waterfront.

Space would be provided along Kinne Boulevard in front of the Visitor Center for a bus/shuttle stop that can be utilized for mass transit and private shuttle providers.

3.3.6 PARK CIRCULATION

Most of the roads and trails within the Regional Park would follow roads, trails, or rail lines used during the site's operation as a naval weapons storage facility. Some new alignments would be necessary to create connections between recreational amenities, to reroute around areas determined to be too steep for trail use, or to avoid sensitive habitat areas. New roads and trails represent 21 percent of the overall road and trail network, with 79 percent of the network reusing existing alignments. Table 3-1 outlines the types of roads and trails at the Regional Park.

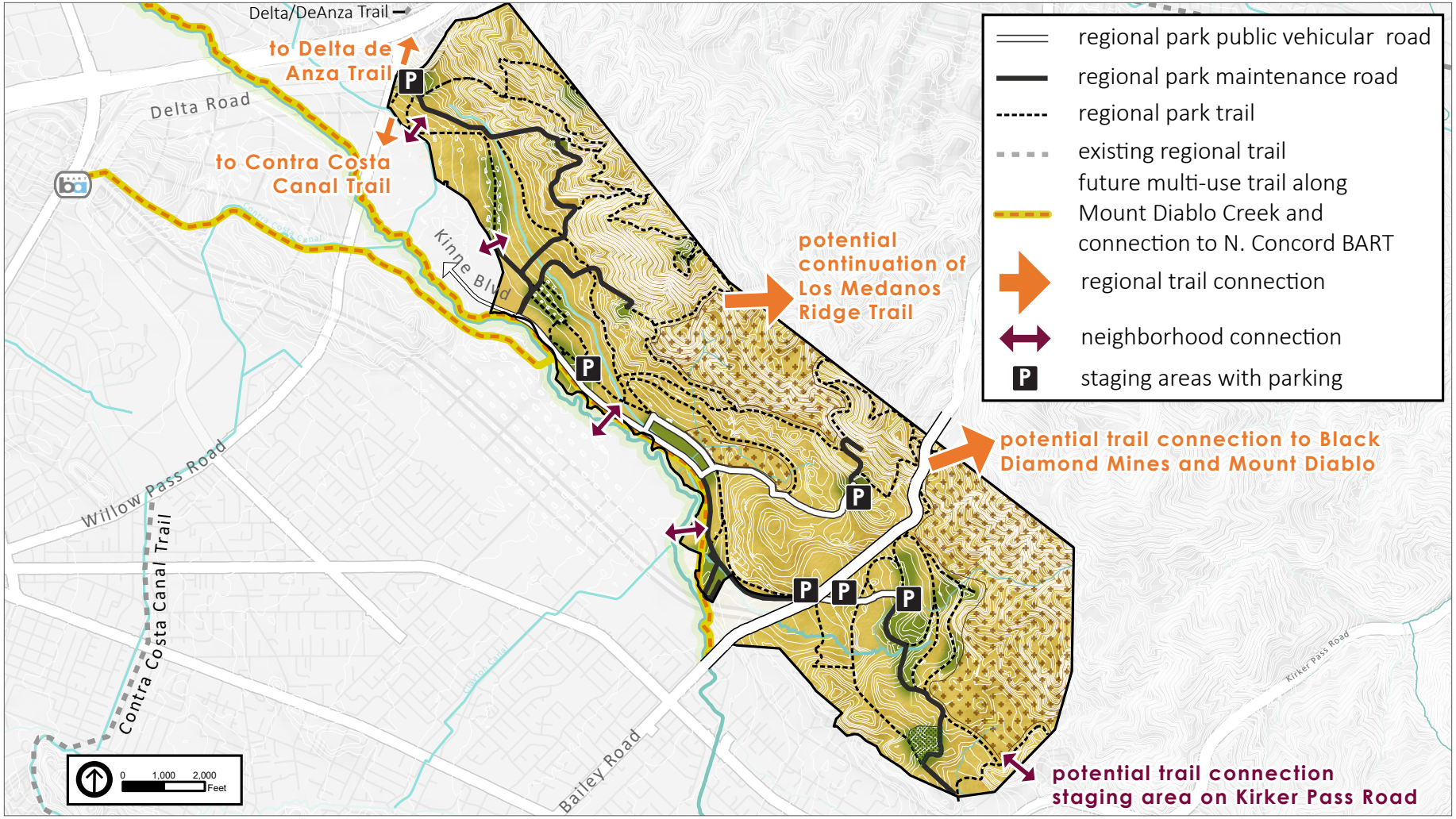
The conversion from road or rail line to a park road or trail may include a reduction in width, potential removal of asphalt, and a restoration of a portion of the right-of-way. Figure 3-8 illustrates the proposed approach for the reuse, conversion, or removal of existing roads and rail lines, as well as the recommended approach for the creation of new trails.

3.3.6.1 PUBLIC VEHICULAR ROADS

The Regional Park would include a small network (less than 3 miles) of paved vehicular roads, primarily to connect park users from the Visitor Center to key destinations. The public vehicular roadway network would include the following public vehicular roads:

- Kinne Boulevard (1.1 miles) along the western edge of the Regional Park along the Visitor Center.[6]
- South Park Road (0.4 miles) from Bailey Road into the southern area of the Regional Park.
- Oak Savannah Road (0.9 miles) from Concord Hills Loop Road to the Diablo Center.
- Cistern Loop Road (0.5 miles) from Oak Savanah Road to the picnic area near the cistern ponds.

[6] A portion of Kinne Boulevard will be used as a maintenance road that will be closed to the public. However, the maintenance road portion may be used during early phases of the park opening before Kinne Boulevard is improved and in remaining areas of the Area Plan. Refer to Chapter 5 of the proposed Plan for a discussion of phasing.



Source: Concord Hills Regional Park Land Use Plan, 2019.

Figure 3-8
Proposed Park Access and Circulation Strategy

TABLE 3-1 ROADS AND TRAILS TYPE

Type	Surface Material	Width	Permitted Uses	Reuse	New Development	Total Length
Public Road	Asphalt	24 feet	Public Vehicular	2.8 miles	0.1 miles	2.9 miles
Maintenance Road	Asphalt	18 feet	Operational and Emergency Vehicular, Hiking, Biking, Equestrian	4.3 miles	0 miles	4.3 miles
Maintenance Road	Natural	18 feet	Operational and Emergency Vehicular, Hiking, Biking, Equestrian	1.0 miles	0.2 miles	1.2 miles
Multi-use Trail						
Paved Multi-Use Trail	Asphalt	14 feet	Hiking, Biking	3.0 miles	1.2 miles	4.2 miles
Unpaved Multi-Use Trail (Rail to Trail Conversion)	Natural	14 feet	Hiking, Biking, Equestrian	4.8 miles	none	4.8 miles
Mount Diablo Creek Regional Trail (Section within Concord Hills Regional Park)	Asphalt	14 feet	Hiking, Biking, Equestrian	1.3 miles	None	1.3 miles
Narrow Multi-Use Trail	Natural	8 feet	Hiking, Biking, Equestrian	6.1 miles	3.3 miles	9.4 miles
Hiking Only Trail	Natural	8 feet maximum	Hiking	1.2 miles	1.7 miles	3.0 miles

Source: East Bay Regional Park District, 2018, Public Review Draft Concord Hills Regional Park Land Use Plan, Table 3-1.

3.3.6.2 MAINTENANCE ROADS

Approximately 5.3 miles of existing roads would be converted to maintenance roads for operations, maintenance, and emergency services. These roads would provide vehicular access to higher elevations within the Regional Park and can also be used recreationally by hikers, bikers, and equestrians. Most of the maintenance roads would be paved, with the exception of the Orchard Camp Road. Maintenance roads include:

- Kinne Maintenance Road (0.9 miles) running south from the end of Kinne Road North (a public vehicular road) to Bailey Road.
- Oak Savannah Maintenance Road (0.4 miles) from the Diablo Center to the water tank above the center.
- Seal Beach Maintenance Road (1.8 miles) from the staging area along Delta Road to the Visitor Center, traveling approximately half the elevation to the ridgeline.
- Corral Maintenance Road (0.3 miles) from Water Tank Road to the park boundary, passing along the cattle corral.
- Water Tank Road (0.8 miles) from the Visitor Center to a vista point located at a water tank approximately halfway to the ridgeline

- Orchard Camp Road (1.24 miles) from the park entrance near Holly Drive to the use area south of Bailey Road near the group campsite.

3.3.6.3 TRAILS

The Regional Park would provide a variety of trail experiences for park users. There would be over 22 miles of trails within the Regional Park as well as approximately 5.5 miles of maintenance roads that are open for recreational use.

3.3.7 RECREATION FACILITIES

Recreation facilities would have a combined footprint of approximately 86 acres (including 35 acres within Recreation/Staging Units). With the exception of trails, all recreation facilities would be located in Recreation/Staging Units. Many of the recreational facilities reuse existing infrastructure from the site's former use as a naval weapons station. In most cases, improvements to existing infrastructure would be necessary to ensure that the facilities are inviting, safe, and consistent with the District's standards.

3.3.7.1 VISITOR CENTER COMPLEX

The heart of the Regional Park would be the Visitor Center Complex, which would include the Visitor Center building and adjacent facilities. The Visitor Center would be a retrofit of Building IA-24, a structure that was previously used as a shop and warehouse building. (Existing building numbers are mapped on Figure 3-2). It would provide a central information kiosk for the public to get recreational information about the park and historic information about the Port Chicago Naval Magazine National Memorial. In addition to the Visitor Center building, the surrounding complex would include visitor-supporting facilities, as shown in Figure 3-9. These facilities include:

- Outdoor exhibit area in the outdoor courtyard near the Visitor Center.
- Multi-purpose room with stand-alone restroom for events and community gatherings. The restroom could remain open after Visitor Center hours.
- Archive building for preservation of historic artifacts and documents from the region.
- Amphitheater for outdoor programming that would have views up to the Los Medanos hills.
- Reservable group picnic areas and smaller informal picnic space, including space for outdoor classrooms, would be located around the edge of the complex.
- Magazine exhibit space that would be open to the public for cultural exhibitions. The exhibit space would be connected to the Visitor Center with the ADA-accessible War and Peace Interpretive Trail.



Source: Concord Hills Regional Park Land Use Plan, 2017.

Figure 3-9
Proposed Visitor Center Complex

3.3.7.2 TRAILS

As shown in Table 3-1, the approximately 28-mile trail network would include the following:

- Paved Multi-use Trails: Paved multi-use trails would have asphalt paving, be a minimum of 14 feet wide, and be open to hikers and cyclists. All of the paved multi-use trails would have a typical grade no greater than 4.9 percent, making them well suited for visitors in wheelchairs or with special mobility needs.
- Mount Diablo Creek Trail: The Mount Diablo Creek Trail would be a future paved trail along Mount Diablo Creek. Approximately 1.3 miles of the regional trail would be located within the Regional Park. Within the Regional Park, Mount Diablo Creek Regional Trail would utilize the alignment of existing rail lines. This trail will connect to the Contra Costa Canal trail at the northwest end of the Regional Park, integrating and connecting users to the larger regional trail system (which includes Iron Horse and Briones to Diablo Trail). Other trail connections are being studied that would bring trail users in the Regional Park to the proposed Delta De Anza Trail and to a potential alignment with the Concord to Black Diamond Mines trail.
- Unpaved Multi-use Trails: Unpaved multi-use trails would have natural paving, be a minimum of 8 feet wide, and be open to hikers, cyclists, and equestrians.
- Rails to Trails: The proposed project would include a series of unpaved, multi-use trails that follow historic rail corridors. These trails would be approximately 14 feet wide, and the surface material would utilize best practices for accommodating visitors with physical impairments.
- Hiking Trails: Several trails would be limited to use by hikers due to steep grades and other conditions that are not conducive to safe, sustainable, multi-use trails. Hiking trails would have natural paving and be a minimum of 8 feet wide.

3.3.7.3 OTHER RECREATIONAL AMENITIES

- Picnic Areas: The Regional Park would contain a variety of options for visitors to picnic or eat in the Regional Park, including reservable group picnic spaces, smaller picnic areas, and a café in the Visitor Center with outdoor seating. To minimize litter and food waste, all picnic areas would include regulatory signage and provide animal-resistant trash/recycling receptacles. The proposed Regional Park would include five group picnic sites and 13 small picnic areas. Small picnic areas would contain one or two picnic tables and a small grill.
- Camping: The Regional Park would include one large reservable group campsite and one reservable back-country campsite. The proposed Rancho Monte Group Campsite would accommodate up to 100 overnight tent campers. The group campsite would be located less than a half mile from the CNWS Rails Staging Area. Recreational vehicles and mobile campers would not be permitted within the group campsite. The Eagle's Nest Backcountry Campsite will be located along Los Medanos Ridge Trail near the upper elevation of the Regional Park. The campsite would be sited at least 1,000 feet from any known listed species breeding habitats and would only be accessible by trail.
- Overlooks: Figure 3-7 identifies key locations for overlooks along proposed trails in the upper elevations of the Regional Park. These overlooks would be flat areas with space and seating for up to 20 people.

- The Diablo Center: The proposed Regional Park would include the Diablo Center, a new building located in the hills at the end of Oak Savannah Road at the current location of Building 97. The new facility would provide an opportunity for events away from the central activity areas of the Regional Park. It is assumed that it would only be open for planned programs and during events, although park visitors can use the viewing deck as an overlook during regular park hours. A small parking lot would accommodate some parking and allow for the unloading of equipment.
- Community Orchard: The Community Orchard would be located at the historic homestead and orchard south of Bailey Road. The orchard would be planted with fruit trees in a grid pattern and managed for fruit production, community gathering, and education. Partnerships would be established to develop and maintain the Community Orchard and associated programming for both residents and visitors.

3.3.8 WILDFIRE PREVENTION

The specific management prescription in the Plan under the management of public safety is "Access 1.21 Reduce the risk of wildfire by implementing fuels modification projects to mitigate hazards to nearby exposures, following best management practices and procedures outlined in the District's Fire Danger Operating Plan and Procedures (2012) and Wildfire Hazard Reduction and Resources Management Plan (2010)."

The District measures fuel conditions to assess fire behavior and the effort to contain a fire and sets smoking restrictions in wildland areas based on these conditions. Fire danger levels are also used to set restrictions. When fire levels are "Very High:"

- Smoking is only allowed inside of enclosed vehicles.
- Gas-fueled stoves or barbeques are allowed only inside of designated day-use picnic areas, campgrounds, or developed recreational areas. All forms of open fires or campfires are prohibited.
- Gasoline-powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) are not allowed outside of irrigated areas, designated campgrounds, or developed recreational areas, unless extra protection fire safety measures approved by the Fire Chief are implemented.
- Staging areas and other public access roads may be closed.

When the fire level is "Extreme:"

- Smoking is only allowed inside enclosed vehicles.
- Gas-fueled stoves and barbeques of any type are not allowed. All forms of open fires or campfires are prohibited.
- Gasoline powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) are not allowed outside of irrigated areas, designated campgrounds, or developed recreational areas. Maintenance of irrigated areas is permitted. Road grading is permitted provided extra protection fire safety measures approved by the Fire Chief are implemented.

- Contractors may continue working on District lands provided they institute extra protection fire safety measures approved by the Fire Chief. Contractor operations must be directly supervised by a District representative to ensure specified extra protection fire safety measures are implemented.
- Staging areas and other public access roads may be closed.

3.4 OPERATIONS FACILITIES, INFRASTRUCTURE, AND UTILITIES

3.4.1 FACILITIES AND INFRASTRUCTURE

The following facilities and infrastructure would be developed to support the Regional Park and District-wide operational needs:

- Park Operations and Support Facility (Corp Yard): The Corp Yard would include at least one indoor service garage, office space, an enclosed outdoor storage yard, and a public safety office that would house park patrol and wildland fire response. A native plant nursery would be located within the Corp Yard and would be used to propagate plants for restoration and revegetation projects within the District's Regional Parks in eastern Contra Costa County.
- Water Tanks: The proposed project would include water tanks for Regional Park use and fire suppression. Existing water tanks would be retained and upgraded as needed to meet or exceed minimum fire department recommendations.
- Caretaker's Residence: A new Caretaker's Residence would be constructed at the site currently occupied by Building 97. The residence would be made available to a District employee but would not be open to the public.
- Cattle Corral and Grazing Infrastructure: All Natural Units within the Regional Park would allow livestock grazing, which would be managed by a contracted grazing manager. Physical improvements to support grazing would include water troughs, a permanent corral, and fencing. The corral would be relocated to the designated area north of the War and Peace Interpretive Magazines.
- Fencing, Gates, and Regulatory Signage: Fencing and regulatory signage would control public use and operational grazing throughout the Regional Park, including to contain cattle as part of the park grazing program, restrict access to Special Protection Features, and limit public access to hazardous areas and areas with sensitive resources.

3.4.2 UTILITIES

The Regional Park would require utilities including water, sewer, gas, and electricity.

3.4.2.1 WATER AND SEWER

Potable water supply would be required at the Visitor Center Complex, the Diablo Center, the Caretaker's Residence, the Corp Yard, at identified staging and picnic areas, and for the cattle corral and troughs.

There are currently supply lines from the Contra Costa Water District (CCWD). New connections or upgrades would likely be necessary for all park facilities.

The Visitor Center Complex and key facilities may include landscape areas that require irrigation for establishment. There is a potential opportunity for irrigation water to be supplied through a connection to the recycled water system planned, as part of the Concord Reuse Project Specific Plan.

A sanitary sewer connection would be required at the Visitor Center Complex, the Diablo Center, the Caretaker's Residence, and the Corp Yard for restrooms. Vault toilets would be used at all other staging areas, at campsites, and other trail or picnic area locations.

3.4.2.2 STORMWATER

Stormwater would be managed on-site using swales and other stormwater features. Parking areas and paved areas would be designed to comply with the October 2009 California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (C.3 requirements). C.3 requirements promote on-site stormwater treatment and detention and emphasize infiltration, water harvesting, and reuse. In addition to utilizing permeable surfaces that allow for infiltration, the use of swales and other stormwater features would be explored for all parking areas. Swales would have flat bottoms at least 18 inches wide, utilize rock cobble at points of concentrated flow, and be vegetated with native plants where possible. Swales would not be planted with turf.

3.4.2.3 NATURAL GAS

Natural gas connections will not be installed until Phase 2 of Plan implementation, as natural gas connections would rely on development of the Concord Reuse Project Specific Plan extending gas services closer to the project site. There will likely be natural gas connection for the Visitor Center Complex, the Diablo Center, the Caretaker's Residence, and the Corp Yard. It is anticipated that buildings would utilize natural gas for heating and indoor cooking facilities.

3.4.2.4 ELECTRICITY

The Visitor Center Complex, the Diablo Center, the Caretaker's Residence, and the Corp Yard would require electricity, which would be provided by an outside provider or generated on site. Currently, the west side of the Regional Park site is served by transmissions from an above-ground power line from Pacific Gas & Electric Company (PG&E). New connections or upgrades would likely be necessary for all park facilities. Lighting for public safety, including limited lighting in developed areas, would likely be connected to electrical lines or utilize self-contained solar lights.

New utility lines located on District land will be placed underground, and the District will work in cooperation with other agencies to underground existing overhead utilities, consistent with the 2013 East Bay Regional Park Master Plan, Policy PRPT29. In addition to improving views from and into the regional park, this will reduce potential damage to lines from heavy winds that could cause wildfires.

There is great potential for solar generation at the Regional Park, especially on building rooftops or along roads. Rooftop solar panels would be considered for all buildings.

3.4.2.5 LIGHTING

Nighttime lighting would be limited to the developed park facilities and would be provided for public safety. Areas with proposed night lighting are not within the immediate vicinity of sensitive habitat areas, and lighting would be directed to avoid breeding habitat for sensitive species. Lighting would be designed and installed to meet City of Concord requirements for outdoor lighting in terms of energy efficiency, height, and downcasting.

3.5 SITE PREPARATION

Site preparation would be necessary for the development of most recreational facilities. Both paved and unpaved parking lots would require site grading and site preparation to ensure adequate drainage and compaction for vehicular staging. Similarly, grading and site preparation would be necessary at all picnic areas with parking. Minimal site grading would also be needed for picnic areas without parking to ensure adequate access from adjacent trails and flat space for picnic facilities.

The demolition of Buildings IA-55, 97, and 87 and their replacement with the new multi-purpose room, Diablo Center, and Caretaker's Residence, respectively, would require grading and site preparation for the new facilities and construction staging. The construction of the new archive building, the amphitheater, and the plaza near the Visitor Center would require similar treatment. It is not anticipated that new grading will be necessary for building renovations, including Buildings IA-24, 420, 93, and 94; however, there would likely be a need for site preparation for the construction staging areas and fine grading around the existing structures.

Substantial site grading may be required within the Corp Yard area to fulfill District maintenance needs. It is anticipated that grading would likely occur within the entire area, including the future native plant nursery.

As noted above, almost 80 percent of the roads and trails within the Regional Park would follow existing roads, trails, or rail lines, but some new alignments would be necessary. New segments of roads and trails would require site grading and compaction. Existing roads and areas that are proposed to be removed would require ripping and reseeding as well as fine grading to match the surrounding grades.

Demolition of existing buildings and magazines that are not anticipated for reuse in the Regional Park would require removal of all existing materials, ripping and reseeding, and grading to match the surrounding grades.

The Community Orchard would require soil amendments and agricultural site preparation prior to the installation of orchard trees.

Site work related to the remediation of contaminated areas is anticipated to be completed prior to the Navy conveyance of the Regional Park to the District. Remediation activities have been evaluated as a separate project in the Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord.

3.6 PHASING

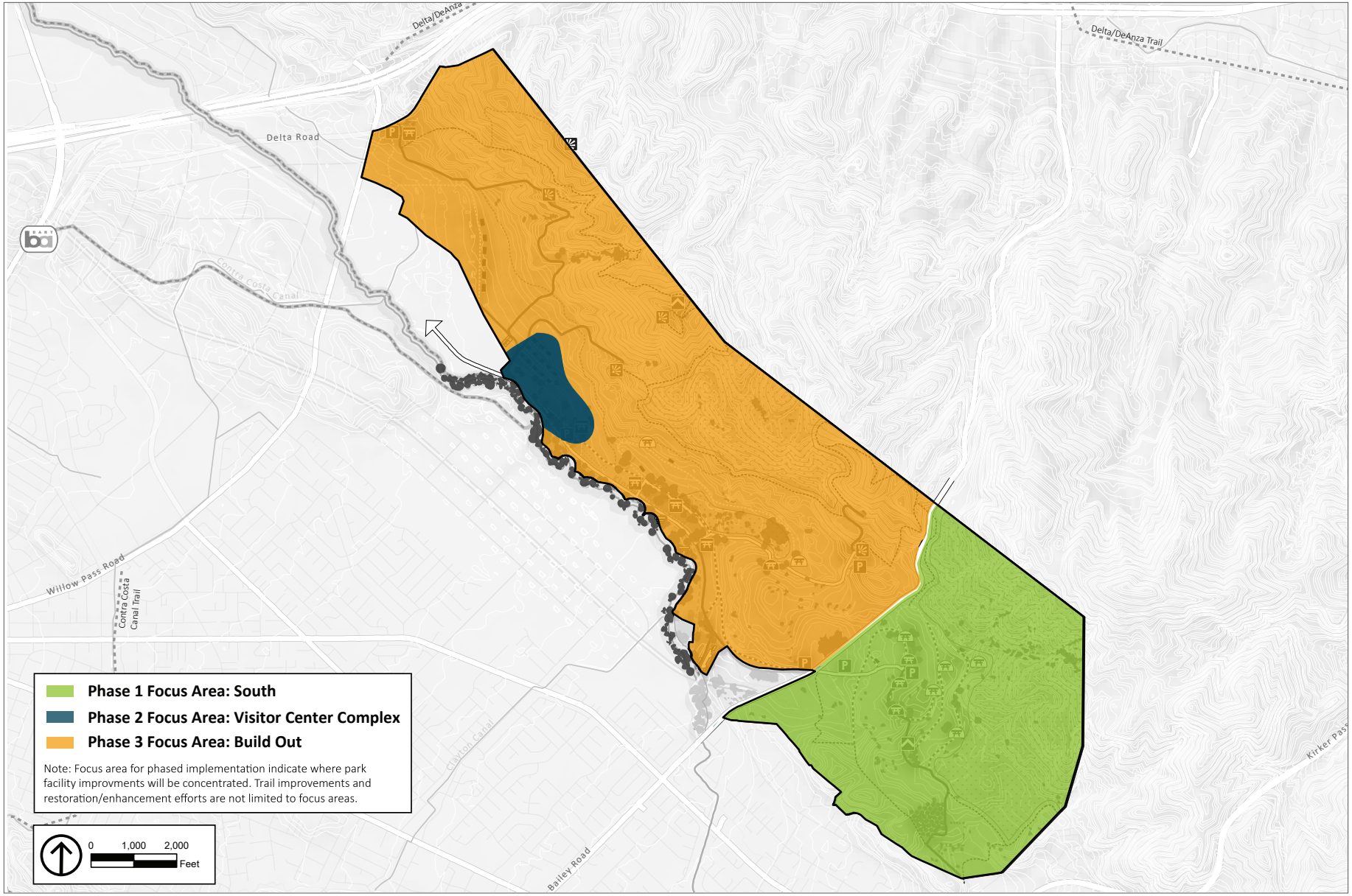
The future Regional Park is conceived in three phases, as illustrated in Figure 3-10 and described in Table 3-2. Park build out will be linked to the phasing and implementation of the City's Area Plan (and Specific Plan, when adopted), as will trail, road and utility connections, habitat, and conservation mitigation.

Development of the proposed Regional Park would be implemented over the following four phases:

- Land Bank Status would begin at conveyance and would include restoration and management activities to preserve and protect the site. This phase would not include public access.
- Phase 1 Focus Area: South of Bailey Road would include all of the Regional Park facilities south of Bailey Road. Priority development in this phase would include the trails, staging, picnic areas, and interpretation elements. The Regional Park would be open to the public once these elements are developed. The campground and community orchard would also be implemented during Phase 1 but may follow opening the Regional Park to the public.
- Phase 2 Focus Area: Visitor Center Complex would focus on the core of the area north of Bailey Road, including the Visitor Center and associated structures and amenities. This phase would focus on providing public access to the central elements of the Regional Park. This phase would include the implementation of the War and Peace Interpretive Magazine Loop and limited trail development connecting to the Visitor Center. During Phase 2, vehicular access may be temporarily allowed along Kinne Boulevard between Bailey Road and the Visitor Center if other access routes are not yet available through the CNWS Reuse Area outside of the Regional Park.
- Phase 3 Focus Area: Buildout would complete the Regional Park vision and would include operational facilities to support the District's maintenance of the Regional Park and nearby facilities.

3.7 VISITOR ESTIMATES AND EVENTS

Based on annual visits at similar District parks and at nearby National Park Service sites, the specific amenities included in the proposed project, and the amount of existing and proposed residential development surrounding the site, the District estimates that approximately 560,000 visitors will visit the proposed Regional Park annually at full buildout (anticipated in 2050). Approximately 1,000 visitors are expected on a typical weekday. Peak visitor usage would occur on weekends, with approximately 2,700 visitors expected on an average weekend day. An annual event would be held at the Visitor Center on the anniversary of the Port Chicago Naval Magazine explosion and is anticipated to draw approximately 1,000 visitors. Smaller events would be held approximately quarterly, with approximately 300 visitors expected per event.



Source: PlaceWorks, 2018.

Figure 3-10
Proposed Phasing

TABLE 3-2 PROPOSED PHASING

Phase	Description
Land Bank Status	
Initiate restoration, enhancement, and management activities	▪ Make safety and security upgrades in preparation of park opening to the public. ▪ Restoration/enhancement efforts identified in LTMP as funding becomes available. ▪ Patrol site and manage public entry.
Naturalist-led Tours	▪ Park remains closed but open to the public by arranging a tour with a District naturalist.
Phase 1 Focus Area: South of Bailey Road (0-10 Years)	
1A: Trails and Staging	▪ Open South Park Road, refurbish existing vehicular roadway. ▪ Construct Bailey Road Staging Area (South). ▪ Convert existing roadway and rail lines to create trail loop. ▪ Increase tree planting around magazine picnic area and near staging. ▪ Create pedestrian entrances to neighborhoods south of the park.
1B: Picnic Areas and Interpretation	▪ Construct CNWS Rails Staging Area. ▪ Convert existing roadway and rail lines to complete trails south of Bailey Road. ▪ Renovate three magazine picnic areas with parking and five magazine picnic areas without parking. ▪ Implement rail and grassland ecology interpretation elements.
1C: Rancho Monte Group Campground and Community Orchard	▪ Construct Rancho Monte Group Campground along Orchard Camp Road (maintenance road), including vault restroom and potable water supply. ▪ Establish community orchard.
Phase 2 Focus Area: Visitor Center Complex (10-15 years)	
2A: Concord Hills Regional Park and Port Chicago Naval Magazine National Memorial Visitor Center Complex (Visitor Center)	▪ Establish public vehicular access road to the Visitor Center (interim access may be from Bailey Road). ▪ Rehabilitate Building 1A-24 as a joint visitor center for East Bay Regional Park District and National Parks Service. ▪ Relocate cattle corral. ▪ Construct outdoor exhibit area. ▪ Construct main parking area. ▪ Construct picnic and group picnic areas around the Joint Visitor Center.
2B: Associated Structures and Amenities	▪ Construct new multi-purpose room. ▪ Construct new archive building with associated parking.
2C: War and Peace Interpretive Magazines Loop	▪ Construct Magazine Loop Trail from Joint Visitor Center to War and Peace Interpretive Magazines with 13 renovated magazines. ▪ Implement interpretation program with community partners.
2D: Initial Park Trails	▪ Construct Bailey Road Staging Area (North). ▪ Convert rail line to hiking trail from Bailey Road Staging Area (North) to Joint Visitor Center. ▪ Construct limited hillside trails.
Phase 3 Focus Area: Build Out (15-50 years)	
3A: Cistern Area	▪ Open Cistern Loop Road and a portion of Oak Savannah Road (vehicular roads) to picnic areas in the Cistern Area. ▪ Convert rail line to trail from Joint Visitor Center to the Cistern Area. ▪ Renovate one magazine picnic area with parking and two magazine picnic areas without parking.

TABLE 3-2 PROPOSED PHASING

Phase	Description
	▪ Construct three new picnic areas with parking along Oak Savannah Road and Cistern Loop Road. ▪ Convert existing road to Cistern Pond Loop Trail (paved multi-use trail). ▪ Implement interpretation program of cultural history of cistern and natural history of riparian species. ▪ Renovate two magazines as outdoor education classrooms with shade.
3B: Trail Expansion	▪ Construct Los Medanos Ridge Trail using existing road network and new trail alignments as needed. ▪ Complete trail connections to Joint Visitor Center.
3C: Delta de Anza Staging and Magazine Passage Area	▪ Construct Delta De Anza Staging Area and picnic sites. ▪ Convert existing road to Magazine Passage Trail (paved multi-use trail). ▪ Renovate six magazines to ensure public safety but prevent the public from entering.
3D: Open All Park Trails	▪ Complete the proposed trail network. ▪ Create passing above or below Bailey Road. ▪ Create overlooks at key vista points with interpretive elements.
3E: Port Chicago Overlook	▪ Construct Port Chicago Overlook and remembrance space. ▪ Open Port Chicago Connector Trail and Middle Ridge Road (maintenance road).
3F: Mount Diablo Creek Connections	▪ Construct pedestrian and bike connections to Mount Diablo Creek Trail. ▪ Construct amenities along Mount Diablo Creek trail.
3G: Eagle's Nest Backcountry Campsite	▪ Construct Eagle's Nest Backcountry Campsite along the Los Medanos Ridge Trail.
3H: The Diablo Center	▪ Rehabilitate Building 97 as the Diablo Center (environmental education and event space). ▪ Open Oak Savannah Road (vehicular road) to the Diablo Center. ▪ Establish shuttle program for events.
3I: Corp Yard and Native Plant Nursery	▪ Rehabilitate the Southeastern Complex as a District Corp Yard. ▪ Construct a native plant nursery.
3J: Park Residence	▪ Construct park residence near the Port Chicago Overlook.

Source: East Bay Regional Park District, 2018, Public Review Draft Concord Hills Regional Park Land Use Plan.

While the majority of visitors would be expected to arrive by car, some visitors, especially those from adjoining residential neighborhoods, would arrive by bike or by walking. Table 3-3 shows how visitors are projected to arrive. Based on use patterns at existing regional parks with similar surroundings, the District anticipates that 20 percent, and ultimately as many as 50 percent, of visits would arrive on foot of on bikes. However, for the purposes of the analysis in this EIR, it is assumed that 10 percent of trips at full buildout are expected to arrive via transit or on bikes or on foot.

TABLE 3-3 TOTAL PROJECTED VISITORS PER DAY BY MODE (TYPICAL DAY AT FULL BUILDOUT, 2050)

Mode	Typical Weekday Visitors	Typical Weekend Visitors
Auto	1,018	2,450
Bike or Walk	107	266
Total Trips	**1,125**	**2,716**

Note: These totals include staff trips.
Source: PlaceWorks, 2018.

3.8 REQUIRED PERMITS AND APPROVALS

The District is the lead agency and is responsible for park development and operations. Since the project site is located within the City of Concord, this section identifies City permits and regulations.

Permits and approvals that would be required for the project include those listed below. Under CEQA Guidelines Sections 15096 and 15381, "Responsible Agencies" include all public agencies other than the Lead Agency which have discretionary approval over the project. Agencies that would be consulted through the approvals process are also listed below.

East Bay Regional Park District (Lead Agency)

- Land Use Plan Approval
- EIR Certification

Responsible Agencies

- City of Concord:
  - Grading permits
  - Building permits
  - Permits for connections to City utilities
  - Plan review for connections to adjacent roadways
- Contra Costa County Fire Protection District:
  - Plan review
  - Occupancy permits

Consulting Agencies

- California Department of Fish and Wildlife:
  - Consultation
- US Fish and Wildlife Service:
  - Consultation

4. Environmental Evaluation

This chapter of the Draft Environmental Impact Report (EIR) is made up of 16 sub-chapters. This introduction describes the organization of this Draft EIR and the assumptions and methodology of the cumulative impact analysis. The remaining 16 sub-chapters evaluate the direct, indirect, and cumulative environmental impacts of the proposed Plan. The potential environmental effects of the proposed project are analyzed for the following issues areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Traffic
- Utilities and Service Systems
- Wildfire

Due to the past and current uses of the project site, no environmental impacts associated with Agriculture and Forestry Resources or Mineral Resources are expected to occur as a result of the proposed project. These resource topics will not be addressed further in this chapter.

CHAPTER ORGANIZATION

This chapter consists of 16 sub-chapters that evaluate the environmental impacts of the proposed Concord Hills Regional Park Land Use Plan, referred to as the "proposed project" or "proposed Plan." Each sub-chapter uses generally the same organization and consists of the following subsections:

- The *Regulatory Framework* section describes which local, State, and/or federal regulations are applicable to the proposed Plan.
- The *Existing Conditions* section describes current conditions with regard to the environmental issue area reviewed.

- The *Thresholds of Significance* section describes how an impact is judged to be significant in this Draft EIR. These standards are derived from CEQA Appendix G Guidelines.
- The *Impact Discussion* assesses potential impacts (direct and indirect) and explains why impacts were found to be significant or less than significant. This section also presents recommended mitigated measures, where applicable.
- The *Cumulative Impacts* section analyzes impacts that the proposed Plan may have when considered in addition to other past, present, and reasonably foreseeable projects. (See further discussion below.)

CUMULATIVE IMPACT ANALYSIS

A cumulative impact consists of an impact created as a result of the combination of the project evaluated in the EIR together with other reasonably foreseeable projects causing related impacts. Section 15130, Discussion of Cumulative Impacts, of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Used in this context, cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the effect is not cumulatively considerable. The cumulative impacts discussions in Chapters 4.1 through 4.16 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, city, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing aesthetic impacts, the pertinent geographic study area is the vicinity of the areas of development associated with implementation of the proposed Plan from which the new development can be publicly viewed and may contribute to a significant cumulative visual effect. In assessing macro-scale air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect.

Section 15130 of the CEQA Guidelines permits two different methodologies for completion of the cumulative impact analysis. The first is the "list approach," which requires a listing of past, present, and reasonably anticipated future projects producing related or cumulative impacts. The second is the projections-based approach, wherein the relevant growth projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions are summarized. A reasonable combination of the two approaches may also be used.

The cumulative impact analysis in this Draft EIR relies on a list-approach of past, present, and probable future projects in the vicinity of the project site that, when considered with the effects of the project, may result in cumulative effects. In some instances, the cumulative analysis discussions contained in Chapters 4.1 through 4.16 include a discussion of the growth projections and references to specific projects as

relevant to the impact analysis. In 2019, the following development projects are within the vicinity of the project site:

- City of Concord:
  - Conco Commercial Building (56,154-square-foot project in the Northpoint Business Park)
  - Concord Reuse Project (13,000 housing units and 8.4 million square feet of commercial, including the planned Tournament Sports Complex, and campus/institutional space planned to the west of the project site within the former Concord Naval Weapons Station)
  - Concord Village (230 multi-family-unit entitled project at 2400 Salvio Street)
  - Argent (181 multi-family-unit entitled project at 2400 Willow Pass Road)
  - Renaissance Phase 2 (179 multi-family units under construction at 1825 Galindo Street)
- City of Pittsburg:
  - San Marco Village M (318 multi-family-unit approved project on West Leland Road east of San Marco Boulevard)
  - San Marco Village D (233 single-family units under construction on Santa Teresa Drive)
  - San Marco Villages E, F, J, K, L, and N (706 single-family units under construction southwest of West Leland Road and San Marco Boulevard)
  - San Marco Toscana (252 single-family units under construction on the northeast corner of San Marco Boulevard and West Leland Road)
  - Alves Ranch (167 single-family units approved north of West Leland Road at Alves Ranch Road)
  - Lawlor Estates (50 single-family units under construction south of West Leland Road between Lawlor Court and Delta Vista Lane)
  - Faria/Southwest Hills Annexation proposal (up to 1,500 residential units proposed on 600 acres southwest of the Pittsburg city limit, adjoining the future Regional Park's eastern boundary
  - Montreux Residential Subdivision (351 single-family homes approved on the west side of Kirker Pass Road immediately south of the Pittsburg city limit)
- Contra Costa County:
  - Keller Canyon Landfill expansion project

The following provides a summary of the cumulative impact scope for each impact area:

- Aesthetics and Visual Resources: The cumulative impact for aesthetics includes potential future development under the proposed project combined with effects of development on lands adjacent to the project site.
- Air Quality: Cumulative air quality impacts could occur from a combination of the proposed Plan combined with regional growth within the San Francisco Bay Area Air Basin (SFBAAB), based on regional population and employment projections identified by the Association of Bay Area

Governments (ABAG) and growth in vehicle miles traveled (VMT) identified by the Contra Costa Transportation Authority.

- Biological Resources: Cumulative impacts to biological resources considers growth under the proposed Concord Reuse Project and Faria/Southwest Hills project sites as well as development sites in Concord, Pittsburg, and Contra Costa County. In addition, areas farther east and south in Contra Costa County that provide habitat types similar to those in the project area are included within the region of influence for this analysis.
- Cultural Resources: Cumulative impacts to cultural resources could occur from development planned in the vicinity of the project site. Projects in the geographic scope include the Concord Reuse Project, the Faria/Southwest Hills project, and the Keller Canyon Landfill Expansion project as well as projects in adjacent areas of Concord, Pittsburg, and Contra Costa County.
- Energy: The area considered for cumulative impacts to energy consumption is the service area of Pacific Gas & Electric.
- Geology and Soils: Potential cumulative geological impacts could arise from a combination of development allowed by the proposed Plan together with future development in Concord.
- Greenhouse Gas Emissions: The cumulative impact analysis for greenhouse gas (GHG) emissions is related to regional growth within the SFBAAB, based on regional population and employment projections identified by ABAG and VMT growth identified by the CCTA.
- Hazards and Hazardous Materials: The hazardous materials study area considered for cumulative impacts consists of the project site, Concord Reuse Project area, and other development sites located in the immediate vicinity of the project site.
- Hydrology and Water Quality: The geographic scope of groundwater cumulative impacts is the Clayton Valley groundwater basin. The geographic scope of surface water hydrology cumulative impacts is the Mount Diablo Creek watershed. The geographic scope of water quality impacts includes both the groundwater basin and the watershed. The Hydrology and Water Quality analysis considers growth in these geographies together with implementation of the proposed Plan.
- Land Use and Planning: The Land Use and Planning analysis takes into account development associated with implementation of the proposed project, in combination with impacts from projected growth in the rest of Contra Costa County and the surrounding region, as forecast by the ABAG. The geographic context includes the proposed project combined with lands adjacent to the project site within Concord, Pittsburg, and Contra Costa County.
- Noise: The cumulative impact for noise includes potential future development under the proposed project combined with effects of development on lands within the project site vicinity in Concord, Pittsburg, and unincorporated Contra Costa County.
- Population and Housing: Impacts from cumulative growth are considered in the context of development associated with implementation of the proposed Plan, as well as projected growth from the rest of Contra Costa County, as forecast by ABAG.
- Public Services and Recreation: Cumulative impacts are considered in the context of development associated with implementation of the proposed Plan along with estimated growth within the city.

- Transportation and Traffic: The geographic scope of analysis for cumulative impacts on transportation and traffic conditions encompasses the road network that would serve the future Regional Park. Projects in the geographic scope include the Concord Reuse Project, the Faria/Southwest Hills project, the Keller Canyon Landfill Expansion project as well as other development projects in Concord, Pittsburg, and Contra Costa County.
- Utilities and Service Systems: Cumulative impacts are considered in the context of the development under the proposed Plan combined with the estimated growth in each utility's service area.
- Wildfire: The areas considered for cumulative impacts related to wildfires are the State Responsibility Area and the wildfire urban interface area.

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4.1 AESTHETICS

This chapter describes aesthetics, which is the existing visual resources and the physical features that make up the landscape within the future Regional Park. The chapter evaluates changes to those features that could occur from build-out of the proposed Land Use Plan, and whether or not those changes are potential impacts. The chapter also examines the regulatory framework and existing conditions on the project site related to the project's aesthetics visible from public areas.

The City of Concord, in a letter to the Park District dated July 27, 2017, sent in response to the Notice of Preparation of this Draft EIR, expressed concerns with the visual impacts from park uses near the ridgeline of Los Medanos Hills. These concerns are addressed in impact discussion AES-3, below.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

This section summarizes key State, District, and local regulations and programs related to aesthetics, which the District considered in evaluating the potential for the Land Use Plan to have a significant effect on aesthetic resources. There are no specific federal regulations applicable to aesthetics.

State Regulations

California Scenic Highway Program

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), protects State scenic highway corridors from changes that diminish the aesthetic value of lands adjacent to the highways. Caltrans has not designated any highway within the vicinity of the project site as a State scenic highway. The closest scenic highway is Interstate 680 in Walnut Creek, south of the Interstate 680/State Route 24 junction.[1]

California Building Standards Code

Title 24 in the California Code of Regulations (CCR) is the California Building Standards Code. Part 6 of Title 24 is the California Energy Code (CEC), which includes standards for lighting to improve energy efficiency and reduce light pollution and glare by regulating light power, brightness, and sensor controls.

Part 11 of Title 24 is the California Green Building Standards Code, known as CALGreen. CALGreen establishes building standards aimed at enhancing the design and construction of buildings through the use of building concepts that have a reduced negative impact or positive environmental impact. CALGreen encourages sustainable construction practices and includes standards for planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and

[1] California Department of Transportation California Scenic Highways Program, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed on January 8, 2018.

environmental quality. Section 5.106.8, Light Pollution Reduction, specifically establishes Backlight, Uplight, and Glare (BUG) ratings to minimize the effects of light pollution for non-residential development.

District Regulations

East Bay Regional Park District Master Plan 2013

The 2013 District Master Plan (Master Plan) defines the long-term mission and vision for lands managed by the District. The Vision statement from the Master Plan is:

> "The District envisions an extraordinary and well-managed system of open space parkland in Alameda and Contra Costa counties, which will forever provide the opportunity for a growing and diverse community to experience nature nearby."

The Master Plan includes policies for addressing visual resources in two sections which are applicable to the proposed project:

- *Key Elements of the Planning Process (KEP*)
  - Policy KEP4: The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards and plan for appropriate urban growth boundaries. The District will work with other jurisdictions to develop open space preservation plans and policies that recognize the District's public interests in open space preservation and that are consistent with Board policy.
- *Planning for Regional Parks and Trails (PRPT)*
  - Policy PRPT24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.
  - Policy PRPT28: New utility lines will be placed underground on land owned, operated, or managed by the District to retain the optimal visual qualities of the area. Rights of way and easements for utilities will not be granted without under-grounding. The District will work in cooperation with the utility companies to place existing overhead utilities underground (unless so doing conflicts with applicable codes) as soon as practical and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the construction of high voltage power lines within the parklands, particularly in areas of sensitive or aesthetically important resources and in preserve areas.
  - Policy PRPT29: The District will keep its lands, including all ridges and peaks, free of additional communication facilities in order to maintain open viewshed, natural conditions and public use as well as to limit vehicular and service activities. Communication sites will be regulated by the provisions the Communication Site Policy which states that no new licenses will be granted beyond December 31, 1999, except for efforts that will consolidate sites or improve visual quality. The District will work to reduce the detrimental visual impact of buildings, towers and access

roads at existing sites and will work with other agencies and neighbors to reduce this impact on adjacent lands.

Local Regulations

City of Concord, 2030 General Plan

The Land Use and Parks, Open Space and Conservation Elements of the General Plan include the following goals and policies specific to aesthetics and applicable to the proposed project.

- Goal LU-1: Livable and Enjoyable Residential Neighborhoods.
- Principle LU-1.1: Preserve and Enhance Neighborhood Character.
  - Policy LU-1.1.9: Preserve visible hillsides and open space areas through techniques such as cluster development or density transfers.
- Goal LU-9: Well-Designed Development
- Goal LU-10: High-Quality Urban Design in Public Spaces and Infrastructure
  - Policy LU-10.1.4: Enhance the appearance of the streetscape by expanding and maintaining Concord's landscaping within its public rights-of-way.
  - Policy LU-10.1.5: Require trees and other landscaping within parking lots.
  - Policy LU-10.1.7: Implement urban design measures which visually and functionally integrate the Concord Reuse Project site into the existing City and reduce perceptions that the site is a separate community.
- Goal LU-11: Open Space Protection
- Goal POS-2: Protection and Accessible Open Space Systems
- Goal POS-3: Well-Planned Natural Resource Conservation
- Principle POS-3.1: Preserve and Protect Water Quality.
  - Policy POS-3.1.2: Preserve and restore native riparian vegetation and wildlife, and establish riparian corridors along all creeks.
- Principle POS-3.4: Preserve and Protect Wildlife and Vegetation Resources.
  - Policy POS-3.4.1: Conserve wildlife habitat and wildlife corridors, including seasonal migration routes, and require appropriate mitigation in the event such areas are impacted by development.
  - Policy POS- 3.4.3: Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station (CNWS) to civilian

use. The land that makes up the Area Plan includes the project site. Adopted by the City Council in 2012, the Area Plan adapted goals and concepts developed in the Concord Community Reuse Project Reuse Plan (Reuse Plan) that articulate the community's preferred vision for the area. The Reuse Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Plan provides a principle and policies applicable to the aesthetics of the project site.

- 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.
  - 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 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.

City of Concord Municipal Code

The Concord Municipal Code (CMC), organized by Title, Chapter, and Section, includes all ordinances for the City. Title 18, Development Code, includes regulations relevant to visual resources in Concord as follows:

- Chapter 8.40 Trees and Shrubs. This chapter provides a standard method for proper care of trees, shrubs and hedges in parks and public places, including street trees.
- Chapter 15.45 Green Building Standards Code. This chapter adopts CALGreen.
- Chapter 18.150 General Development Standards. This chapter details the development standards established in Title 18, Division II (Zoning Districts), by addressing site planning and project design to ensure that new development is compatible with existing and future development and is consistent with the General Plan.
- Chapter 18.165 Landscaping. This chapter establishes requirements for landscaping to improve the livability and attractiveness of the city, enhance the appearance of development, provide shade, reduce heat and glare, and screen and buffer incompatible uses.
- Chapter 18.415 Design and Site Review. Section 18.415.080 of this chapter establishes the design guidelines and other criteria upon which the City's design review recommendations shall be based. Criteria include compatibility with the visual character of an area; preservation of major views and vistas along major streets and open spaces and trails; provision of adequate light for safety and security while minimizing glare; and compatibility with neighboring development through harmonious transitions in building scale and character. Section 18.415.090 of this chapter describes the design review process that was established in order to ensure the orderly development of the City with proper attention to the harmony, compatibility, and aesthetic quality of site design, architecture, landscape architecture, signs, and engineering.

- Chapter 18.300 Hillside Protection. This chapter establishes regulations to minimize impacts of hillside development and protect views in hillside areas. These regulations are intended to ensure that the design of new development complements existing topography, resulting in a natural and unobtrusive appearance, and minimizes risk of personal injury, water quality impacts, and property damage from natural hazards.
- Chapter 18.310 Tree Preservation and Protection. This chapter establishes regulations for the protection, preservation, maintenance, removal, and replacement of trees associated with new construction and development.

City of Concord Community Design Guidelines

The City's Design Guidelines, adopted August 1987, are the recommended desirable design principles for projects in the city. The Guidelines cover topics that include area context, site plan, amenities, building design, landscape design, parking, signage, and utilities, and are utilized in the development review process to ensure that new development is consistent with the existing character of the city.

Contra Costa County General Plan

The Open Space Element of the County's General Plan describes scenic ridges, hillsides, rock outcroppings, and the San Francisco Bay/Delta estuary system as main scenic resources in the county, and includes the following goal and policies relevant to the project area. Although the County's General Plan does not apply directly to the project site, the project site borders unincorporated lands and therefore could affect, or be affected by, visual change on County lands.

- Goal 9-E: To protect major scenic ridges, to the extent practical, from structures, roadways, and other activities which would harm their scenic qualities.
  - Policy 9-12: In order to conserve the scenic beauty of the county, developers shall generally be required to restore the natural contours and vegetation of the land after grading and other land disturbances. Public and private projects shall be designed to minimize damage to significant trees and other visual landmarks.
  - Policy 9-13: Providing public facilities for outdoor recreation should remain an important land use objective in the county, as a method of promoting high scenic quality, for air quality maintenance, and to enhance outdoor recreation opportunities of all residents.
  - Policy 9-18: Construction of new structures on the top of major scenic ridges or within 50 feet of the ridgeline shall be discouraged.
  - Policy 9-19: When development is permitted to occur on hillsides, structures shall be located in a manner which is sensitive to available natural resources and constraints.
  - Policy 9-20: Hilltops, ridges, rock outcroppings, mature stands of trees, and other natural features shall be considered for preservation, at the time that any development applications are reviewed.
  - Policy 9-21: Any new development shall be encouraged to generally conform with natural contours to avoid excessive grading.

City of Pittsburg General Plan and Municipal Code

Although the City of Pittsburg's policies and regulations do not apply directly to the project site, the project site borders land in Pittsburg's sphere of influence, and therefore could affect, or be affected by, visual changes on adjacent lands in Pittsburg.[2]

The Land Use Element of the General Plan includes the following goals and policies specific to aesthetics and applicable to the project area.

- Goal 2-G-1: Maintain a compact urban form within the City's projected municipal boundary. Ensure that hillside lands not environmentally suitable for development are maintained as open space.
- Goal 2-G-8: Ensure that hillside development enhances the built environment, improves safety through slope stabilization, is respectful of topography and other natural constraints, and preserves ridgelines and viewsheds.
- Policy 2-P-23: Restrict development on minor and major ridgelines (as identified in Figure 4-2). Encourage residential construction on flatter natural slopes or non-sensitive graded areas that reduce environmental and visual impacts. Minimize cut-and-fill of natural hillsides.
- Policy 2-P-26: Ensure that new hillside development utilizes fire-resistant building materials, per the Uniform Building Code. Require that all residential units adjacent to open slopes maintain a 30-foot setback with fire resistant landscaping.

The Pittsburg Municipal Code (PMC), organized by Title, Chapter, and Section, includes all the ordinances for the City. Title 18, Development Code, includes regulations relevant to visual resources in Pittsburg as follows:

- Chapter 18.56, Hillside Planned District. This chapter establishes regulations to protect public health, safety, and welfare with regard to hillside development and protect natural topographic features, aesthetic views, vistas and prominent ridgelines, and adjacent properties from potential adverse impacts of grading and drainage associated with hillside development. The chapter also encourages compatibility of development to the terrain.

4.1.1.2 EXISTING CONDITIONS

This section describes the existing visual character of the project site.

Visual Character

The project site is located along the Los Medanos Hills in the eastern portion of Concord, along the border with undeveloped land within Pittsburg and unincorporated Contra Costa County. There are three highways in proximity to the northwest boundary of the project site—Highways 4 and 242 and Interstate 680. Willow Pass Road and Bailey Road cross the site and connect to Highway 4. The primary entrance point to the site is currently through the Military Ocean Terminal of Concord off Port Chicago Highway to

[2] See City of Pittsburg, 2018, Faria/Southwest Hills Annexation" Draft Environmental Impact Report, SCH#2017032027.

the north of Highway 4. The visual and aesthetic character of the project site and the prominent visual features of the regional landscape are described below. An aerial view of the project site and surrounding area is shown on Figure 3-3, Local Context, in Chapter 3, Project Description, of this Draft EIR.

Visual Features of the Project Site

The natural topography of the project site slopes gently upward from the west to east, with grades ranging from zero to ten percent. The project site elevations range from approximately 100 feet above mean sea level at the western border to 1,000 feet above mean sea level at the eastern border. As described in Chapter 3, Project Description, the 2,543-acre site has been developed with naval weapons storage facilities since 1945, which include vacant structures, a road and rail network, magazines, and experimental forestry research stands planted by the University of California Cooperative Extension and the U.S. Forest Service Institute of Forest Genetics. In addition to the experimental forestry stands, there are approximately 100 acres of Oak Woodland/Savannah on the site, which consists of groves of various oak species and buckeye trees throughout the site, primarily in drainage areas. Trees within the Oak Woodland/Savannah include coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), valley oak, and scattered buckeye trees (*Aesculus californica*). Many of these trees are large and dramatic in form, creating a distinctive view on the hillside, and many meet the definition of a protected tree.[3] The magazines are located in flat areas of the site, constructed as small, poured-in-place concrete covered in earth. The magazines have a barrel vault roofline and have the appearance of a large berm along the valley floor, varying in height from 15 to 20 feet. The experimental forestry stands encompass approximately 90 acres within the total Concord Reuse Project area and are planted with various pine and eucalyptus species. Within the project site, there is one large stand near the Cistern Pond and three smaller stands along Kinne Boulevard, north of Bailey Road.

The Los Medanos Hills are characterized by rolling hills dominated by California annual grasslands and small clusters of oak woodlands. Some views of the hills also include water storage tanks, existing paved and unpaved roads, and some smaller structures used during the site's operation as a naval weapons storage facility. From the higher elevations of the project site, there are views across the Diablo Valley and to the Sacramento-San Joaquin Delta, Suisun Bay and Bayfront lands, and surrounding open space, such as Black Diamond Mines Regional Preserve and Mount Diablo State Park. Both upland and lowland areas of the site are visible from off-site locations. Lowland elevations of the site, including the magazines, railway and road network, and larger naval operations buildings are visible from State Route 4. Views within the site include south-facing sloping hills on the higher elevations.

Visual Features of the Areas Surrounding the Project Site

The project site, as stated above, has gentle slopes that range between zero and ten percent and rise from the flat valley floor adjacent to the western boundary of the project site. The Los Medanos Hills form the eastern boundary of the project site, with elevations ranging from 800 feet to 1,000 feet. Magazines, former CNWS buildings, and the existing rail and roadway network are visible from the perimeter of the

[2] East Bay Regional Park District, 2015, Concord Hills Regional Park Biological Resources Existing Conditions Report.

site as well as from the roads that traverse the project site.[4] As described in Chapter 3, Project Description, the site is bounded on the north and west by the remainder of the Concord Reuse Project area and existing residential neighborhoods. Diablo Valley and Los Medanos Hills are visible from the areas surrounding the project site. The southern border is adjacent to Kirker Pass Road, followed by the Concord Pavilion, which is approximately 100 feet above the elevation of the site. Views to the Los Medanos Hills are visible from the southern border. The eastern border consists of the undeveloped Los Medanos Hills, which slope downward toward the site. The ridgeline meanders across the eastern boundary with some areas providing 360-degree views from the project site. From these higher elevations along the western boundary, there are views to the Suisun Bay and Bayfront lands, Sacramento-San Joaquin Delta, Diablo Valley, and surrounding open space. The Los Medanos Hills are visible from nearby transportation corridors, including Highway 4. The eastern boundary of the project site incorporates a portion of the ridgeline, which may be developed into residential uses within the buildout horizon of the proposed project, transforming the visual character of the project site[5].

Scenic Vistas and Roads

Scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space lands, mountain ridges, bay, or ocean views). A scenic road is defined as a highway, road, drive, or street that provides opportunities for the enjoyment of natural and human-made scenic resources in addition to its transportation function. Scenic roads direct views to areas of exceptional beauty, natural resources or landmarks, or historic or cultural interest. The aesthetic values of scenic routes can be protected and enhanced by regulations governing the development of property and the placement of outdoor advertising. There are no scenic vistas or roads designated by the cities of Concord and Pittsburg, nor by Contra Costa County in the project site and vicinity.[6,7,8] Further, there are no State-designated scenic roadways in the project site and vicinity.[9]

Scenic Quality Field Surveys

The Navy's Environmental Impact Statement (EIS) evaluated existing scenic quality from several key observation points (KOP), one of which, KOP 4, Bailey Road, is located on the southern portion of the project site. KOP 4 is characterized as a panorama landscape. The EIS states that the foreground of the scenic nature of KOP 4 is characterized by grassy, rolling-hill slopes with distant views that include a break in vegetation and structures that are defined by a change in color. The EIS further states that, although there is scenic quality of the project site at the site of KOP 4, those viewing the site at this location are

[4] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page S-1.
[5] City of Pittsburg, "Faria/Southwest Hills Annexation" Draft Environmental Impact Report, 2018 (SCH#2017032027).
[6] City of Concord 2030 Urban Area General Plan, 2007, Chapter 3, Land Use.
[7] Contra Costa County General Plan 2020, 2000, Figure 9-1 Scenic Ridges and Waterways.
[8] City of Pittsburg 2020 General Plan, 2001, Chapter 2, Land Use.
[9] State of California Department of Transportation, California Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed on April 13, 2018.

doing so for a relatively short length of time, and have their vision obstructed by motion of other vehicles, which overall detracts from the scenic quality of the site.[10]

Light and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass or spill to adjacent sensitive receptors (e.g., residential development), sky glow, and over-lighting. Views of the night sky are an important part of the natural environment. Excessive light and glare can be visually disruptive to humans and nocturnal animal species. Light pollution in the project site and vicinity is minimal and is restricted primarily to street lighting along major arterial streets, State Routes 4 and 242, and night-time illumination of the Concord Pavilion. Light spillage from residential areas is mostly well screened by trees, and from the Concord Pavilion by topography that slopes gently across Kirker Pass Road.

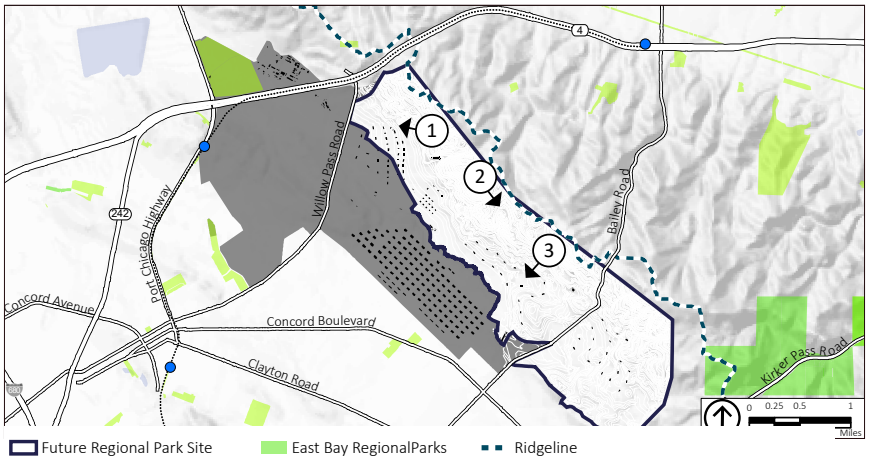
Existing Viewsheds

Viewsheds refer to the visual qualities of a geographical area that are defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by development that has become a prominent visual component of the area. Public views are those which can be seen from vantage points that are publicly accessible, such as streets, freeways, parks, and vista points. These views are generally available to a greater number of persons than private views. Private views are those views that can be seen from vantage points located on private property. Blockage of private views is not necessarily considered to be an impact under CEQA when interrupted by land uses on adjacent properties. Accordingly, this chapter is focused on the potential new development that could occur on the project site that would be visible from public viewing points and could result in a potentially significant aesthetic impact under CEQA.

The proposed project includes the potential for the development of future buildings associated with the recreation and staging facilities. The existing publicly-accessible viewshed in this area includes Newhall Park, and roadways include Willow Pass Road, Kinne Boulevard, Panoramic Drive at Port Chicago Highway (North Concord BART Station), Highway 4, and Bailey Road. Views from these locations in proximity to the project site include existing development and associated landscaping in the near-field viewshed and the surrounding natural hillsides and natural ridgelines in the far-field viewshed. It is also important to note that, as described above, the publicly-accessible areas surrounding the project site are not recognized by the City or the State as scenic viewing locations; a scenic viewing location is a distinct location where people gather with a reasonable expectation of having a view of a scenic resource.

Distant views from the ridgelines at the project site include Mount Diablo and existing residential development to the south, the Sacramento-San Joaquin Delta to the east, and the Suisun Bay and the Sacramento River to the north. Port Chicago is also visible from higher vantage points in the project site to the northeast. Figure 4.1-1 shows six distant viewpoints visible from the project site.

[10] Department of the Navy, Naval Facilities Engineering Command Headquarters, Base Realignment and Closure Program Management Office West, August 2017, Final Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord in Concord, California, pages 3-215 to 3-216.



DISTANT VIEWS FROM FUTURE REGIONAL PARK SITE







RIDGELINE VIEWS



INTERNAL VIEWS





Source: PlaceWorks, 2018.

Figure 4.1-1
Viewpoints

Views from Points West toward the Los Medanos Hills

View 4 on Figure 4.1-1 shows a perspective looking east toward the project site from adjacent development near Willow Pass Road. As shown from View 4, the Los Medanos Hills ridgeline is visible in the background; the grassy hills of the site and existing trees are visible in the foreground.

Views from the Ridgeline toward Port Chicago and Suisun Bay and Mount Diablo

Views 1 and 2 on Figure 4.1-1 show perspectives looking southwest toward Port Chicago and looking southeast toward Mount Diablo. As shown from View 1, Port Chicago is visible in the background. The tidal area of the Naval Weapons Station is also visible from higher points to the northeast of the project site. This perspective provides a view of industrial development located on the water; the existing trail network and magazines are visible in the foreground. As shown in View 2, Mount Diablo is visible in the background.

From the higher elevations of the project site along the ridgeline, the undeveloped corridor connecting the park to Mount Diablo is visible; rolling hills and trees are visible in the foreground.

Views from the Ridgeline toward Adjacent Development and the Sacramento-San Joaquin Delta and Suisun Bay

View 3 on Figure 4.1-1 shows a perspective looking south toward adjacent development in Concord, the nearby cities of Walnut Creek and Pleasant Hill, and unincorporated Contra Costa County. As shown, urban development is visible in the background and will be in more immediate view as the Concord Reuse Project area develops through the year 2035; rolling hills and trees are visible in the foreground.

Internal Viewsheds

Views 5 and 6 on Figure 4.1-1 show perspectives within the site. As shown, the south-facing slopes that characterize the upper portion of the property are largely unscarred by the existing roadway network. The grazed hillsides are characterized by existing buildings, vegetation, grasslands, and wildflower meadows, while historic oaks are scattered throughout the site; riparian vegetation extends into drainage areas.

As seen in View 4 on Figure 4.1-1, the view from the east side of Building IA-24 consists of flat grassy space followed by a steep, sculpted hillside. The northern edge of the view contains historic magazines, while the southern edge contains a corral.

4.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant aesthetic impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

3. Substantially degrade the existing visual character or quality of public views of the site and its surroundings.
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.3 IMPACT DISCUSSION

AES-1 The project would not have a substantial adverse effect on a scenic vista.

As described above, public views of scenic corridors are considered those views as seen along a linear transportation route, and public views of scenic vistas are views of specific scenic features. Scenic vistas are generally interpreted as long-range views, while scenic corridors may provide short-, middle-, and/or long-range views. The Concord, Pittsburg, and Contra Costa County General Plans do not designate scenic vistas or roads in the project vicinity. However, the General Plans of each jurisdiction include policies that enforce the protection of views of natural hillsides and natural ridgelines. Therefore, for the purposes of this analysis, long-range views across the Diablo Valley to the west, to the Sacramento-San Joaquin Delta and Suisun Bay and Bayfront lands to the north and northeast, and of surrounding open space, such as Black Diamond Mines Regional Preserve and Mount Diablo State Park, are considered scenic vistas.

As described above, the project site comprises naval weapons storage facilities, which include structures, a road and rail network, and magazines ranging from one to three stories, as well as mature trees of 5 to 60 feet in height. The proposed project would result in new development potential of up to 86 acres of recreational uses (including 35 acres within Recreation/Staging Units and approximately 50 acres of trails). For the purposes of this evaluation, it is assumed that the areas where future structures could potentially obstruct a view would be in the areas designated for recreation/staging unit facilities as shown on Figure 3-7, Overview of the Proposed Regional Park, in Chapter 3, Project Description, of this Draft EIR. The remainder of the project site would provide a mix of park and conservation open space uses that would be generally undeveloped.

Given that implementation of the proposed Plan could result in potential future buildings that would be limited to two to five stories (35 to 55 feet) in height, the proposed project would not block far-field views from various publicly accessible views surrounding the project site. Additionally, the publicly accessible areas surrounding the project site are not recognized by the City or the State as scenic viewing locations; that is, a distinct location where people gather with a reasonable expectation of having a view of a scenic resource. Therefore, future development under the proposed project would not further block or obstruct public views of scenic vistas from ground-level public viewing. Similar views would continue to be visible along the project site.

As described in Chapter 3, Project Description, of this Draft EIR, the proposed project includes strategies that, once implemented, would further the protection of scenic resources in the project vicinity. For example, development of the project would involve removal of unutilized utility lines and infrastructure that obstructs long-range views and/or detracts from the character of this site; native vegetation and

existing topography would be used to frame views and screen undesirable features. In addition, the project would reduce the overall road density within the hills and focus recreation and staging units in the lower elevations of the site. In addition, future development under the proposed project would be required to comply with the City's General Plan and District's Master Plan policies (listed in Section 4.1.1), which seek to preserve existing views within the cities of Concord and Pittsburg and Contra Costa County. The proposed project would also be required to comply with CMC Chapter 18.415, Design and Site Review, which requires projects to undergo the City's design review process. Consistency with these regulations would further ensure that future development under the proposed project would result in a *less-than-significant* impact to scenic vistas.

Significance without Mitigation: *Less than significant*.

AES-2	**The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.**

A scenic road is defined as a highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources. There are no designated scenic vistas or roads within the project site or vicinity by the cities of Pittsburg and Concord, Contra Costa County, or Caltrans. Accordingly, *no impact* with respect to scenic resources within a State scenic highway would occur.

Significance without Mitigation: *No impact*.

AES-3	**The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.**

Future development allowed under the proposed project would represent a change to the existing visual character of the project site from structures, a road and rail network, magazines, and experimental forest stands to a continuous linear mix of park and conservation uses that would be generally undeveloped. As described under impact discussion AES-1, potential future recreation and staging unit facilities would be concentrated within the site and located at lower elevations. Trails developed at mid-slope within the site would be visible from long distances, while trails along the flat valley bottom would not be readily visible from off site. Potential future buildings' form and massing would largely reuse existing buildings on site. While renovation of existing buildings could represent a substantial change to the existing visual character of the specific building areas, proposed renovations would generally be consistent with the overall character of the site in terms of scale. In addition, implementation of the proposed project would introduce park and recreational uses with native plantings and areas restored to their natural habitat, interspersed with picnic areas, campgrounds, a community orchard, and educational spaces that can be used by neighboring residents.

While implementation of the proposed project would result in a change to the existing visual character of the site itself, potential future development activities would be limited to a small area of the site (five percent of the total acreage). The remainder of the project site would provide conservation areas, similar

to the existing open space areas. In addition, implementation of the proposed project would result in the restoration of the magazines, orchard trees, and Corporation Yard consistent with the City's Area Plan. To ensure a consistent style and to reference the site's former use, all structures, including renovations and new construction, would utilize an architectural style that is consistent with the industrial style of CNWS, such as concrete and steel construction, large windows for daylighting, and open floor plans. Further, all renovations and new construction would employ sustainable, green design and technologies such as natural lighting, passive heating and cooling, and the selection of sustainable materials.

As described under impact discussion AES-1, the proposed Plan includes strategies that, once implemented, would further the protection of scenic resources in the project vicinity. In addition, future development under the proposed Plan would be required to comply with the City's General Plan and District's Master Plan policies, which seek to provide high-quality urban design in public spaces and infrastructure and ensure that hillside development enhances the built environment. The proposed project would also be required to comply with the City's development standards per CMC Title 18 and undergo the design review process per CMC Chapter 18.415. Consistency with these regulations would ensure that future development under the proposed project would not substantially degrade the visual quality of the site or its surroundings, and associated impacts would be *less than significant*.

Significance without Mitigation: *Less than significant*.

AES-4 The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Nighttime illumination and glare impacts are the effect of a project's exterior lighting upon adjoining uses and areas. Light and glare impacts are determined through a comparison of the existing light sources with the proposed lighting plan or policies.

As described above, the project site is developed with vacant structures, a road and rail network, magazines, and experimental forest stands and, as such, the site does not currently contain existing sources of nighttime illumination. However, on-site light and glare is caused by surrounding sources of nighttime illumination, which include street and parking area lights and exterior lighting on existing residential, public/institutional, and commercial buildings.

With potential future development of the proposed project, sources of light could be introduced with new buildings, along the trail, and in recreation and staging unit areas. Exterior lighting provided on and around the future development would be required to comply with City standards for outdoor lighting that are intended to reduce light pollution and glare per CMC Chapter 18.150, which establishes maximum height standards for outdoor lighting on public property and requires new development to shield and direct lighting fixtures downward and away from adjoining properties to reduce spill-over lighting and light pollution. In addition, the proposed project would also be required to undergo the design review process per CMC Chapter 18.415. Consistency with these regulations would ensure that future development under the proposed project would not create substantial light and glare that could degrade daytime or nighttime views in the area, and impacts would be *less than significant.*

Significance without Mitigation: *Less than significant.*

4.1.4 CUMULATIVE IMPACTS

AES-5	The project would not contribute to significant cumulative aesthetic impacts.

The cumulative impact for aesthetics includes potential future development under the proposed project combined with effects of development on lands adjacent to the project site. A cumulative impact would be considered significant if, when taken together with past, present, and reasonably foreseeable projects in the identified area, it would result in a substantial adverse effect on a designated scenic vista or if it would result in a substantial degradation of the visual quality or character in the vicinity of the project site.

The CMC requires projects to undergo the City's design review process to ensure that project features such as building design, landscaping, site planning, and signage are consistent with the City's adopted plans, regulations, and design aesthetics. These requirements would apply to any future development within Concord, including development of the Concord Reuse Project and Tournament Sports Complex. According to the Final EIR Addendum prepared for the Area Plan, the development of the Concord Reuse Project would create a significant and unavoidable impact associated with visual impacts of urban development as seen from the Sun Terrace Neighborhood and the United States Coast Guard Housing complex. Areas adjacent to the eastern boundary of the project site may be developed with residential uses within the buildout horizon of the proposed project, transforming the visual character of the site and potentially impacting existing views east of the site. Portions of the future Regional Park that would be visible from these areas to the east and west would appear similar to existing conditions, which is a largely undeveloped site with scattered buildings and facilities. Therefore, the project would not contribute to a significant cumulative impact due to a change in the existing visual character of the surrounding area.

Similar to the proposed project, projects within the project site vicinity would be required to be in conformance with applicable local General Plan policies, which require development to be compatible with the character of their surroundings. The uniform application of these regulations, goals, and policies would ensure that all development within the vicinity is compatible with its surroundings upon approval. Additionally, the design review requirement as well as subsequent environmental review of projects subject to CEQA would give the City the opportunity to evaluate projects' potential impacts on scenic resources prior to approval. Therefore, the project would result in a *less-than-significant* cumulative impact with respect to visual character and scenic vistas.

Significance without Mitigation: *Less than significant.*

AESTHETICS

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4.2 AIR QUALITY

This chapter describes the regulatory framework and existing conditions on the project site related to air quality, and the potential impacts of the project on air quality.

The project site is in the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). Land use is subject to the rules and regulations imposed by the Bay Area Air Quality Management District (BAAQMD), the California Ambient Air Quality Standards (AAQS) that have been adopted and are periodically updated by the California Air Resources Board (CARB), and National AAQS adopted by the United States Environmental Protection Agency (EPA). Air pollutants for which the State and federal government have identified AAQS are known as criteria air pollutants. In addition to criteria air pollutants, both the State and federal governments regulate the release of toxic air contaminants (TACs). The air quality modeling is included in Appendix B, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 REGULATORY FRAMEWORK

Federal, State, and local air districts have passed laws and regulations intended to control and enhance air quality. The regulatory framework that is potentially applicable to the proposed project is summarized below.

Federal and State Regulations

Ambient Air Quality Standards

The federal Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The federal CAA allows states to adopt more stringent standards or to include other pollutants. The California CAA, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 4.2-1. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
Ozone (O_3)[c]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20.0 ppm	35.0 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Particulate Matter (PM_{10})[d]	Annual Arithmetic Mean	20.0 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50.0 µg/m^3	150.0 µg/m^3	
Respirable Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12.0 µg/m^3	12.0 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35.0 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarterly	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[e]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo[f] =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydro-carbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
a. California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
b. National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
c. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
d. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
e. On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual arithmetic mean standards were revoked.
Source: California Air Resources Board, 2015, Ambient Air Quality Standards, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed on April 20, 2017.

(CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

Tanner Air Toxics Act and Air Toxics "Hot Spot" Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may

pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code Section 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Each of the primary and secondary criteria air pollutants and its known health effects is described here.

- Carbon Monoxide is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations

tend to be the highest during winter mornings with little or no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Air Basin. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 miles per hour (mph) for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.[1]

- Reactive Organic Gases are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, BAAQMD has established a significance threshold for this pollutant.
- Nitrogen Oxides are a by-product of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major components of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NOx. NO_2 acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high.[2]
- Sulfur Dioxide is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When SO_2 forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.
- Suspended Particulate Matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e.,

[1] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.
[2] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.

10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch).

Some particulate matter, such as pollen, occurs naturally. In the Air Basin most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The EPA's scientific review concluded that $PM_{2.5}$ penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM_{10} standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the Air Basin. Wood burning in fireplaces and stoves is another large source of fine particulates.[3]

Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. These health effects include premature death; increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individual with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms (SCAQMD 2005). There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs. However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is also classified a carcinogen by CARB.

- **Ozone** is commonly referred to as "smog" and is a gas that is formed when ROGs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O_3 levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics.[4]
- **Lead** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Twenty years ago, mobile sources

[3] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.
[4] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.

were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.[5] Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

Toxic Air Contaminants

At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[6] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

Community Risk

To reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when siting sensitive receptors near existing pollution sources. CARB's recommendations were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity substantially increases exposure and the potential for adverse health effects. Three carcinogenic TACs constitute the majority of the known health risks from motor vehicle traffic—DPM from trucks and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

Regional Regulations East Bay Regional Park District Master Plan (2013)

There are no policies in the District Master Plan that are applicable to air quality at the Concord Hills Regional Park.

[5] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.
[6] California Air Resources Board, 1999, Final Staff Report: Update to the Toxic Air Contaminant List.

East Bay Regional Park District General Conditions

The Park District's General Conditions contains the following rule regarding dust control:

Article 22(b) Dust Control: Dust resulting from the Contractor's performance of the work shall be controlled by the Contractor either by applying water or a dust palliative without additional costs to the District. The District Inspector has the full authority to suspend work wholly or in part should the Contractor fail to perform to the satisfaction of the District Inspector.

Bay Area Air Quality Management District

BAAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the SFBAAB. BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Preparing the air quality management plan.

Air quality conditions in the Air Basin have improved significantly since the BAAQMD was created in 1955. The BAAQMD prepares air quality management plans (AQMPs) to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans for the National O_3 standard and clean air plans for the California O_3 standard. The BAAQMD prepares these AQMPs in coordination with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The most recent adopted comprehensive plan is the Bay Area 2017 Clean Air Plan, Spare the Air, Cool the Climate, which incorporates significant new scientific data, ambient measurements, new meteorological episodes, and new air quality modeling tools.

2017 Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area

BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017. It serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues in providing the framework for SFBAAB to achieve attainment of the California and National AAQS. Similar to the Bay Area 2010 Clean Air Plan, the 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California Clean Air Act. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent by 2020. Furthermore, the 2017 Clean Air Plan lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG

reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:[7]

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multi-pollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
  - Electrify the transportation and building sectors.

BAAQMD Community Air Risk Evaluation Program

The BAAQMD Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light-duty trucks were also identified as significant contributors: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions, and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk–weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29

[7] Bay Area Air Quality Management District, 2017, Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed on May 10, 2018.

percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, cancer risk from TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions.[8]

Modeled cancer risks from TACs in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. The highest modeled risks were found east of San Francisco, near West Oakland, and at the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo
- Western Alameda County along the Interstate 880 corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
- San José
- Eastern side of San Francisco
- Concord
- Vallejo
- Pittsburgh and Antioch

A northeastern portion of the project site is within a CARE-program impacted community.[9]

The major contributor to acute and chronic non-cancer health effects in the SFBBAB is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.[10] Currently CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.[11]

BAAQMD Rules and Regulations

Regulation 7, Odorous Substances

Sources of objectionable odors may occur within Concord. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property."

[8] Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program Retrospective & Path Forward (2004–2013).

[9] Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program Retrospective & Path Forward (2004 – 2013).

[10] Bay Area Air Quality Management District, 2006, Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area.

[11] Bay Area Air Quality Management District, 2010, Air Toxics NSR Program, Health Risk Screening Analysis Guidelines.

Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other BAAQMD Regulations

In addition to the plans and programs described above, BAAQMD administers a number of specific regulations on various sources of pollutant emissions that would apply to individual development projects allowed under the proposed project, including:

- BAAQMD, Regulation 2, Rule 2, New Source Review.
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants.
- BAAQMD Regulation 6, Rule 1, General Requirements.
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment.
- BAAQMD Regulation 8, Rule 3, Architectural Coatings.
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations.
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities.
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing.

Contra Costa County Transportation Authority

The Contra Costa Transportation Authority (CCTA) is the designated congestion management agency for the county. The CCTA's congestion management plan (CMP) includes traffic level-of-service standards for state highways and principal arterials; multi-modal performance measures to evaluate current and future system; a seven-year capital program of projects to maintain or improve the performance of the system or mitigate the regional impacts of land use projects; a program to analyze the impacts of land use decisions; and a travel demand element that promotes transportation alternatives to the single-occupant vehicle.[12]

Pursuant to the EPA's transportation conformity regulations and the Bay Area Conformity State Implementation Plan (also known as the Bay Area Air Quality Conformity Protocol), the CMP is required to be consistent with the MTC planning process, including regional goals, policies, and projects for the regional transportation improvement program (RTIP). The MTC cannot approve any transportation plan, program, or project unless these activities conform to the State Implementation Plan. The CMP legislation also requires each congestion management agency to prepare and maintain a computerized travel demand model, including a land use database. To meet this requirement, CCTA has developed and maintains a countywide model that runs using TransCAD® software. In 2010, CCTA undertook a comprehensive update of its land use database, consistent with the ABAG "Current Regional Plans" (aka Sustainable Communities Strategy Base Case) land use allocation, and in 2014 completed an update of the model with the adopted Plan Bay Area land use forecasts (Projections 2013) for use in the 2016 Countywide Transportation Plan (CTP), the Supplemental Environmental Impact Report for the CTP, and other planning efforts.[13]

[12] County of Contra Costa, 2015, Climate Action Plan, http://www.co.contra-costa.ca.us/DocumentCenter/View/39791, accessed on May 10, 2018.

[13] County of Contra Costa, 2015, Climate Action Plan, http://www.co.contra-costa.ca.us/DocumentCenter/View/39791, accessed on May 10, 2018.

The federal CAA requires that federal transportation plans be prepared for regions in nonattainment of the federal AAQS. CCTA provides county-level input to MTC during preparation of the regional transportation plan (RTP). Plan Bay Area 2040 was adopted on July 26, 2017. Plan Bay Area was prepared by MTC and ABAG. It incorporates the region's sustainable communities strategy (SCS) pursuant to Senate Bill 375.[14]

Metropolitan Transportation Commission and Association of Bay Area Governments

Plan Bay Area 2040 is the Bay Area's RTP/SCS and was adopted jointly by ABAG and MTC on July 26, 2017. It lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area is discussed in greater detail in Chapter 4.7, Greenhouse Gases, of this Draft EIR.

Local Regulations

City of Concord General Plan

The General Plan establishes a vision and priorities for the City of Concord through 2030. Policies found in this document act as a road map for the Development Code, Capital Improvement Program, and subdivision regulations. The Concord Reuse Project Area Plan provides further guidance on the use of the site, including specific policies and standards for its development and conservation. The General Plan includes the following principles and policies relevant to the Concord Hills Regional Park Land Use Plan:

- Principle Safety – 1.1: Integrate Air Quality Goals into Local Planning and Development Review.
  - Policy S-1.1.2: Site projects in locations and/or in a manner that will reduce air pollution exposure of sensitive receptors.
  - Policy S-1.1.3: Require project applicants to implement all feasible control measures to reduce combustion emissions from construction equipment.
  - Policy S-1.1.4: Require developers on a case-by-case basis to comply with the Bay Area Air Quality Management District regulations in effect at the time of project approval, including regulations relating to dust, toxic air contaminants (TACs), odors, and other air pollutants or air quality issues.
  - Policy S-1.1.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD) when addressing air quality issues related to local land use proposals.
  - Policy S-1.1.7: Coordinate with the Bay Area Air Quality Management District (BAAQMD) when addressing air quality issues related to local land use proposals.
  - Policy S-1.1.5: Require new development to comply with all applicable dust control measures promulgated by the BAAQMD for new construction. The BAAQMD includes these in its CEQA Guidelines in the section addressing construction emissions.

[14] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

- Principle Safety – 1.3: Support Regional Air Quality Strategies through Land Use Planning and Site Design.
  - Policy S-1.3.5: Recognize the potential for the Concord Reuse Project to contribute to regional air quality improvements by encouraging transit-oriented development on the site; providing new workplaces, residences, and services in close proximity to one another to minimize trip lengths; and developing viable alternatives to single passenger vehicle travel.
  - Policy S-1.3.6: Promote the planting and maintenance of trees and other landscaping to absorb carbon dioxide and help reduce air pollution levels.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) was adopted by the City in 2012. Book Two of the Area Plan provides background information and policy guidance on key topics in order to position the area for long-term success. Book Three: Climate Action Plan of the Area Plan presents ways in which greenhouse gas emissions associated with development and operation in the Area Plan boundary can be reduced. 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 Concord Reuse Project 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. The Safety, Health, and Noise chapter includes policies to protect future occupants of the Concord Reuse Project area and its surroundings and addresses public health and wellness through policies on air quality. Principles and policies relevant to the proposed project are shown below:

- Principle SHN-4: Integrate regional air quality goals and strategies into land use planning, site design, and development review for the CRP [Concord Reuse Project] area.
  - Policy SHN – 4.1: 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.
  - Policy SHN – 4.2: 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).
  - Policy SHN – 4.3: 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.
  - Policy SHN – 4.4: 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: 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: 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.

4.2.1.2 EXISTING CONDITIONS

San Francisco Bay Area Air Basin

California is divided geographically into air basins for the purpose of managing the air resources of the state on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The state is divided into 15 air basins. As previously stated, Concord is in the SFBAAB. The discussion below identifies the natural factors in the SFBAAB that affect air pollution. Air pollutants of concern are criteria air pollutants and TACs. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality. The regulatory framework that is potentially applicable to the proposed project is also summarized below.

The BAAQMD is the regional air quality agency for the SFBAAB. In addition to the presence of existing air pollution sources and ambient conditions, air quality in the SFBAAB is determined by the following natural factors:[15]

- Meteorology: The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range[16] splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allow air to flow in and out of the Bay Area and the Central Valley.

  The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast.

  The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

[15] Bay Area Air Quality Management District, 2017, Revised. California Environmental Quality Act Air Quality Guidelines.
[16] The Coast Range traverses California's west coast from Humboldt County to Santa Barbara County.

- Wind Patterns: During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

  Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3:00 to 4:00 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

  The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. An inversion is a change in the normal conditions that causes the temperature gradient to be reversed, or inverted. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

  In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing, which occurs when there is a lack of or little wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

- Temperature: Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed: During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

- Precipitation: The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants are dispersed more readily

into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.

- Wind Circulation: Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.
- Inversions: As described above, an inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions[17] are more common in the summer and fall, and radiation inversions[18] are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

SFBAAB Area Designations

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal AAQS through the State Implementation Plan. Areas that meet AAQS are classified attainment areas, and areas that do not meet these standards are classified nonattainment areas. Severity classifications for O_3 range from marginal, moderate, and serious to severe and extreme.

- Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- Attainment: A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- Nonattainment: A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- Nonattainment/Transitional: A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SFBBAB is shown in Table 4.2-2. The SFBBAB is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS.

[17] When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

[18] During the night, the ground cools off, radiating the heat to the sky.

TABLE 4.2-2 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment (marginal)[a]
PM_{10} – 24-hour	Nonattainment	Unclassified/Attainment[b]
$PM_{2.5}$ – 24-hour	Nonattainment	Nonattainment
CO – 8-hour and 1-hour	Attainment	Attainment
NO_2 – 1-hour	Attainment	Unclassified
SO_2 – 24-hour and 1-hour	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

a. Severity classification current as of June 30, 2019 Environmental Protection Agency. 2019, June 30. California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed July 31, 2019.)
b. In December 2014, US EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ National AAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
Source: California Air Resources Board. 2017, October 18. Area Designations Maps: State and National. Accessed July 31, 2019. http://www.arb.ca.gov/desig/adm/adm.htm. Bay Area Air Quality Management District. 2017. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status Accessed July 31, 2019. Accessed July 31, 2019.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of Concord have been documented and measured by the BAAQMD. BAAQMD has 24 permanent monitoring stations located around the Bay Area, and data from the nearest station, Concord – 2975 Treat Boulevard Monitoring Station in Concord, was used. This station monitors O_3, NO_2, $PM_{2.5}$, and $PM_{2.5}$. This station does not monitor CO or SO_2. Data from this station is summarized in Table 4.2-3. The data show occasional violations of the State and federal O_3 standards, a violation of the State PM_{10} standard in 2018, and violations of the federal $PM_{2.5}$ standard in 2017 and 2018. The State and federal NO_2 standards have not been exceeded in the last five years in the vicinity of the project site.

Existing Emissions

The project site includes 2,543 acres of the former naval base, which has remained largely undeveloped. As described in Chapter 3, Project Description, of this Draft EIR, the northern section includes 1,740 acres of mostly open space with some existing structure and a complex road and rail network. The southern section of approximately 890 acres is less developed, with a small network of concrete and magazines along a loop road. These current land uses do not generate long-term air pollutant emissions from mobile sources, energy use, or area sources. Additionally, there are no known odor generators in the project vicinity.

TABLE 4.2-3 AMBIENT AIR QUALITY MONITORING SUMMARY

	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
Pollutant/Standard	**2014**	**2015**	**2016**	**2017**	**2018**
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	1	0	1	0	0
State & Federal 8-hour ≥ 0.070 ppm	2	2	2	0	0
Maximum 1-Hour Conc. (ppm)	0.095	0.088	0.095	0.082	0.077
Maximum 8-Hour Conc. (ppm)	0.080	0.073	0.074	0.070	0.061
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	48.2	33.0	33.6	40.6	38.3
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m^3	0	0	0	0	1
Federal 24-Hour > 150 µg/m^3	0	0	0	0	0
Maximum 24-Hour Conc. (µg/ m^3)	42.5	22.5	18.7	41.2	105.0
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	0	0	0	6	14
Maximum 24-Hour Conc. (µg/m^3)	30.6	31.0	20.7	89.4	180.0

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; * = insufficient data; NA = Not Available
Source: California Air Resources Board, 2019, Air Pollution Data Monitoring Cards (2014, 2015, 2016, 2017, and 2018), https://www.arb.ca.gov/adam/topfour/topfourdisplay.php, accessed on July 31, 2019.

However, two stationary sources, both of which are generators permitted by BAAQMD, are located within 1,000 feet of the project site.[19] One is located to the northeast of the project site along Avila Road. The other is located along Kirker Pass Road. State Route 4 is the only high-volume roadway with over 10,000 vehicles per day in the vicinity of the project site.[20]

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition,

[19] Bay Area Air Quality Management District, 2012, Stationary Source Screening Analysis Tool, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, accessed on April 20, 2018.

[20] Bay Area Air Quality Management District, 2011, *Highway Screening Analysis Tool*, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, accessed on April 20, 2018.

noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population. The nearest sensitive receptors include single-family residences to the north and south. Additional sensitive receptors include Delta View Elementary School to the north and several schools to the south, including Sunrise Elementary School, Riverwood Elementary School, El Dorado Middle School, and Ayers Elementary School. The proposed project will not include heavy construction equipment use within 1,500 feet of sensitive receptors.

4.2.2 THRESHOLDS OF SIGNIFICANCE

4.2.2.1 CEQA APPENDIX G THRESHOLDS

Implementation of the proposed project would have a significant effect on the environment with respect to air quality if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people.

4.2.2.2 BAAQMD THRESHOLDS

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA.

In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of the December 17, 2015, California Supreme Court decision (*California Building Industry Association v BAAQMD*), which clarified that CEQA does not require an evaluation of impacts of the environment on a

project.[21] The supreme court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The supreme court also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA. To account for these updates, BAAQMD published a new version of the Guidelines, dated May 2017, which includes revisions made to address the supreme court's opinion.[22] This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this Draft EIR.

Criteria Air Pollutant Emissions and Precursors

The BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4.2-4. Criteria for both the potential future construction and operational phases of the project are shown.

TABLE 4.2-4 BAAQMD CRITERIA AIR POLLUTANT REGIONAL SIGNIFICANCE THRESHOLDS

	Construction Phase	Operational Phase	
Pollutant	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Source: Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines.

BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the Air Basin and has established thresholds that

[21] On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not rule on the merits of the thresholds of significance, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning contained in the BAAQMD 2017 CEQA Air Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA Guidelines. (California Building Industry Association v. BAAQMD, Case Nos. A135335 and A136212 (Court of Appeal, First District, August 13, 2013))

[22] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on May 10, 2018.

would be protective of these individuals. To achieve the health-based standards established by the EPA, BAAQMD prepares the Clean Air Plan that details regional programs to attain the AAQS. Mass emissions in Table 4.2-4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the Air Basin. The thresholds are based on the trigger levels for the federal New Source Review (NSR) Program. The NSR Program was created to ensure projects are consistent with attainment of health-based federal ambient air quality standards. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. Projects that do not exceed the BAAQMD regional significance thresholds in Table 4.2-4 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 parts per million (ppm) (8-hour average) and 20.0 ppm (1-hour average). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level.

- The future potential development associated with the proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the nearby residential sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The BAAQMD has adopted screening tables for air toxics evaluation during construction.[23] Construction-related TAC and $PM_{2.5}$ impacts should be

[23] Bay Area Air Quality Management District, 2010, Screening Tables for Air Toxics Evaluations during Construction.

addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.[24]

- The proposed project does not involve construction of any facilities that would be a source of operational TACs and $PM_{2.5}$. BAAQMD thresholds related to siting new sources of TACs and $PM_{2.5}$ near existing or planned sensitive receptors are not applicable.

Since neither Contra Costa County nor the City of Concord has a qualified risk reduction plan, a site-specific analysis of TACs and $PM_{2.5}$ impacts on sensitive receptors was conducted. The thresholds identified below are applied to the project's construction and operational phases.

Community Risk and Hazards: Project

Project-level emissions of TACs or $PM_{2.5}$ from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- Noncompliance with a qualified Community Risk Reduction Plan.
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant cumulatively considerable contribution.[25]

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds any of the following:

- Non-compliance with a qualified Community Risk Reduction Plan.
- An excess cancer risk level of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0.
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.[26]

In February 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These

[24] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on May 10, 2018.

[25] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, May, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on May 10, 2018.

[26] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, May, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed May 10, 2018.

updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer-causing chemicals, and age-specific breathing rates.[27]

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance. Under BAAQMD's Rule 1-301. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[28] For a plan-level analysis, BAAQMD requires:

- Identification of potential existing and planned location of odors sources.
- Policies to reduce odors.

4.2.3 IMPACT DISCUSSION

AQ-1 Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

As described in Section 4.2.2, Thresholds of Significance, BAAQMD requires a consistency evaluation of a plan with its current AQMP measures. BAAQMD considers project consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- A comparison that the project vehicle miles traveled (VMT) or vehicle trip increase is less than or equal to the projected population increase.

[27] Office of Environmental Health Hazard Assessment, 2015, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.

[28] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed May 10, 2018.

BAAQMD 2017 Clean Air Plan Goals

The primary goals of the 2017 Clean Air Plan are to attain the State and federal AAQS, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG reduction goal.

Attain Air Quality Standards

BAAQMD's 2017 Bay Area Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG. These demographic projections are incorporated into *Plan Bay Area*. Demographic trends incorporated into *Plan Bay Area* determine VMT in the Bay Area, which BAAQMD uses to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for State and national O_3 and $PM_{2.5}$, and State PM_{10} (State AAQS only).

The anticipated growth from the proposed project is within the population and employment projections identified by ABAG for the City of Concord, as discussed further in Chapter 4.12, Population and Housing, of this Draft EIR. As identified in Impact POP-1, the proposed project would not exceed the anticipated regional population and employment forecasts either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). Because population and employment projections of the proposed project are consistent with regional projections, BAAQMD emissions forecasts consider the additional growth and associated emissions from the proposed project. Consequently, emissions resulting from potential future development associated with the proposed project are included in BAAQMD's projections, and future development accommodated under the proposed project would not hinder BAAQMD's ability to attain the California or National AAQS. Accordingly, impacts would be *less than significant*.

Reduce Population Exposure and Protect Public Health

The proposed project would not site sensitive land uses near sources of TACs. There are two stationary sources within 1,000 feet of the project site, both of which are generators permitted by BAAQMD.[29] One is along Avila Road to the northeast of the project site, and the other is along Kirker Pass Road. Likewise, State Route 4 is the only high-volume roadway with over 10,000 vehicles per day in the vicinity of the project site.[30] Adherence to BAAQMD regulations would ensure that new sources of TACs do not expose populations to significant health risk. Compliance with these regulations by these stationary sources would ensure risks from these sources to on-site visitors of the Concord Hills Regional Park would be minimized. Additionally, CEQA does not require an analysis of the environmental effects of attracting development and people to an area.[31] However, the environmental document must analyze the impacts

[29] Bay Area Air Quality Management District, 2012, Stationary Source Screening Analysis Tool, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, accessed on April 20, 2018.

[30] Bay Area Air Quality Management District, 2011, *Highway Screening Analysis Tool*, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, accessed on April 20, 2018.

[31] *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478))

of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. As described in Impact AQ-3, the proposed project would not generate substantial quantities of TACs and/or exacerbate hazards on-site. Further, visitors at the Concord Hills Regional Park would only be on-site for short-durations while risks associated with TACs are typically considered over a lifetime (30-year exposure duration). Sensitive receptors at parks would not be exposed to long-term health risks from proximity of the major sources of air pollution identified above. Therefore, the proposed project is consistent with this measure in the 2017 Clean Air Plan and impacts would be *less than significant*.

Reduce GHG Emissions and Protect the Climate

The GHG emissions impacts of the proposed project are discussed in Chapter 4.7, Greenhouse Gas Emissions, of this Draft EIR. Future development associated with implementation of the proposed Plan would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of AB 32. In addition, the proposed project is consistent with regional strategies for infill development identified in *Plan Bay Area 2040*. Furthermore, the proposed project would not exceed the forecast year 2023 (estimated opening day) or 2050 (estimated buildout) project-level efficiency metric of 2.4 metric tons of carbon dioxide equivalent per service population (residents plus employees) per year and would be on a trajectory to meet the GHG reduction goal of Executive Order S-03-05. Therefore, the proposed project is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate, and the impact would be *less than significant*.

2017 Clean Air Plan Control Measures

The 2017 Clean Air Plan identifies control measures that are required by BAAQMD to reduce emissions for a wide range of both stationary and mobile sources. These measures are broken down into Stationary Sources, Transportation, Energy and Climate, Buildings, Agriculture, Natural and Working Lands, Waste Management, Water, Super-GHGs, and Further Study. The proposed project's consistency with these measures is evaluated below.

- Stationary Sources (SS) are regulated directly by BAAQMD; therefore, new stationary and area sources within the proposed Regional Park area would be required to comply with BAAQMD's regulations (e.g., boilers, emergency generators, etc. if determined to be necessary). Implementation of the proposed project would not result in any new major stationary source emissions or TACs, which are more commonly associated with industrial manufacturing or warehousing. The park would not hinder the ability of BAAQMD to implement SS control measures.
- Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures. The proposed project would guide the development of new park space, including pedestrian and bicycle facilities to improve connectivity and reduce dependency on motorized vehicles. The proposed project is also proximate to the North Concord/ Martinez BART station, which would also offer visitors alternatives to passenger vehicles and reduce VMT.

- Energy and climate (EN) control measures are intended to reduce energy use as a means of reducing adverse air quality emissions. Under the Concord Reuse Area Plan's Climate Action Plan (CAP), future development activities associated with implementation of the proposed Plan would be required to comply with the CAP's building and site energy efficiency policies, which require new development in the Plan Area to minimize energy loads (E-1.1), utilize passive cooling and heating (E-1.2), and generate energy on-site when applicable (E-1.6).Additionally, the proposed project may include roof-top solar on new facilities, which would help to offset electricity use on-site.
- Buildings (BL) control measures focus on working with local governments to facilitate adoption of best GHG emissions control practices and policies. The 2017 Clean Air Plan includes measures to increase building efficiency. As described above, compliance with the current CAP, as well as Title 24 Parts 6 and 11, would ensure the project would not conflict with these BL control measures.
- Agricultural (AG) practices in the Bay Area account for a small portion, roughly 1.5 percent, of the Bay Area's GHG emissions inventory. AG control measures target larger-scale farming practices that are not proposed under the project. Therefore, implementation of the proposed project would not conflict with these AG control measures.
- Natural and working lands (NW) sector control measures focus on increasing carbon sequestration on rangelands and wetlands. The proposed project would generally create parkland rather than rangeland and wetland uses; nonetheless, the park would plant trees to absorb CO_2, provide shade to reduce urban heat island effects, and increase carbon sequestration, all of which aligns with NW goals. Additionally, the proposed project includes an experimental forest component in the Cistern Pond Special Protection Feature that would increase carbon sequestration on-site.
- Waste management (WA) control measures include strategies to increase waste diversion rates through efforts to reduce, reuse, and recycle. As discussed in Chapter 4.15, Utilities and Service Systems, in Section 4.15.3, Solid Waste, of Chapter 4.15, Utilities and Service Systems, the City has regulations in place to ensure that potential future development under the proposed project would not conflict with the applicable WA control measures.
- Water (WR) control measures are aimed at reducing water use and associated emissions. As discussed in Chapter 4.15, Utilities and Services Systems, ongoing compliance with the City's current water conservation regulations and policies in the General Plan and Climate Action Plan would support water conservation and ensure the proposed project would not conflict with the WR control measures.
- Super-GHGs (SL) include methane, black carbon, and fluorinated gases. Through ongoing implementation of the Concord Reuse Project Area Plan CAP, the project site will continue to reduce local GHG emissions and meet State, regional, and local reduction targets, which would ensure implementation of the proposed project would not conflict with these SL control measures.
- Further Study (FSM) control measures apply to sources regulated directly by BAAQMD. Because BAAQMD is the implementing agency, new and existing stationary and area sources in the project site would be required to comply with these additional further study control measures in the 2017 Clean Air Plan.

The proposed project, through compliance with existing regulations, would not conflict with the 2017 Clean Air Plan and would not hinder BAAQMD from implementing the control measures in the 2017 Clean Air Plan. Accordingly, impacts would be *less than significant*.

Regional Growth Projections for VMT and Population and Employment

Future development activities and land uses associated with implementation of the proposed Plan would result in additional sources of criteria air pollutants. BAAQMD's approach to evaluating impacts from criteria air pollutants generated by a plan's long-term growth is done by comparing population and employment estimates to the VMT estimates. This is because BAAQMD's AQMP plans for growth in the SFBAAB are based on regional population and employment projections identified by ABAG and growth in VMT identified by CCTA. Changes in regional, community-wide emissions within the project site could affect the ability of BAAQMD to achieve the air quality goals in the AQMP. Consequently, air quality impacts for a plan-level analysis are based on consistency with the regional growth projections.

The proposed project would develop a regional park and associated educational and interpretive facilities. These types of developments are not considered a regionally significant project that would affect regional VMT and warrant Intergovernmental Review by MTC pursuant to the CEQA Guidelines Section 15206(b)(2)(D). In addition, the proposed project would not result in an increase in the level of population or housing growth foreseen in City or regional planning efforts, as discussed in Chapter 4.12, Population and Housing. Additionally, the project site has been designated as open park space in previous planning documents, including the City's General Plan and the Reuse Project Area Plan. Therefore, the proposed project would not have the potential to substantially affect housing, employment, and population projections within the region, which is the basis of the Clean Air Plan projections. Furthermore, as described under Impact AQ-2, operation of the proposed Regional Park would not contribute to an existing air quality violation. These thresholds are established to identify projects that have the potential to generate a substantial amount of criteria air pollutants. Because the proposed project would not exceed these thresholds, the proposed project would not be considered by the BAAQMD to be a substantial emitter of criteria air pollutants. In summary, implementation of the proposed project would not conflict with the 2017 Clean Air Plan. Consequently, impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

AQ-2	**Implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.**

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including ROG, NO, $PM_{10,}$ and $PM_{2.5}$. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to BAAQMD's CEQA Guidelines, long-range plans, such as the proposed Plan, present unique challenges for assessing

impacts.[32] Due to the SFBAAB's nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, long-range plans almost always have significant, unavoidable adverse air quality impacts. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMD's significance criteria and contribute to California and National nonattainment designations in the SFBAAB.

Construction Emissions

Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the project site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities on site would vary daily as construction activity levels change. Implementation of the proposed Plan would involve the construction of a continuous bicycle, pedestrian, and non-motorized transportation routes, as well as open space, educational opportunities, and active recreation areas.

BAAQMD's plan-level guidelines do not require an evaluation of construction emissions for plan-level projects. However, because preliminary details regarding future construction activities are known at this time, construction emissions can be evaluated against BAAQMD's screening thresholds for project buildout. Based on BAAQMD's screening criteria, parks of 67 acres or larger have the potential to generate a substantial increase in criteria air pollutant emissions and would need further analysis. Based on the proposed site plan and phasing details, the proposed project would not include heavy construction equipment use within 1,500 feet of sensitive receptors, require more than 10,000 cubic yards of haul, or disturb more than 67 acres in any given year. Due to the nature of the project as a regional park, an intense construction schedule with heavy equipment is not anticipated. The areas anticipated to require the most construction include the Visitor Center, Diablo Center, and Corporation Yard. Each of these land uses would require construction on an area of 4 acres or less at a time, and would likely use equipment such as tractors, graders, and rubber-tired dozers.[33] Each of these construction phases would occur intermittently over the 31 years associated with project buildout. Existing federal, State, and local regulations, and policies and strategies of the proposed project described throughout this section protect local and regional air quality. Continued compliance with these regulations would reduce construction-related impacts. Consequently, construction-related impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

Operational Emissions

In its current state, the existing project site does not generate long-term air pollutant emissions from the burning of fossil fuels in vehicles (mobile sources), energy use for cooling and heating (energy), or landscape equipment use and consumer products (area sources). Implementation of the proposed Plan would result in the development of up to 86 acres of land available for park facilities and passive

[32] Bay Area Air Quality Management District, 2017, May. California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on April 17, 2018.

[33] According to best available information and defaults from CalEEMod 2016.3.2.

recreational use and 2,417 acres of conservation area and open space, with the remaining acreage acting as a buffer between the park facilities and conservation areas. Criteria air pollutant emissions would be generated from on-site area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by park visitors, and energy use in park buildings and facilities (e.g., natural gas used for cooking and heating). The primary source of long-term criteria air pollutant emissions would be project-generated vehicle trips. The proposed project would generate a total of 125 average daily weekday trips on opening day and 1,303 weekend trips at buildout (see Section 3.7 of Chapter 3 for visitor estimates). Table 4.2-5 identifies the criteria air pollutant emissions associated with the proposed project at opening year and buildout.

As shown in Table 4.2-5, the net increase in operational emissions generated by the project would not exceed BAAQMD daily or annual thresholds. Consequently, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, and regional operational-phase air quality impacts would be *less than significant*. Consequently, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, and regional operational-phase air quality impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

AQ-3	**Construction and operation activities associated with the proposed project would not expose sensitive receptors to substantial concentrations of air pollution.**

The proposed project could expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction Community Risk and Hazards

Construction associated with implementation of the proposed Plan would temporarily elevate concentrations of TACs and DPM in the vicinity of sensitive land uses during construction activities. The proposed project involves siting recreational land uses proximate to existing sensitive receptors in the vicinity of the project site. However, based on the proposed site plan and preliminary construction details, the proposed project will not include heavy construction equipment use within 1,500 feet of sensitive receptors, require more than 10,000 cubic yards of haul, or disturb more than 67 acres in any given year. The OEHHA adopted new guidance for the preparation of health risk assessments in March 2015. Emissions from construction equipment primarily consist of DPM, and OEHHA has developed a cancer risk factor and non-cancer chronic reference exposure level for DPM. These factors are based on continuous exposure over a 30-year time frame, and because the proposed Regional Park is anticipated to be developed in three phases over the course of 30 to 40 years, exposure of off-site receptors to DPM would be limited.

TABLE 4.2-5 NET CHANGE IN REGIONAL OPERATION-PHASE CRITERIA AIR POLLUTANT EMISSIONS

	Criteria Air Pollutants (lbs/day)[a]			
Category	ROG	NO_x	PM_{10}	$PM_{2.5}$
Opening Day Operation (2023[b])				
Area	<1	<1	<1	<1
Energy	<1	<1	<1	<1
On-Road Mobile Sources	<1	<1	1	<1
Total	<1	<1	1	<1
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold?	No	No	No	No
Buildout Operation (2050[b])				
Area	2	<1	<1	<1
Energy[c]	<1	<1	<1	<1
On-Road Mobile Sources	<1	1	3	1
Campfires	7	<1	1	1
Total	10	1	5	2
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold?	No	No	No	No
Annual Emissions				
	Criteria Air Pollutants (tons/year)			
Category	ROG	NO_x	PM_{10}	$PM_{2.5}$
Opening Day (2023)	<1	<1	<1	<1
Buildout (2050)	2	<1	1	<1
BAAQMD Annual Threshold	10 tpy	10 tpy	15 tpy	10 tpy
Opening Day Exceeds Threshold?	No	No	No	No
Buildout Exceeds Threshold?	No	No	No	No

a. Average daily emissions are based on the annual operational emissions divided by 365 days.
b. Opening day and buildout operation years are estimates based on the anticipated construction schedule and buildout time frame as given in the proposed Plan.
c. New buildings would be constructed to the 2016 Building Energy Efficiency Standards (effective January 1, 2017).
Source: PlaceWorks, 2018, using CalEEMod 2016.3.2. Emissions may not total to 100 percent due to rounding.

Construction of the proposed project would be intermittent over the project's multi-decade buildout period, and intensive construction schedules and equipment are not anticipated for the majority of the project site. The Visitor Center, Diablo Center, and Corporation Yard would require the most intensive construction, and each of these complexes would develop 4 acres or fewer using equipment such as

graders, rubber-tired dozers, and tractors.[34] For the reasons stated above, it is anticipated that construction emissions would not pose a threat to off-site receptors near the project site. Therefore, a construction health risk assessment has not been prepared. Overall, construction emissions associated with the proposed project would not exceed BAAQMD's project level and cumulative significance thresholds for community risk and hazards, and the impact is *less than significant*.

Significance without Mitigation: *Less than significant.*

Operational Phase On-Site Community Risk and Hazards

Exposure to elevated concentrations of vehicle-generated $PM_{2.5}$ and TACs at sensitive land uses has been identified by CARB, the California Air Pollution Control Officer's Association, and BAAQMD as a potential air quality hazard. The proposed project would not create new major sources of TACs, which are more commonly associated with industrial manufacturing or warehousing. Additionally, the proposed project does not propose non-residential land uses known to generate small quantities of TACs (e.g., emergency generators, dry cleaners, and gasoline dispensing facilities). Therefore, BAAQMD thresholds related to siting new sources of TACs and $PM_{2.5}$ near existing or planned sensitive receptors are not applicable. The project would not expose sensitive receptors to substantial concentrations of air pollutant emissions during operation. Therefore, operation-related health risk impacts associated with the proposed project are considered *less than significant*.

Significance without Mitigation: *Less than significant.*

Operational Phase CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

CCTA's CMP must be consistent with Plan Bay Area, and an overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle VMT and associated GHG emissions reductions. Because the proposed project would provide routes for alternative modes of transportation, the proposed project would be consistent with the overall goals of the Plan Bay Area. Additionally, the proposed project would not conflict with CCTA's CMP because it would not hinder the capital improvements outlined in the CMP or alter regional travel patterns. Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to

[34] According to best available information and defaults from CalEEMod 2016.3.2.

generate a significant CO impact.[35] Based on the traffic analysis conducted as part of this environmental analysis, the proposed project would generate a total of 382 weekend daily trips at opening day, and 1,303 weekend daily trips at buildout (see Chapter 4.14, Transportation and Traffic, for more information). This would not increase traffic volumes at affected intersections by more than BAAQMD screening criteria of 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited. Therefore, the proposed project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

Significance without Mitigation: *Less than significant.*

AQ-4 Implementation of the proposed project would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people

The proposed project would include park trails, roadways, a visitor center, and outdoor educational facilities. Construction and operation of the proposed Regional Park would not generate substantial odors or be subject to odors that would affect a substantial number of people. Examples of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Parks and outdoor educational facilities uses are not associated with foul odors that constitute a public nuisance.

During operation, campsites could generate odors from cooking. Odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Furthermore, nuisance odors are regulated under BAAQMD Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds.[36] In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance.

During construction activities of future developments on the project site, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. The construction activities shall also comply with BAAQMD's odor-related regulations. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Any odors produced during

[35] Bay Area Air Quality Management District, 2017, CEQA Air Quality Guidelines (Revised).

[36] It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.

construction are not expected to be significant or highly objectionable and would be in compliance with BAAQMD Regulation 7. Therefore, impacts would be less than significant.

Significance without Mitigation: *Less than significant.*

4.2.4 CUMULATIVE IMPACTS

AQ-5	Implementation of the proposed project would not cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.

The SFBAAB is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS. Any project that produces a significant project-level regional air quality impact in an area that is in nonattainment adds to the cumulative impact. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMD's significance criteria and contribute to California and National nonattainment designations in the SFBAAB. A project that exceeds the BAAQMD's significance criteria in the context of emissions from all other development projected within the entire SFBAAB would cumulatively contribute to impacts. Thus, per BAAQMD guidelines, the potential for the proposed project to result in cumulative air quality impacts is evaluated on an individual basis irrespective of other projects that may be occurring concurrently in the area (e.g., Concord Reuse Project). The proposed project would not exceed BAAQMD's significance thresholds for criteria air pollutants, conflict with applicable air quality plans, expose sensitive receptors to substantial pollutant concentrations, or generate objectionable odors. Therefore, in combination with past, present, and reasonably foreseeable projects elsewhere within the SFBBAB and with implementation of applicable regulations, the proposed project would result in a *less-than-significant* cumulative impact with respect to air quality.

Significance without Mitigation: *Less than significant.*

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4.3 BIOLOGICAL RESOURCES

This chapter describes the regulatory framework and existing conditions on the project site related to biological resources, and the potential impacts of the project on biological resources.

In response to the Notice of Preparation of this Draft EIR, comment letters were received from the City of Concord and the California Native Plant Society, both expressing concerns about the Plan's potential effects on Biological Resources. The City requests that the proposed Concord Hills Regional Park activities be consistent with the Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) (see "Federal Endangered Species Act" section below). The Society requests that comprehensive biological surveys should identify special-status native plant species, locally rare native plants and sensitive natural communities (see impact discussion BIO-1, below).

4.3.1.1 ENVIRONMENTAL SETTING

4.3.1.2 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

The Clean Water Act (CWA) regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) Section 404 of the 1972 Clean Water Act (Federal Water Pollution Control Act) and Section 10 of the 1899 Rivers and Harbors Act (described below). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to waters of the United States.[1] Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual*.[2] Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. To issue a permit under Section 404, USACE must also obtain a state water quality certification from one of the State's Regional Water Quality Control Boards (RWQCBs) pursuant to Section 401 of the Clean Water Act. The State Water Resources

[1] Code of Federal Regulations, Title 33, Part 328, Section 328.3.

[2] Environmental Laboratory, 1987, Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Control Board (SWRCB) is the State agency that, together with the RWQCB, is charged with implementing water quality certification in California.

A delineation of wetlands and other waters on the project site that are under the jurisdiction of the USACE was completed as part of the Concord Reuse Project Area Plan California Environmental Quality Act (CEQA) review process[3] and verified by the USACE in 2011.[4] Any work within areas defined as waters of the U.S. (i.e., wetlands and other waters) may require a Section 404 fill discharge permit from the USACE and Section 401 Water Quality Certification from the RWQCB.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects listed threatened or endangered species from actions that result in a "take," i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. "Take" can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands or if the project requires a federal action, such as a Clean Water Act Section 404 fill permit from the USACE.

The USFWS has jurisdiction over federally listed threatened and endangered wildlife species under the FESA, while the National Marine Fisheries Service (NMFS) has jurisdiction over federally listed, threatened, and endangered marine and anadromous fish. Provisions under the FESA allow for an authorized "incidental" take of listed species under certain terms and conditions while conducting otherwise lawful actions.

On May 30, 2017, the USFWS issued a Biological Opinion (BO) for the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project, including the East Bay Regional Park District's (District) proposed development of a Regional Park, which is the designated conservation area for the Concord Reuse Project Area Plan. The proposed project will implement all applicable conservation measures specified by the BO, including all construction-related avoidance and minimization measures (see Appendix C). All applicable conservation measures are considered to be implemented as part of the proposed project.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 U.S.C., Section 703, Supp. I, 1989) makes it unlawful to pursue, hunt, take, capture, kill, possess, or sell migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include all native birds and certain game birds

[3] H.T. Harvey & Associates, 2011, Concord Community Reuse Plan Concord, California Preliminary Delineation of Wetlands and Other Waters, September.

[4] U.S. Army Corps of Engineers, 2011, Jurisdictional Delineation for the Concord Community Reuse Plan Site.

(e.g., turkeys and pheasants).[5] This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA protects active nests from destruction, and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA, as described by the Department of the Interior in its April 16, 2003 Migratory Bird Permit Memorandum, is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

All native bird species occurring on the project site are protected by the MBTA.

Federal Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Sec. 668 et seq.) (BGEPA) makes it unlawful to import, export, take, sell, purchase, or barter any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), or their parts, products, nests, or eggs. A "take" under BGEPA has been interpreted to include altering or disturbing nesting habitat. Exceptions may be granted by the USFWS for scientific or exhibition use or for traditional and cultural use by Native Americans. However, no permits may be issued for the import, export, or commercial activities involving bald or golden eagles.

State Regulations

Porter-Cologne Water Quality Control Act

The RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries, pursuant to the Porter-Cologne Water Quality Control Act of the California Water Code. The RWQCB has jurisdiction under Section 401 of the Clean Water Act for activities that could result in a discharge of dredged or fill material to a water body. Federal authority is exercised whenever a proposed project requires a Clean Water Act Section 404 permit from the USACE in the form of a Section 401 Water Quality Certification. State authority is exercised when a proposed project is not subject to federal authority, in the form of a Notice of Coverage, Waiver of Waste Discharge Requirements. Many wetlands fall into RWQCB jurisdiction, including some wetlands and waters that are not subject to USACE jurisdiction. RWQCB jurisdiction of other waters, such as streams and lakes, extends to all areas below the ordinary high water mark.

Under the Porter-Cologne Water Quality Control Act, the SWRCB and the nine RWQCBs also have the responsibility of granting Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

As stated above, any activities within the project site that impact waters of the United States or State will require 401 Certification and/or a Waste Discharge Requirement from the RWQCB. On the project site, drainages and wetlands that are considered waters of the United States are also considered waters of the

[5] U.S. Fish and Wildlife Service, 2013, List of Migratory Bird Species Protected by the Migratory Bird Treaty Act as of December 2, 2013, https://www.fws.gov/migratorybirds/pdf/policies-and-regulations/ListofMBTAProtectedSpecies1312.pdf, accessed on May 10, 2018.

State. However, no wetlands were identified that would likely be considered waters of the State but not waters of the U.S. (e.g., isolated wetlands).

California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over State-listed species and regulates activities that may result in take of individuals listed under the Act. A project applicant is responsible for consulting with the CDFW, if required, to address activities that are likely to affect any CESA-listed threatened or endangered species or destroy or adversely affect habitat essential for such species. Habitat degradation or modification is not expressly included in the definition of "take" under the Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

California Environmental Quality Act

CEQA and the CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or State lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists are of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Thus, their populations should be monitored. These species may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per CEQA Guidelines Section 15380(b), Endangered, Rare, or Threatened Species.

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed a California rare plant ranking (CRPR) system species of concern. Vascular plants included on these lists are defined as follows:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- Rank 2A: Plants presumed extirpated in California, but common elsewhere.
- Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
- Rank 3: Plants about which more information is needed—a review list.
- Rank 4: Plants of limited distribution—a watch list.

These CRPR threat ranks are further described by the following threat code extensions:

- 0.1: seriously threatened in California
- 0.2: moderately threatened in California
- 0.3: not very threatened in California

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, adverse effects on plants appearing in Rank 1 or Rank 2 are, in general, are considered to meet the CEQA criteria to be potentially significant. Impacts on plants listed by the CNPS in Rank 3 or Rank 4 are also considered during CEQA review, although because these species are typically not as rare as those on Rank 1 or Rank 2, impacts are less frequently considered significant.

California Fish and Game Code

The California Fish and Game Code includes regulations governing the use of, or impacts on, many of the state's fish, wildlife, and sensitive habitats. The CDFW exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to Sections 1601 to 1603 of the Fish and Game Code. The Fish and Game Code requires a Notification of Streambed Alteration for any activity that deposits debris, waste, or other material or substantially diverts or obstructs the natural flow of, or substantially alters the bed, channel, or bank of any river, stream, or lake.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example, Fish and Game Code Sections 3503, 2513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (i.e., eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Non-game mammals are protected by Fish and Game Code Section 4150, and other sections of the Code protect other taxa.

Any work within channels with clearly defined beds and banks on the project site will require a Notification of Streambed Alteration and a possible Streambed Alteration Agreement from the CDFW per Section 1602 of the Fish and Game Code if the activities are found to substantially and adversely affect fish and wildlife resources. All native bird species that occur on the project site are protected by the California Fish and Game Code. As necessary, project activities will take measures to avoid impacts on nesting birds pursuant to Fish and Game Code Sections 3503, 3513, and 3800. Native mammals and other species on the project site are also protected by the Fish and Game Code, and measures may be required to avoid and minimize impacts on these species during construction activities.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals addressing biological resources and management. The Natural Resource Management (NRM) section of the Master Plan includes the following policies related to biological resources, and applicable to the proposed project:

- NRM1: The District will maintain, manage, conserve, enhance, and restore park wildlife resources to protect essential plant and animal habitat within viable, sustainable ecosystems.
- NRM1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.
- NRM2: Plant and animal pest species will be controlled by using Integrated Pest Management (IPM) procedures and practices adopted by the Board of Directors. The District will employ IPM practices to minimize the impact of undesirable species on natural resources and to reduce pest-related health and safety risks to the public within developed facilities and/or high-use recreational areas.
- NRM4: The District will continue to integrate the principles of biodiversity and conservation into the management of its resources to maintain stable and functioning biological communities. This philosophy will help sustain healthy and balanced parkland environments for the education, enjoyment and well-being of present and future generations.
- NRM5: The District will maintain and manage vegetation to conserve, enhance and restore natural plant communities, to preserve and protect populations of rare, threatened, endangered and sensitive plant species and their habitats; and where possible, to protect biodiversity and to achieve a high representation of native plants and animals.
- NRM8: The District will conserve, enhance and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using managed conservation grazing in accordance with the District's Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, IPM and/or habitat protection and restoration. Restoration activities may involve the removal of invasive plants and animals, or the reintroduction of native or naturalized species, adapted to or representative of a given site.
- NRM9: The District will conserve and protect native animal species and enhance their habitats to maintain viable wildlife populations within balanced ecosystems. Non-native and feral animals will be managed to minimize conflicts with native wildlife species. The District will cooperate on a regular basis with other public and private land managers, and recognized wildlife management experts to address wildlife management issues on a regional scale.
- NRM12: The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss, or degradation of habitat. The District will participate in the preservation, restoration and management of riparian and wetland areas of regional significance and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage

public access to the Bay/Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.

- NRM12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

The Planning for Regional Parks and Trails section of the Master Plan includes a land use designation which specifically protects natural habitat, "Natural Units":

- PRPT20: Natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails) will be designated as Natural Units. Natural Units will generally comprise the majority of parkland acreage, except in Regional Recreation Areas. Parklands will be designated as Natural Units to maintain open space and significant features in a cohesive areas. A Natural Unit may contain Special Protection Features and Special Management Features.

Local Regulations

City of Concord General Plan

Although not applicable to the District's use and management of its own lands within the project site, the City of Concord's General Plan includes goals, principles, and policies relevant to the environmental factors potentially affected by the proposed project, including the following:

- Goal LU-8: A transformed former Concord Naval Weapons Station (Concord Reuse Project) with land uses and design features that enhances the quality of life for all Concord Residents
- Principle LU-8.1: Achieve a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit.
    - Policy LU-8.1.6: Design built features and the circulation system to respond to the CRP [Concord Reuse Project] site's natural form. Where slopes of 30 percent or greater occur within planned development areas on the CRP site, they should generally be set aside as open space.
- Principle LU-8.2: Provide for a balance between development and open space on the CRP site.
    - Policy LU-8.2.1: Designate the most environmentally sensitive portions of the CRP site, including the Los Medanos Hills and the Mount Diablo Creek corridor, as permanent open space.
    - Policy LU-8.2.2: Incorporate a network of greenways within the CRP site that help define neighborhood edges, connect residents to services and workplaces, and provide access to recreational features and open space.
- Goal POS-2: A protected and accessible open space system
- Principle POS-2.1: Provide an Interconnected Open Space System.
    - Policy POS-2.1.1: Acquire, preserve, and maintain open space for future generations.

- Policy POS-2.1.2: Participate in joint planning and implementation with the State of California Parks and Recreation Department, East Bay Regional Park District (District), and other appropriate agencies to establish connections to Mount Diablo State Park.
- Policy POS-2.1.3: Use the Trails Master Plan and Map to develop connections between open space areas.
- Policy POS-2.1.4: Incorporate portions of the CRP site into the regional open space network, and provide trail and greenway connections between this area and developed Concord neighborhoods.

- Principle POS-2.2: Preserve Natural Resources within Designated Open Space.
  - Policy POS-2.2.3: Strive to preserve open space in northeast Concord in order to maintain the visual profile of the Los Medanos Hills.
- Principle POS-2.3: Expand Open Space Systems as Opportunities are Identified.
  - Policy POS-2.3.1: Increase the regional trail, ridgeline, and hillside open space system in the City's Planning Area through joint efforts with the District, Contra Costa County, the United States Government, and nonprofit trustee agencies.
  - Policy POS-2.3.2: Establish priorities for open space preservation in the City's Planning Area based on an evaluation of natural resources, viewsheds, wildlife habitats, and recreational opportunities.
- Goal POS-3: Well-Planned Natural Resource Conservation
- Principle POS-3.1: Preserve and Protect Water Quality.
  - Policy POS-3.1.1: Enhance and maintain the natural values of creeks and major drainage ways.
  - Policy POS-3.1.2: Preserve and restore native riparian vegetation and wildlife, and establish riparian corridors along all creeks.
- Principle POS-3.2: Preserve and Protect Wetlands.
  - Policy POS-3.2.2: Provide visual, and where practical, physical access to wetland areas in a manner consistent with protection of these fragile ecological systems.
  - Policy POS-3.2.3: For wetlands that are not adjacent to Suisun Bay, follow management and protection measures that are consistent with state and federal requirements.
- Principle POS-3.4: Preserve and Protect Wildlife and Vegetation Resources.
- Policy POS-3.4.1: Conserve wildlife habitat and wildlife corridors, including seasonal migration routes, and require appropriate mitigation in the event such areas are impacted by development.
  - Policy POS-3.4.2: Protect rare, threatened, or endangered species and their habitats through the environmental review process and in accordance with State and Federal Law.
  - Policy POS-3.4.3: Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation.
  - Policy POS-3.4.4: Plant vegetation to increase benefits to wildlife.

- Policy POS-3.4.5: Coordinate with appropriate regulatory and trustee agencies to enhance protection of special status species and sensitive natural communities.
- Policy POS-3.4.6: Avoid construction-related activities during breeding and nesting seasons for special status species.
- Policy POS-3.4.7: Promote habitat restoration in areas of special status species.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes principles and policies relevant to the environmental factors potentially affected by the proposed project, including the following:

- Principle C-5: Preserve and Protect Wildlife and Vegetation Resources in the CRP Area.
  - 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 Mount 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 Mount 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.
- Principle C-7: Preserve and Protect Wetlands in the CRP Area.
  - Policy C-7.1: Wetland Protection – Manage and protect seasonal and perennial wetlands on the site, including freshwater marshes, seeps, springs, and ponds.
  - 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 USACE 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 Mount 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.

- Principle C-8: Protect Special Status Species in the CRP Area.
  - 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 Mount 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.
  - 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.
  - 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.

City of Concord Tree Preservation and Protection Ordinance

The City of Concord Tree Preservation and Protection Ordinance (Chapter 18.310 of the Concord Municipal Code) serves to protect large native trees, trees of historic or cultural significance, groves and stands of mature trees, and mature trees. Protected trees may occur in any zoning district. Protected trees are defined in Chapter 18.310.020 and include (1) any of the following listed native trees with a diameter of 12 inches or more as measured 54 inches above the ground (e.g., diameter at breast height) or a multi-stemmed native tree on the list below where the sum of all stem diameters is 12 inches or more as measured 54 inches above the ground: valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), and California sycamore (*Platanus racemosa*); (2) other trees with a diameter of 24 inches or more as measured 54 inches above the ground or more or a multi-stemmed nonnative tree where the sum of all stem diameters is 24 inches or more as measured 54 inches above the ground; (3) any tree which has been previously designated as a heritage tree by planning commission resolution; (4) a tree required to be planted, relocated, or preserved as a condition of approval of a tree permit or other discretionary permit, and/or as environmental mitigation for a discretionary permit; and (5) a tree with a trunk diameter of 6 inches or more or one component trunk of a multi-stemmed tree with a diameter of 4 inches or more as measured 54 inches above the ground that is located within the structure setback of creeks or streams as defined in Concord Development Code 18.305.040(A) (Structure Setbacks for Unimproved Channels).

A tree removal permit is required for the removal or relocation of any protected tree in all zoning districts when the removal or relocation is associated with a proposal requiring a planning permit pursuant to the Concord Development Code.

A number of trees on the project site may meet the definition of a protected tree. If any work within the project site will result in the removal of a protected tree, the District must obtain a tree removal permit from the City of Concord.

4.3.1.3 EXISTING CONDITIONS

General Project Area Description

Historical agricultural and military uses, including farming, livestock grazing, munitions storage, and associated activities, have extensively altered and influenced biological conditions throughout the approximately 2,543-acre project site. Most of the natural vegetation on the lower hills and flatland of the site was altered by farming practices between the late 1800s through the 1940s. Hay production likely altered or removed much of the native grasslands and natural plant communities in the lowlands. Between 1944, when the Navy purchased the site, and 1975, uncontrolled grazing was allowed year-round. After 1975, as leases became eligible for renewal, five-year leases specifying the maximum number of animal unit months for each allotment were issued.

Since 1944, the predominant military uses of the project site consisted of storing explosives and guns. The Navy also constructed a rail system. Networks of roads, railroads, and utilities link the buildings across the

site. The Bay Area Rapid Transit (BART) rail system also serves the area, passing just north of the project boundary.

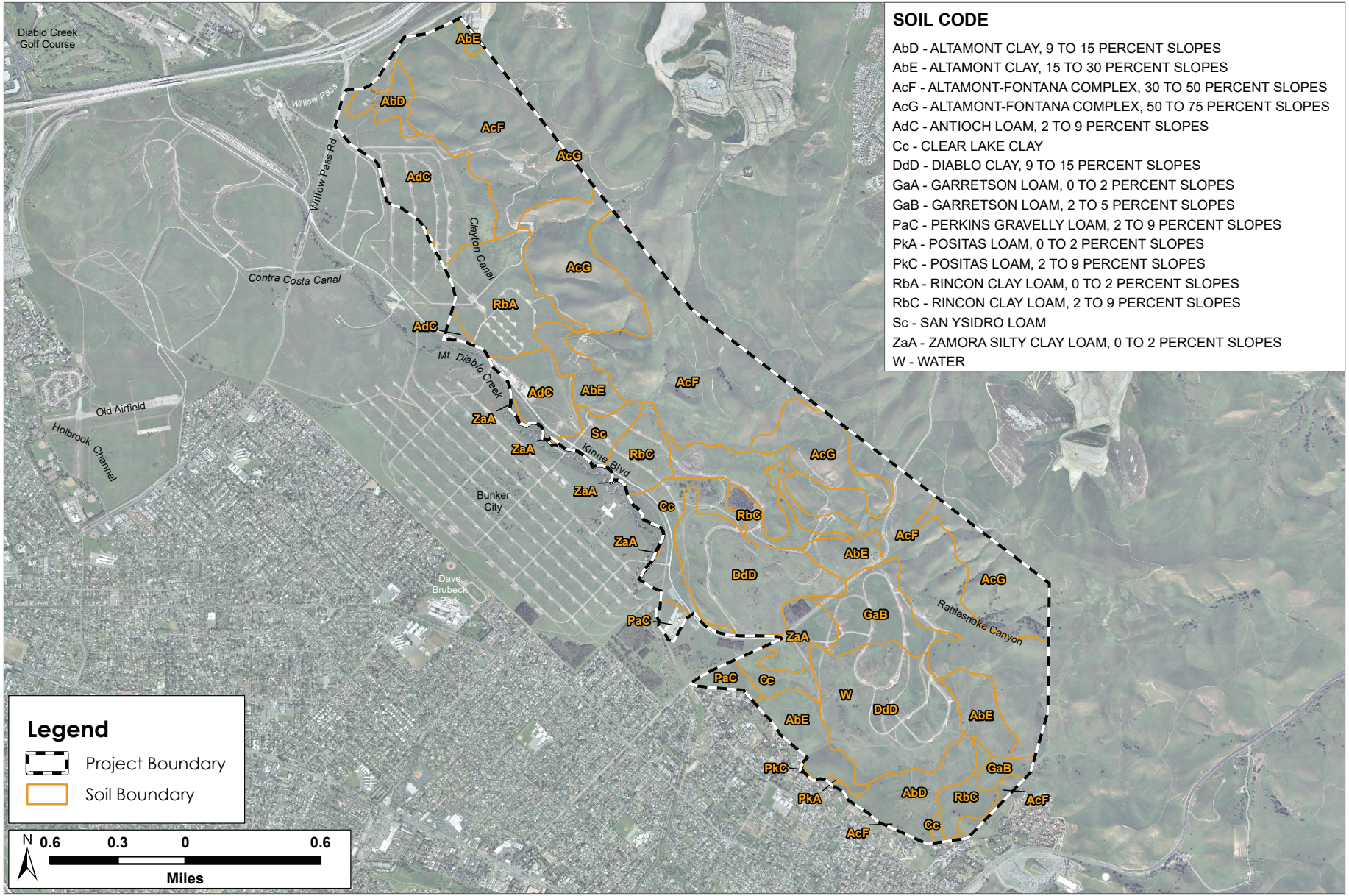
Portions of the site not used for munitions storage/transport areas have been exposed to relatively little direct human activity in recent decades. Nevertheless, the network of roads, rail lines, and munitions magazines developed by the Navy has substantially altered runoff, drainage, and vegetation patterns in the Mount Diablo Creek watershed in which the project site is located. Mount Diablo Creek, located just south of the south-central project boundary, is the major hydrologic feature of the area. Currently, extensive fencing exists along the perimeter of the site, and the site is not accessible to the public.

Site topography consists primarily of gently sloping lowlands, with the steeper Los Medanos Hills along the eastern boundary. Elevations range from approximately 90 to about 1,000 feet above sea level. The Clayton section of the Greenville Fault Zone runs northwest to southeast through the eastern portion of the project site. The 17 soil series found within the project site are listed in Table 4.3-1 and shown on Figure 4.3-1.

TABLE 4.3-1 SOIL TYPES ON THE PROJECT SITE

Soil Series Symbol	Soil Series Name
AbD	Altamont clay, 9 to 15% slopes
AbE	Altamont clay, 15 to 30% slopes
AcF	Altamont-Fontana complex, 30 to 50% slopes
AcG	Altamont-Fontana complex, 50 to 75% slopes
AdC	Antioch loam, 2 to 9% slopes
Cc	Clear Lake clay
DdD	Diablo clay, 9 to 15% slopes
GaA	Garretson loam, 0 to 2% slopes
GaB	Garretson loam, 2 to 5% slopes
PaC	Perkins gravelly loam, 2 to 9% slopes
PkA	Positas loam, 0 to 2% slopes
PkC	Positas loam, 2 to 9% slopes
RbA	Rincon clay loam, 0 to 2% slopes, MLRA 14
RbC	Rincon clay loam, 2 to 9% slopes, MLRA 14
Sc	San Ysidro loam
W	Water
ZzA	Zamora silty clay loam, 0 to 2% slopes

Source: Natural Resource Conservation Service, 2004, Soil Survey Geographic (SSURGO) database for Contra Costa County, California.



Source: H.T. Harvey & Associates, 2018.

Figure 4.3-1
Project Site Soils

The project site experiences a Mediterranean climate—winters are cool and wet, while summers are warm and dry. Mean annual precipitation for the area is 18.38 inches, with most of the rain falling between October and April.[6]

Existing Land Uses, Vegetation Communities, and Habitats

The following discussion describes the land uses, vegetation communities, and habitats present on the project site. Because an animal's habitat (i.e., where it lives and reproduces in the environment) is largely determined by the vegetation present, both vegetation communities and habitats are commonly defined in terms of their dominant plant species (e.g., annual grassland, oak woodland), and this convention will be used in this analysis. Thus, in this document the terms "vegetation community" and "habitat" are used interchangeably; both refer to assemblages of vegetation that are similar in species composition, growth form, and other variables such as soil type or hydrologic conditions.

Nine vegetation communities/land uses were identified on the project site: California annual grassland; coastal sage scrub; developed; oak woodland/savannah; plantations; riparian woodland; freshwater marsh; seasonal wetlands; and drainages, canals, and ponds. The general locations of these habitat types are shown on Figure 4.3-2, and the acreages associated with each vegetation community are provided in Table 4.3-2. The dominant and characteristic plant and animal species for each of these habitats are described below. These descriptions are derived largely from the USFWS's BO for the Transfer and Redevelopment of the Former Concord Naval Weapons Station.[7]

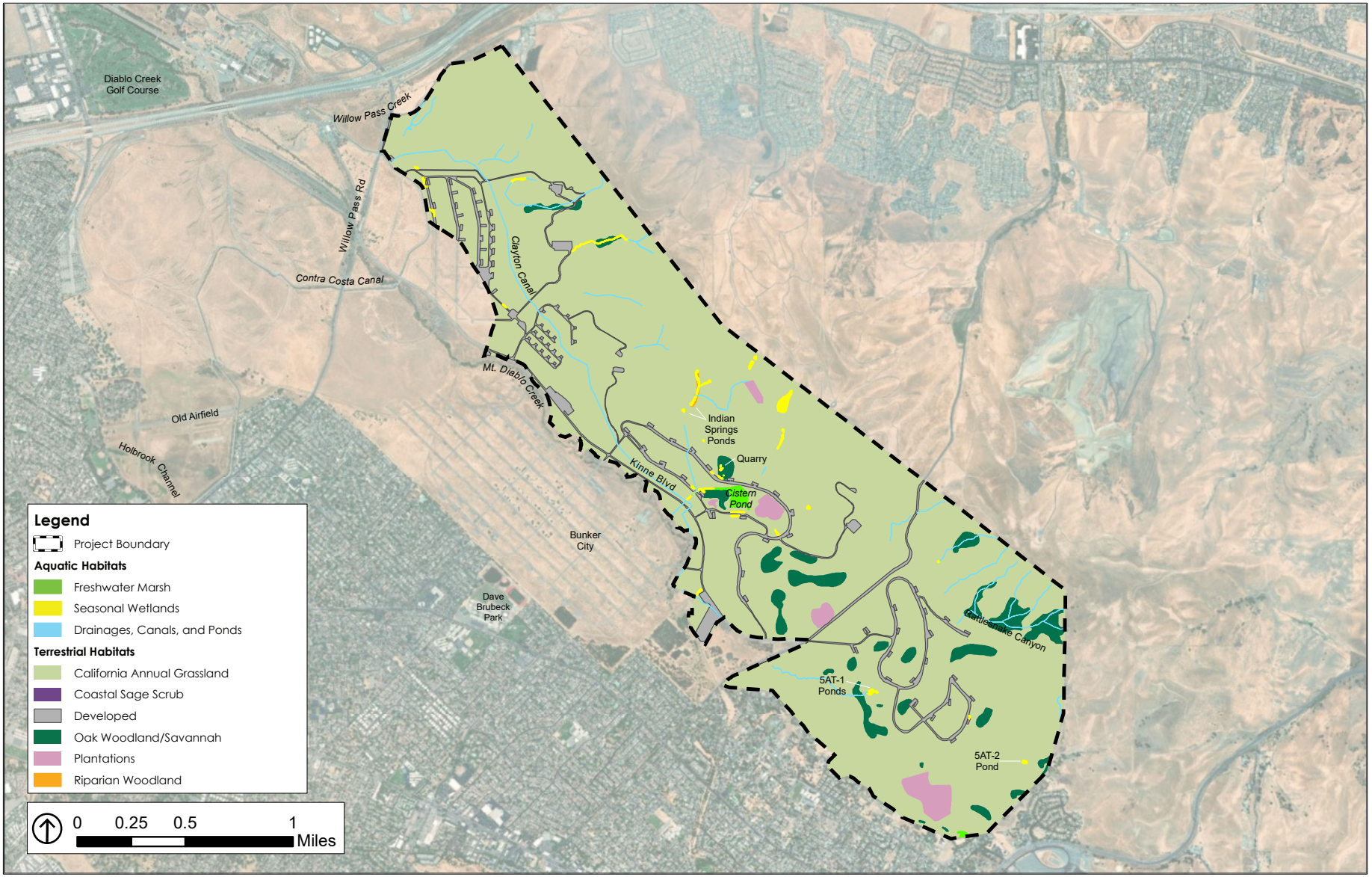
TABLE 4.3-2 LAND USE AND VEGETATION COMMUNITY/HABITAT ACREAGES ON THE PROPOSED REGIONAL PARK

Vegetation Community	Area (Acres)	Percentage of Site
California annual grassland	2,244	89.2
Coyote brush/coastal sage scrub	0.2	<0.1
Developed	120	4.8
Oak woodland/savannah	99	3.9
Orchards and tree plantations	37	1.5
Riparian woodland	1	<0.1
Freshwater marsh	5	0.2
Seasonal wetlands	5	0.2
Drainages, canals, and ponds	5	0.2
Total	**2,516**	**100.00**

Note: Total site acreage of 2,516 does not match proposed project site area of 2,543 acres because the acreages in this table come from the Biological Opinion, which was based on a slightly smaller site area then the current version of the Draft Land Use Plan.
Source: H.T. Harvey & Associates, 2018.

[6] Western Regional Climate Center, 2019, Concord Wastewater Treatment Plant, California (0471967), Period of Record Monthly Climate Summary, Period of Record: 09/01/1991 to 06/09/2016, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1967, accessed on February 12, 2019.

[7] U.S. Fish and Wildlife Service. 2017. Formal Consultation on the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, Contra Costa County, California.



Source: H.T. Harvey & Associates, 2018.

Figure 4.3-2
Project Site Habitat Map

As can be seen by the acreages in Table 4.3-2, the vast majority of the site is characterized as California annual grassland. All sensitive plant communities combined (i.e., oak woodland/savannah; riparian woodland, freshwater marsh; seasonal wetlands; and drainages, canals, and ponds) total less than 5 percent of the acreage of the grasslands. Although of relatively high ecological value, the aquatic habitats on site occur as narrow bands or discrete features among an immense landscape of grassland species.

California Annual Grassland

Vegetation

California annual grassland is the most abundant vegetation community on the project site, occupying 2,244 acres or more than 89 percent of the site. The California annual grassland found here is dominated by non-native annuals, including wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), Italian rye grass (*Festuca perennis*), and yellow star-thistle (*Centaurea solstitialis*). Yellow star-thistle is an extremely invasive species, and over 50 percent of the site exhibits cover levels of at least 25 percent.[8]

This analysis includes all of the grasslands on the site under the single descriptor of "California annual grasslands," while acknowledging that the grasslands are not entirely dominated by annual grasses and forbs but also include perennial grasses and bulbiferous species. While the floristic composition of this plant community appears to be relatively uniform, localized assemblages of certain species within the grassland, such as native grasses or wildflowers, do occur on site as one might expect on such a large site with multiple soil types, aspects, and slopes. Although many different plant species occur within the grassland, including native grasses, they do not routinely form discrete pure stands, but are inevitably scattered throughout the broader annual grasslands at varying densities. As noted by Vollmar Consulting,[9] these plant assemblages include significant percentages of plant taxa other than grasses. Occurrences of many of these native species, such as wildflowers, depend greatly upon the distribution and amount of annual rainfall, and many such plants may not be seen for many years. All of the populations of these native grasses and wildflowers have been observed on the relatively steep slopes of the Los Medanos Hills where the grazing intensity tends to be less and many north-facing slopes provide more mesic environmental conditions that are more favorable to these species. Observations by Vollmar Consulting[10] also indicate that populations of noxious weeds are expanding within the annual grassland community.

Small, remnant stands of native, perennial grasslands were located on site in 2008[11] and in verification field surveys conducted by H. T. Harvey & Associates during the preparation of the Concord Community Reuse Plan FEIR.[12] These native grasses occur in scattered stands of varying sizes within the broader annual grasslands and are primarily dominated by purple needlegrass (*Nassella pulchra*). Associate grass

[8] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[9] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[10] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[11] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[12] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

species include Sandberg bluegrass (*Poa secunda*), California fescue (*Festuca californica*), and California melic (*Melica californica*).

Localized stands of other native species occurring within the California annual grasslands include native wildflowers such as California poppy (*Eschscholzia californica*), purple owl's clover (*Castilleja exserta*), blue-eyed grass (*Sisyrinchium bellum*), and creeping wildrye (*Leymus triticoides*).[13] In several locations, the upland species of this vegetation community intermix or co-occur with many of the wetland plants that dominate the seasonal wetlands described below. Where the upland grasses and forbs dominate, such areas were identified as occurring within the California annual grassland.

It is important to note that there are many locations within the California annual grasslands that are dominated by species adapted to or able to tolerate ground disturbance resulting from mechanical disking or import of soil fill material. The term "ruderal" is used to describe plant species that occur in weedy, disturbed areas that are typically dominated by non-native annual or perennial species. Such areas that have not experienced substantial disturbance (e.g., disking) for a number of years may develop into annual grasslands. Where vegetation is present, ruderal land cover is dominated by a mixture of non-native annual grasses and weedy broadleaf species, such as black mustard (*Brassica nigra*), thistle (*Cirsium* spp.), and wild radish (*Raphanus sativa*), that tend to colonize quickly after disturbance. The rock quarry on the project site is an example of a highly disturbed area with complex topography and vegetation. This area is characterized by steep slopes with loose, broken rock and numerous large boulders. Vegetation in this area consists mainly of grasses, fennel (*Foeniculum vulgare*), and woody plants such as coyote brush (*Baccharis pilularis*), valley oak, and *Prunus* spp.;[14] however, several native herbaceous species, including California figwort (*Scrophularia californica*), blue dicks (*Dichelostemma capitatum*), and California poppy, are found along the east side of the quarry.

Wildlife

In general, annual grasslands support relatively low wildlife diversity due to the structural simplicity of this habitat type. However, because the project site provides broad expanses of grasslands, and because this habitat type occurs within a mosaic of small patches of oak woodland, wetlands, and other habitats providing additional breeding, feeding, perching, and cover resources for wildlife species, the California annual grasslands on the project site provide relatively high-quality habitat for species typical of central California grasslands.

Characteristic wildlife species in annual grasslands on the project site include reptiles such as the western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), and western rattlesnake (*Crotalus viridis*). These species use small mammal burrows, denser patches of vegetation, rock outcrops, or other features within the grassland for cover. Amphibians such as the Sierran chorus frog (*Pseudacris regilla*) and western toad (*Anaxyrus boreas*) are widespread and are often found in moister areas within

[13] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[14] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

the grasslands on the site. California tiger salamanders spend most of their lives in subterranean refugia, typically small mammal burrows, and may disperse more than a mile from aquatic breeding areas; as a result, they are found in grassland throughout most of the project site. Common mammals using these grasslands include the black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), and coyote (*Canis latrans*).

Only a few species of birds—primarily western meadowlarks (*Sturnella neglecta*), but also a few pairs of burrowing owls (*Athene cunicularia*), horned larks (*Eremophila alpestris*), killdeer (*Charadrius vociferus*), and mourning doves (*Zenaida macroura*)—nest on the ground within the site's annual grasslands. A number of other bird species that nest in adjacent habitats or that occur on the site only as non-breeders, forage regularly in grasslands on the site. These include the loggerhead shrike (*Lanius ludovicianus*), savannah sparrow (*Passerculus sandwichensis*), and a variety of raptors, such as the American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), and golden eagle (*Aquila chrysaetos*), pairs of which have nested within a eucalyptus grove located along the north-central boundary of the site.

Coastal Sage Scrub

Vegetation

Coastal sage scrub, a shrub-dominated vegetation community, occupies a limited area on the site (0.2 acres, comprising less than 0.01 percent of the site). This community occurs on a northwest-facing slope within Rattlesnake Canyon in the southeast corner of the project site, forming a near monoculture of shrub species that are very different from the surrounding vegetation types. This community is dominated by California sagebrush *(Artemisia californica)*.

Wildlife

The coastal sage scrub habitat on the project site is not extensive enough to support a distinctive wildlife community. As a result, most of the wildlife species using this habitat are associated more generally with dense scrubby vegetation or are characteristic of the adjacent California annual grassland and oak woodland habitats. Reptiles such as western fence lizards, California whiptails (*Aspidoscelis tigris munda*), and western rattlesnakes occur in this habitat. The only brush mouse (*Peromyscus boylii*) recorded on the project site was trapped in Rattlesnake Canyon,[15] and this species may occur within the sage scrub. Birds such as the California towhee (*Pipilo crissalis*) and spotted towhee (*Pipilo maculatus*) may nest in the coastal sage scrub on the site, and the dense nature of this habitat provides cover for white-crowned sparrows (*Zonotrichia leucophrys*), golden-crowned sparrows (*Z. atricapilla*), and a variety of mammals.

[15] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

Developed

Vegetation

Developed areas of the site including roadways, parking lots, and asphalt aprons surrounding buildings make up 120 acres, or 4.8 percent of the site. Also included are a wide variety of structures, including buildings and magazines. This relatively broad category is collectively used to describe any land surface on site that consists primarily of steel, asphalt, or concrete. Such areas often contain patches of ruderal vegetation as well as landscape trees and shrubs. During construction by the Navy, the tops of the magazines on the site were covered with soil, and a plant community similar in structure and composition to the adjacent grasslands has developed over the years. As such, the top of the magazine structures has been included in the California annual grassland vegetation community.

Wildlife

Developed areas typically support a small suite of relatively common, often urban-associated wildlife species that are tolerant of periodic human disturbance. Non-native species associated with developed areas include the European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*). In addition, a number of native species have adapted to these conditions. Native bird species commonly found in developed habitats on the site include the house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), Anna's hummingbird (*Calypte anna*), and California towhee. Native mammals such as the deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), California ground squirrel, Botta's pocket gopher, and striped skunk (*Mephitis mephitis*) utilize these developed areas heavily as well. Unoccupied magazines and other structures on the site also provide nesting and roosting habitat for some species of bats, such as the Yuma myotis bat (*Myotis yumanensis*), Brazilian free-tailed bat (*Tadarida brasiliensis*), and big brown bat (*Eptesicus fuscus*).

Oak Woodland/Savannah

Vegetation

Both oak woodland and oak savannah occur on the project site, although they occupy only 99 acres, or 3.9 percent of the site. The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP) defines oak woodland as grassland with a tree canopy cover of greater than 10 percent. The majority of oak woodland found at the project site, however, is in the form of small, clustered pockets of trees occurring on more mesic sites within the larger oak savannah/grassland. Therefore, the two community types are herein discussed together. Typical oak species present are coast live oak, blue oak, and valley oak. Scattered buckeye trees are a sub-dominant species of the oak woodlands in some of the deeper and more protected drainages within the Los Medanos Hills. The valley oak, coast live oak, and buckeye trees form closed canopies within the oak woodland communities in some of the ephemeral drainages on site, with forbs such as miner's lettuce (*Claytonia perfoliata* ssp. *perfoliata*), common chickweed (*Stellaria media*), and shepherd's purse (*Capsella bursa-pastoris*) forming the understory. Typical understory species in the oak savannah include the same

suite of non-native annual grasses and forbs that occur in much of the California annual grassland habitat on site.

Wildlife

Due to the provision of food resources, structural diversity, and refugia such as cavities and hollows, oak woodlands support a distinctive and relatively diverse wildlife community. Common reptiles using oak woodlands on the site include the gopher snake and western fence lizard. Mammals such as the deer mouse and gray fox (*Urocyon cinereoargenteus*) often occur in oak woodlands. The native western gray squirrel (*Sciurus griseus*) may occur here as well, though it is outnumbered by non-native eastern gray squirrels (*Sciurus carolinensis*) and fox squirrels (*Sciurus niger*) on the site. Representative birds using oak woodlands on the site include the red-tailed hawk, American kestrel, barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), white-breasted nuthatch (*Sitta carolinensis*), oak titmouse (*Baeolophus inornatus*), western bluebird (*Sialia mexicana*), violet-green swallow (*Tachycineta thalassina*), California quail (*Callipepla californica*), western kingbird (*Tyrannus verticalis*), spotted towhee, Bewick's wren (*Thryomanes bewickii*), and bushtit (*Psaltriparus minimus*). Hollow oaks may provide nest sites for turkey vultures (*Cathartes aura*) and a variety of other birds, as well as dens for mammals. Bats often roost in cavities and crevices in oaks. Although the bat species of the project site have not been well studied, a variety of species may occur here, possibly including the California myotis bat, Yuma myotis bat, big brown bat, pallid bat (*Antrozous pallidus*), and Brazilian free-tailed bat.

Plantations

Vegetation

The older eucalyptus groves on the project site were planted by homesteaders as windbreaks and shade trees during the late 1800s.[16] Later, the University of California Cooperative Extension planted test groves of eucalyptus to evaluate the cost of eucalyptus energy production.[17] The United States Forest Service also maintained several plantations at the site that consisted of test plantings of pine, including Coulter pine (*Pinus coulteri*) and others, and blue gum eucalyptus. Each stand has several hundred trees.

Wildlife

The pine and eucalyptus plantations provide habitat for various bird, mammal, and reptile species. Common reptiles include the gopher snake and western fence lizard. The deer mouse, eastern gray and fox squirrels, and gray fox also use these habitat types. The larger eucalyptus trees provide nest sites for large raptors such as the red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), white-tailed kite, and great horned owl; Bullock's orioles (*Icterus bullockii*), western kingbirds, and other birds nest in these

[16] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[17] Sandiford, R.B. and F.T. Ledig, 1983, Economic Evaluation of Eucalypt Energy Production. Gen. Tech. Rep. PSW-69. Berkeley, California. Pacific Southwest Forest and Range Experiment Station, Forest Service, U.S. Department of Agriculture.

trees as well, and eucalyptus flowers provide insects and nectar for a variety of bird species. Dense foliage within the pine plantations provides ideal roost sites for owls such as the barn owl.

Riparian Woodland

Vegetation

Riparian communities, from an ecological perspective, are generally described as a transition between aquatic habitats and the adjacent upland terrestrial habitats along freshwater drainages. They are identified by distinctive vegetation communities that generally border streams, creeks, and drainage channels. The vegetation becomes established in response to the elevated moisture content of the soils, which is due to the presence of flowing water on a seasonal or perennial basis. On the project site, riparian woodland is very limited in extent (1 acre) and not well developed, occurring only adjacent to upper and lower Indian Springs. Vegetation consists mainly of scattered willows (*Salix* sp.).

Wildlife

Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level wildlife species diversity. The presence of water, at least seasonally, and abundant invertebrate fauna provide foraging opportunities for many species, and the diverse habitat structure provides a variety of cover and nesting opportunities. However, the riparian woodland habitat on the project site is very limited in size and structural diversity, reducing the diversity and abundance of species that this habitat can support. Thus, wildlife species found in this habitat are likely species typically associated with the adjacent grasslands and aquatic habitat.

Freshwater Marsh

Vegetation

Freshwater marsh is present on the project site at the Cistern Pond, perennial stock ponds, portions of the Contra Costa Canal, and a marsh at the southeast border of the property. These areas occupy a very limited portion of the site (approximately 5 acres, or 0.2 percent). What all of these features have in common is perennial, or near perennial, wetland hydrology that supports a predominance of emergent wetland plants.

Although wetland vegetation dominates these areas, there is typically an open water component that tends to be too deep to allow emergent vegetation to become established. The floristic composition of these wetlands is fairly variable, but typical dominant species include California bulrush (*Schoenoplectus californicus*), American bulrush (*Schoenoplectus americanus*), cattails (*Typha* spp.), sedges (*Carex* spp.), and Baltic rush (*Juncus balticus*). Associate wetland plants adapted to the moist soil conditions present around these areas include curly dock (*Rumex crispus*), annual beard grass (*Polypogon monspeliensis*), and bristly ox-tongue (*Helminthotheca echioides*). The perennial stock pond located just east of the Cistern

Pond retains standing water well into the month of August.[18] The dominant species occurring around the perimeter of this pond includes cosmopolitan bulrush (*Bolboschoenus maritimus*).

Wildlife

Freshwater marsh habitat on the project site provides resources used by large numbers of wildlife species. Amphibians such as California red-legged frogs, California tiger salamanders, western toads, and Sierran chorus frogs breed in freshwater marsh such as that present at the Cistern Pond. This pond supports the only high-quality aquatic habitat for the western pond turtle (*Actinemys marmorata*) as well. Freshwater marsh elsewhere on the project site is limited in extent, and habitat quality is lower. Nevertheless, marsh habitat in these areas supports common amphibians such as western toads and Sierran chorus frogs, and common garter snakes (*Thamnophis sirtalis*) may also occur in this habitat throughout the project site.

Due to the limited extent of freshwater marsh habitat on the site, waterbirds associated with more extensive freshwater marshes (e.g., rails) are not expected to breed on the project site. Nevertheless, waterbirds such as the mallard (*Anas platyrhynchos*) and American coot (*Fulica americana*) may breed in this habitat, and the green heron (*Butorides virescens*) and great blue heron (*Ardea herodias*) forage here. Red-winged blackbirds (*Agelaius phoeniceus*), song sparrows (*Melospiza melodia*), and San Francisco common yellowthroats (*Geothlypis trichas sinuosa*) nest in wetland vegetation in and around freshwater marshes on the site, and limited numbers of marsh wrens (*Cistothorus palustris*) breed here as well. Many mammals frequent permanent wetlands for foraging and use them as a source of drinking water.

Seasonal Wetlands

Vegetation

The limited areas of seasonal wetlands, which occupy approximately 5 acres, or 0.2 percent of the project site, are generally supported by incident rainfall and runoff of excess moisture into topographic depressions, especially within the clay soils on the relatively flat grasslands, in low points, or behind man-made impoundments. These areas include native channels, wetlands around the perimeter of seasonal stock ponds, and numerous shallow depressions within the grasslands, including those previously described by others as vernal pools.[19] In contrast with the obligate emergent wetland plants found in the freshwater marsh habitats, the majority of seasonal wetlands on the site support a predominance of marginal wetland grass species[20] such as Italian ryegrass (*Festuca perennis*) and Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), as well as bristly ox-tongue and bird's-foot trefoil (*Lotus corniculatus*).

[18] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[19] After conducting intensive monitoring of surface hydrology and the floristic composition of seasonal depressional wetlands during the 2008-2009 rainy season (a season in which Concord received slightly below average rainfall for the year), H.T. Harvey & Associates concluded that vernal pools of the type that are underlain by soil having a restrictive subhorizon and supporting endemic plant species and/or invertebrate species are entirely absent from the CNWS (City of Concord 2010).

[20] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

Drainage ditches associated with the railroad lines and roadways were excavated by the Navy at various locations within the relatively flat portions of the project site. For the most part, these drainage ditches remain entirely dry even during periods of average rainfall amounts. However, in some locations, topographic low points have formed from differential settlement of the underlying soil, or pools have formed behind sediment that has accumulated in the many years since these features were actively maintained by the Navy. Most of these seasonal wetlands support plants such as curly dock and annual beard grass, along with other annual hydrophytes ("water-loving plants").

Wildlife

During the wet season, seasonal wetlands are used by a variety of wildlife, including various amphibians such as the Sierran chorus frog, western toad, and California tiger salamander as well as shorebirds such as the killdeer, greater yellowlegs (*Tringa melanoleuca*), and Wilson's snipe (*Gallinago delicata*). During the dry season, most of the seasonal wetlands on the site provide wildlife habitat similar to non-native annual grasslands, and even burrowing mammals such as California voles, Botta's pocket gophers, and California ground squirrels may use seasonal wetlands during the dry season.

Drainages, Canals, and Ponds

Vegetation

This section describes linear drainage features, both natural and man-made, and impoundments. The important features that characterize these habitats are the presence of surface water (at least seasonally) and the general absence of vegetation. These features occupy a limited portion of the project site, collectively comprising approximately 5 acres, or 0.2 percent of the site. For the purposes of this discussion, these communities are divided into the following subcategories:

- **Drainages.** Numerous non-vegetated drainages associated with the mid to upper slopes of the Los Medanos Hills drain minimal surface flows from the adjacent foothill grasslands onto the project site during the winter rainfall period. The majority of the drainages are comprised of steep, narrow, swale-like features that extend in a westward direction toward Mount Diablo Creek, which flows in a northwest direction along the south-central boundary of the project site. In locations where the hillslope steepens, the channel incises with clear evidence of channel downcutting, erosion, and sediment transport. Occasional in-channel pools are present but do not pond water long enough to support wetland vegetation. Flows within these drainages are ephemeral in nature, only occurring during and immediately after relatively high rainfall events. The majority of these drainages transition into alluvial fans supporting upland grassland before reaching Mount Diablo Creek. As a result, only a few of the drainages are hydrologically connected to Mount Diablo Creek. The majority of the Los Medanos Hills drainages support only a minimal amount of herbaceous vegetation, including grasses and forbs comprised largely of non-native species.
- **Canals.** Portions of the Contra Costa Canal and the Clayton Canal extend through the project site. The Contra Costa Canal is part of the Bureau of Reclamation's California Central Valley project (CCVP). The canal diverts Sacramento-San Joaquin Delta water and sends the water as far as Martinez. The water is used for both agricultural and municipal purposes. The Contra Costa Canal loops through the northwest section of the site. The north end of the Clayton Canal begins on site from an aqueduct

connected to the east side of the Contra Costa Canal, extending south where it exits the central portion of the site.

- Ponds. The site includes several small ephemeral stock ponds, watering holes, and seepage ponds. The majority of these water features are located in the Los Medanos Hills where natural water sources are scarce. The water levels in the ponds fluctuate seasonally. Levels are highest in the winter because of runoff, and they gradually dry out during the summer. The only identified perennial "natural" pond is the Cistern Pond; the upper Indian Springs pond has been reported to be perennial,[21,22] but it contained no water in March 2009[23] or March 2015. The vegetative components of the Cistern Pond have been described above under freshwater marsh habitat.

Wildlife

The seasonal drainages that flow out of the Los Medanos Hills convey flow ephemerally or intermittently, and thus do not support fish. Although amphibians such as red-legged frogs likely use these features as moist refugia during dispersal and may disperse along these drainages during the wet season, they do not provide high-quality aquatic or wetland habitat aside from the ponds that are scattered among the drainages. Further, red-legged frogs are not expected to breed in the drainages due to their ephemeral nature.

A number of ponds of varying size and hydrology are present on the project site. Few of these ponds are perennial. The Cistern Pond provides water year-round, and as a result provides high-quality habitat for California red-legged frogs and western pond turtles, as well as foraging and nesting habitat for ducks and coots. The upper Indian Springs pond, reported by Downard[24] as perennial, did not contain water during H.T. Harvey & Associates' March 2009 field surveys[25] or during field surveys conducted in March of 2015. Like most of the ponds on the site, this pond provides only seasonal surface water. The seasonal ponds on the site are nevertheless important breeding sites for California tiger salamanders, western toads, and Sierran chorus frogs, which in turn provide food for predators such as herons, egrets, belted kingfishers (*Megaceryle alcyon*), raccoons, and other species. Ducks, herons, and egrets forage within the Clayton Canal and Contra Costa Canal when these features hold water.

[21] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[22] Department of the Navy, 2006, Final Environmental Condition of Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Base Realignment and Closure Program Management Office, San Diego, California.

[23] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

[24] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[25] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are "threatened, rare, or endangered;" such species are typically described as "special-status species." In order to assess the impacts of the Regional Park project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described under "Regulatory Setting" above.

Special-Status Plants

For purposes of this analysis, "special-status" plants are considered vascular or non-vascular plant species and lichens that are:

- Listed under the FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as rare or endangered with CRPR 1A, 1B, 2A, or 2B.
- Listed by the CNPS as CRPR 3 or 4.

Several general plant surveys have failed to detect any special-status plants on the project site.[26,27] Species-specific or multiple-season botanical surveys for special-status plants that may occur at the site were conducted by Vollmar Consulting during the spring and summer of 2008. Several rounds of protocol-level surveys, corresponding to early, peak, and late special-status plant flowering periods, were conducted. The surveys assessed the overall geomorphic plant community characteristics and described sensitive habitats and the occurrence of special-status plants and noxious weeds. All surveys were floristic in nature and were conducted using an "intuitive controlled" approach, whereby the entire site was surveyed, with more focused efforts in those microhabitats with higher potential to support special-status plants.[28]

No occurrences of any plants meeting the definition of special-status plants provided above were documented on the project site. The Vollmar Consulting study[29] concludes that the lack of special-status plants is most likely due to the high level of disturbance the site has experienced and the absence of unique or specialized microhabitats preferred by many such species. Vollmar Consulting[30] raised the possibility that the lack of special-status plants could have been influenced by the unusually dry spring season of 2008. Of the special-status plants with suitable habitat present on the project site, Vollmar

[26] Jones and Stokes Associates, Inc., 1982, A Natural Resource Survey: Naval Weapons Station, Concord, California, page 171.

[27] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[28] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[29] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[30] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

concluded that the growth of three species—big tarplant (*Blepharizonia plumosa*), round-leaved filaree (*California macrophylla*), and Contra Costa goldfields (*Lasthenia conjugens*)—may have been negatively influenced by the relatively dry spring, and it could not conclude absence because of the relatively dry winter. After monitoring the site's hydrology during the winter and spring of 2008–2009 (a season of slightly below-average rainfall), H.T. Harvey & Associates concluded that vernal pool habitats are not present on the site, and as such, suitable habitat for the Contra Costa goldfields does not occur on the project site.[31] Round-leaved filaree has recently been removed from the CNPS list of special-status plants owing to the discovery of large populations, so the only species remaining from Vollmar's survey that has not been adequately surveyed for is big tarplant.

H.T. Harvey & Associates developed a list of 71 special-status plants thought to have some potential for occurrence in the area covered by the Concord Reuse Project Area Plan. The list was compiled using CNPS lists and California Natural Diversity Database (CNDDB) records as well as reports of earlier surveys conducted on the site. Of the 71 different plant species considered for potential occurrence, habitat for many of these species is entirely absent (i.e., specialized habitats such as tidal marsh, or saline-alkali or serpentine soils). Additional field surveys conducted by H.T. Harvey & Associates in the spring of 2009 failed to locate any populations of special-status plants or habitats having unique hydrologic or edaphic characteristics capable of supporting many of the potential special-status species. Additionally, after monitoring the site's hydrology during the winter and spring of 2008 to 2009 (a season of slightly below-average rainfall), H.T. Harvey & Associates concluded that vernal pool habitats are not present on the site, and as such, suitable habitat for the Contra Costa goldfields does not occur on the project site. All but four of the remainder of the special-status plants (41 species) for which suitable habitat was determined to be present, were included in the survey efforts by Vollmar Consulting.[32] Four species for which potentially suitable habitat is present on the project site (i.e., johnny-nip [*Castilleja ambigua* var. *ambigua*], Jepson's coyote thistle [*Eryngium jepsonii*], Toren's grimmia [*Grimmia torenii*], and woodland woolythreads [*Monolopia gracilens*]) were designated as special-status following the completion of the surveys conducted by Vollmar Consulting in 2008,[33] and thus were not included in the special-status species table produced for that report. Nevertheless, all vascular species identified during the 2008 survey were documented, and none of these four species were identified on the site. Similarly, the species were not documented during the botanical survey conducted by Downard.[34]

As a result of the negative findings of prior investigations into the potential occurrence of special-status plants on the site, results of the protocol-level field surveys conducted by Vollmar Consulting,[35] and results of the additional field surveys conducted by H.T. Harvey & Associates in 2009,[36] none of the

[31] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

[32] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area, September.

[33] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area, September.

[34] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[35] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area, September.

[36] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

special-status plants for which suitable habitat was determined to occur on the site are considered present at this time, with the possible exception of the big tarplant. The germination and growth of this species may have been negatively affected by the rainfall amount and distribution experienced on the site during the rainfall year of 2007–2008; thus, conclusive statements regarding its absence cannot be made at this time. A detailed description of this species, including its potential to occur on the project site, is provided below:

- Big Tarplant (*Blepharizonia plumosa*). Federal Listing Status: None; State Listing Status: None; CRPR List: 1B.1. Big tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from July through October. This plant grows on dry, grassy slopes in valley and foothill grassland habitat at elevations between 98 and 1,657 feet.[37] Big tarplant is known from Alameda, Contra Costa, San Joaquin, San Luis Obispo, and Stanislaus Counties. It is extirpated from its historic range in Solano County. Most historic occurrences were probably extirpated by agriculture and non-native plants. Grasslands within the project site provide suitable habitat for this species.

Special-Status Animals

The legal status and potential for occurrence of special-status animal species known to occur or potentially occurring in the general vicinity of the project site are provided in Table 4.3-3 and shown in Figure 4.3-3. For the purposes of this analysis, the general vicinity of the project is defined as the area within a 5-mile radius. Expanded descriptions are provided in Appendix C for those species where potentially suitable breeding habitat occurs on the project site, as well as species for which resource agencies have expressed particular concern and for which expanded discussion is required.

Several special-status animal species were determined to be absent from the project site due to a lack of suitable habitat or to evidence that the species does not occur in the project vicinity. Species considered for occurrence but rejected, as well as the reasons for their rejection, are included in Table 4.3-3. Several special-status species occur on the project site as nonbreeding transients, foragers, or migrants, but they do not breed in or in areas very close to the project site, and suitable nesting/breeding habitat is absent on the project site. These species include the bald eagle, American peregrine falcon, northern harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), long-eared owl (*Asio otus*), Vaux's swift (*Chaetura vauxi*), olive-sided flycatcher (*Contopus cooperi*), yellow warbler (*Setophaga petechia*), grasshopper sparrow (*Ammodramus savannarum*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), tricolored blackbird (*Agelaius tricolor*), and western red bat (*Lasiurus blossevillii*). Because the short-eared owl, long-eared owl, Vaux's swift, olive-sided flycatcher, yellow warbler, and grasshopper sparrow, are only considered a species of special concern when nesting, they are not considered a special-status species when they occur as a nonbreeding visitor to the project site.

[37] California Native Plant Society, 2018, Inventory of Rare and Endangered Plants (online edition). California Native Plant Society. Sacramento, California, http://www.cnps.org/inventory, accessed on May 10, 2018.

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
Federal or State Endangered, Threatened, or Candidate Species			
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Grassy or mud-bottomed swales, earth slump, or basalt-flow depression pools in grasslands.	**Absent.** No known records on the project site or in the general vicinity. Protocol-level dry-season and wet-season surveys conducted in 2007 and 2008 throughout the Concord Naval Weapons Station (CNWS) did not detect the species.[a]
Vernal pool tadpole shrimp *(Lepidurus packardi*)	FE	Grass or mud-bottomed swales in grasslands on old alluvial soils underlain by hardpan.	**Absent.** No known records on the project site or in the general vicinity. Protocol-level dry-season and wet-season surveys conducted in 2007 and 2008 throughout the CNWS did not detect the species.[a]
Longhorn fairy shrimp (*Branchinecta longiantenna*)	FE	Vernal pools with clear to turbid water in grass-bottomed pools and clear-water sandstone depression pools.	**Absent.** No known records on the project site or in the general vicinity. Protocol-level dry-season and wet-season surveys conducted in 2007 and 2008 throughout the CNWS did not detect the species.[a]
Green sturgeon (*Acipenser medirostris*)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Central California Coast coho salmon (*Oncorhynchus kisutch*)	FE, SE	Prefer short lower sections of the larger coastal drainages. Requires adequate stream flows, water temperature, depths, and velocities, and appropriate spawning and rearing gravels and availability of instream cover and food.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Central California Coast steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat (i.e., clean gravels) and conditions allowing migration between spawning and marine habitats.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Central Valley steelhead DPS (*Oncorhynchus mykiss*)	FT	Spawns in cool, moderately fast flowing water with gravel bottom.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Central Valley spring-run Chinook salmon Evolutionarily	FT, ST	Spawn and rear in main-stem Sacramento River and suitable	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
Significant Unit (ESU) (*Oncorhynchus tshawytscha*)		perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Winter-run Chinook salmon, Sacramento River ESU (*Oncorhynchus tshawytscha*)	FE, SE	Cool streams that reach the ocean and that have shallow, partly shaded pools and clear-water sandstone depression pools.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Longfin smelt (*Spirinchus thaleichthys*)	ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay. When not spawning, most abundant where salinity generally ranges from 2 to 20 parts per thousand.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows).
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Estuarine systems in the Sacramento-San Joaquin Delta. Most spawning occurs in tidally influenced backwater sloughs and channel edgewaters.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows).
Tidewater goby (*Eucyclogobius newberryi*)	FE, CSSC	Brackish water habitats along coast, fairly still but not stagnant water, and high oxygen levels.	**Absent.** Aquatic habitats on the project site are entirely freshwater and are thus not suitable for this species.
California tiger salamander (*Ambystoma californiense*)	FT, SE	Vernal or temporary pools in annual grasslands or open woodlands.	**Present.** Tiger salamanders have been recorded breeding at the Cistern Pond, Rock Quarry Pond, 5AT-1 Pond and adjoining marsh, 5AT-2 Pond, Rattlesnake Canyon Pond, lower Indian Springs Pond, north and south Hilltop Ponds, and other pools on the project site (Figure 4.3-3). In addition, based on the results of a habitat assessment conducted by EDAW,[b] the project site includes 1,655 acres of high-quality tiger salamander upland habitat and 700 acres of medium-quality upland habitat.
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Present.** Breeding by California red-legged frogs has been documented on the project site at the Cistern Pond, upper and lower Indian Springs, Rattlesnake Canyon Pond, 5AT-1 Marsh, and 5AT-2 Pond and Lower Marsh (Figure 4.3-3). In addition, approximately 2,396 acres of the project site (i.e., all but the developed portions) provide refugial, aquatic breeding and non-breeding, and/or dispersal habitat for the

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
			red-legged frog. As noted by Downard *et al.*,[c] the hydrology of the Cistern Pond and Indian Springs is linked and individual red-legged frogs likely disperse between these features, as evidenced by observations of red-legged frogs along dirt roads between Cistern Pond and Indian Springs.
Alameda whipsnake (*Masticophis lateralis euryxanthus*)	FT, ST	Inhabits chaparral and scrub habitats, especially those with rock outcrops. May also use adjacent oak woodland, grassland, riparian, and evergreen forest, usually within 500 feet of high-quality scrub.	**May be Present.** A whipsnake reported from the Tidal Area of the CNWS during the 1998-1999 surveys[c] is the only report from the project vicinity. However, this observation was made in an area of extensive wetlands rather than in habitat typically used by Alameda whipsnakes, and there is a reasonable probability that this individual was a misidentified aquatic garter snake (*Thamnophis atratus*).[d] The closest verified records are from Black Diamond Mines Regional Preserve, 4 miles southeast of the site. The nearest high-quality habitat for whipsnakes is 1.5 to 2.0 miles south of the site on the slope of Mount Diablo.[e] A habitat assessment performed by Ecology & Environment and Swaim Biological[d] determined that the lack of extensive scrub, short-grazed nature of the grassland, and distance from potential source populations reduce the quality of habitat on the site for this species. However, potential habitat was determined to be present in the small patches of sage scrub in upper Rattlesnake Canyon and in grassland with rock outcrops in the areas southeast and just northwest of Bailey Road. There is a low probability that this species would disperse into portions of the site farther to the northwest.
Bald eagle (*Haliaeetus leucocephalus*)	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.	**Absent as Breeder.** Although individuals may occasionally forage on the project site (a juvenile bald eagle was observed during spring surveys in 1982,[f] the species is not known or expected to breed, occur regularly, or occur in large numbers on the site. It has not been recorded on the CNWS in any of the 11 years of the Central Contra Costa County Christmas Bird Count for which data were provided (Mount Diablo Audubon Society, unpublished).
American peregrine falcon (*Falco peregrinus anatum*)	SE, SP	Nests on cliffs, and occasionally on buildings or bridges; forages for birds over many habitats.	**Absent as Breeder.** Forages on the project site infrequently and in low numbers during migration and winter. Single individuals have been recorded on the CNWS during five of the 11 years of the Central Contra Costa County Christmas Bird Count for which data were provided (Mount Diablo Audubon Society, unpublished). There is no suitable nesting habitat on the project site and the species is not expected to breed, occur frequently, or occur in large numbers on the site.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Typically, nests in willow and cottonwood- dominated riparian habitat.	**Absent.** The project site is outside the species' known historical and current breeding range. Although the species formerly may have bred north to Redding in the Central Valley, there is no evidence that it historically bred in the project vicinity, as southern

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
			Santa Clara County was the northern limit of the species' historical breeding range west of the Central Valley. Riparian habitat on and immediately adjacent to the site is not suitable for the species due to its narrow extent, fragmented nature, and poorly developed understory (largely due to grazing).[d] Protocol-level surveys conducted on the CNWS in spring and summer 2009 not detect the species, confirming that it is absent from the site.[d,g]
Tricolored blackbird (*Agelaius tricolor*)	ST	Nests near fresh water in dense emergent vegetation, forages in a variety of open habitats.	**Absent as Breeder.** Approximately 100 tricolored blackbirds were observed by H.T. Harvey & Associates in a large flock of mixed blackbird species foraging in grassland on the project site in March 2009.[h] However, the species is not expected to breed on the site due to a lack of suitably extensive emergent marsh habitat.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, ST	Flat or gently sloping grasslands on the margins of the San Joaquin Valley and adjacent valleys.	**Absent.** There are no records from the project site.[i] This species was reported in 1996 and 1997 at Black Diamond Mine Regional Preserve, approximately 3 miles southeast of the site.[i] The 1982 survey of the CNWS did not detect kit fox and concluded that their occurrence is highly improbable based on data available at the time. The kit fox was determined to be absent from the adjacent property at Bailey Road Estates.[j] The ECCC HCP/NCCP noted that a recent survey of Contra Costa County and Alameda County within the known range of the San Joaquin kit fox using detection dogs found no evidence of recent occupancy.[k] Based on the lack of any records of the kit fox from the project site and its vicinity, coupled with the absence of recent records from other areas in adjoining areas of Contra Costa County, this species is determined to be absent from the site.
California Species of Special Concern			
Central Valley fall-run/late fall-run Chinook salmon (*Oncorhynchus tshawytscha*)	CSSC	Spawns in cool portions in the mainstem Sacramento River and some tributaries, as well as some South San Francisco. Bay streams, during the later summer and fall months.	**Absent.** Suitable habitat is absent from the project site. Further, the species is not expected to occur in Mount Diablo Creek along the project's southern border due to barriers to fish migration (such as a utility berm near Clyde that completely blocks lower Mount Diablo Creek downstream of the site, except during very high flows), and the absence of the species during surveys.
Foothill yellow-legged frog *(Rana boylii*)	CSSC, SC	Partially shaded shallow streams and riffles with a rocky substrate and perennial flow.	**Absent.** No records from the project site or vicinity. According to the ECCC HCP/NCCP,[e] all known extant occurrences of this species in the county are around Mount Diablo. This species is most frequently associated with large streams having substantial flow over and around cobbles; such conditions are absent from the site. The reach of Mount Diablo Creek adjacent to the project site does not provide suitable breeding habitat due to the absence of flow for most of the year and absence of cobble substrate. Even if the species is present in the upper part of the Mount Diablo Creek watershed (which has not been demonstrated), it is unlikely to

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
			disperse through the urbanized reaches upstream to be able to reach the project site.
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats, breeds in upland areas.	**Present.** Within the project site, this species has been observed only at the Cistern Pond,[i] and only in small numbers. Small numbers may nest in uplands near the Cistern Pond, and possibly elsewhere on the site.
Silvery legless lizard (*Anniella pulchra pulchra*)	CSSC	Occurs in sandy or loose loamy soils in a variety of habitats	**Absent.** Suitable habitat is absent from the project site due to the absence of loose soils. The nearest known occurrence is approximately 12 miles east of the site,[i] and the closest areas of potential habitat occur more than 10 miles to the east and 4 miles to the southeast of the site according to the ECCC HCP/NCCP.[e]
Coast horned lizard (*Phrynosoma coronatum frontale*)	CSSC	Sandy soils, usually in dry creek channels or coastal dunes.	**May be Present.** A single individual reported by Kuenzi and Morrison (1994[c]) on the Inland Area of the CNWS represents the only record for the CNWS. This species is typically associated with loose, often sandy soils, which are completely absent from the project site. The location of the 1994 report is unknown, but the most likely area of occurrence is in the area southeast of Bailey Road, within the project site.
Western spadefoot (*Spea hammondii*)	CSSC	Breeds in temporary rain pools; spends much of life in burrows or cracks in hard soil.	**Absent.** Project site is not within the species' known range and there are no records from the project site or vicinity, despite intensive surveys of the seasonal pools present on the Inland CNWS. Determined to be absent.
Northern harrier (*Circus cyaneus*)	CSSC	Nests in extensive marshes and wet fields, forages in marshes, grasslands, and ruderal habitats.	**Absent as Breeder.** Individual harriers have been frequently observed on the project site during general natural resource surveys.[f,c] This species forages commonly in grassland on the project site, but it is expected to occur here primarily, or solely, as a nonbreeding forager, as the grasslands on the site do not provide enough protection from mammalian predators to provide high-quality nesting habitat for this species.
Burrowing owl (*Athene cunicularia*)	CSSC	Open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	**Present.** Burrowing owls have been observed in small numbers within grassland on the project site. An individual was observed in the southeastern portion of the project site in 1981–1982.[f] A burrowing owl was detected on the project site in the area southeast of Bailey Road during site visits in 2007[l] but none were seen during general field surveys conducted throughout the site by H.T. Harvey & Associates between November 2008 and June 2009[h] or during sporadic site visits from 2009 to the present. Short grassland with abundant ground squirrel burrows is present throughout much of the project site, providing ostensibly high-quality habitat for burrowing owls. However, the results of surveys of the site have consistently demonstrated this species to be present only in small numbers, and primarily during the nonbreeding season. If it breeds on the site, it does so only in very low numbers.

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
Short-eared owl (*Asio flammeus*)	CSSC (breeding)	Breeds in extensive marshes and moist grasslands, forages over wetlands, grasslands, and ruderal habitats.	**Absent as Breeder.** Short-eared owls have not been documented on the project site,[c] but the extensive grasslands provide suitable foraging habitat. If short-eared owls are present on the site, they are expected to occur only as infrequent nonbreeding foragers, as the grasslands do not provide enough protection from mammalian predators to provide suitable nesting habitat for this species.
Long-eared owl (*Asio otus*)	CSSC (breeding)	Nests in chimneys and in hollow snags in evergreen forests.	**Absent as Breeder.** A single individual recorded in a pine plantation during the Central Contra Costa County Christmas Bird Count in 2003 (Mount Diablo Audubon Society, unpublished) is the only record from the CNWS. This species likely occurs only as a rare and irregular nonbreeding visitor, and it is not expected to nest on the site, to occur regularly, or to occur in large numbers.
Vaux's swift (*Chaetura vauxi*)	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	**Absent as Breeder.** Nonbreeding individuals forage over the project site, primarily during migration. However, suitable breeding habitat is absent, and the species does not breed here.
Olive-sided flycatcher (*Contopus cooperi*)	CSSC (breeding)	Nests in montane forests.	**Absent as Breeder.** Expected to occur on the project site only as an infrequent nonbreeding forager during migration. Not expected to breed, occur regularly, or occur in large numbers on the site, as suitable breeding habitat is not present.
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	**Present.** This species has been observed regularly and fairly commonly in grasslands during biological surveys of the site[n] and suitable breeding and foraging habitat is present.
Yellow warbler (*Setophaga petechia*)	CSSC (nesting)	Nests in riparian woodlands.	**Absent as Breeder.** The riparian habitat on the site is extremely limited and is of low quality for the yellow warbler due to understory degradation (likely resulting from grazing). This species has not been recorded breeding, or even summering, on the project site or the larger Inland CNWS. However, it is a common migrant, particularly in fall, and may occur on the project site during migration.
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in tall, emergent, herbaceous wetlands.	**May be Present.** Small numbers of San Francisco common yellowthroats nest in the project vicinity[c] and the species may nest and forage in freshwater marsh and in emergent vegetation and other wetland vegetation on the project site.
Grasshopper sparrow (*Ammodramus savannarum*)	CSSC (breeding)	Breeds and forages in meadows, fallow fields, and pastures.	**Absent as Breeder.** May occur as a migrant in grasslands on the project site but this species is not known or expected to breed, occur regularly, or occur in large numbers on the project site.
Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)	CSSC	Breeds and forages in meadows, fallow fields, pastures, and salt marshes.	**Absent as Breeder.** Savannah sparrows (of unknown subspecies) forage commonly in grasslands on the project site during the nonbreeding season, but they are not expected to breed here.

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

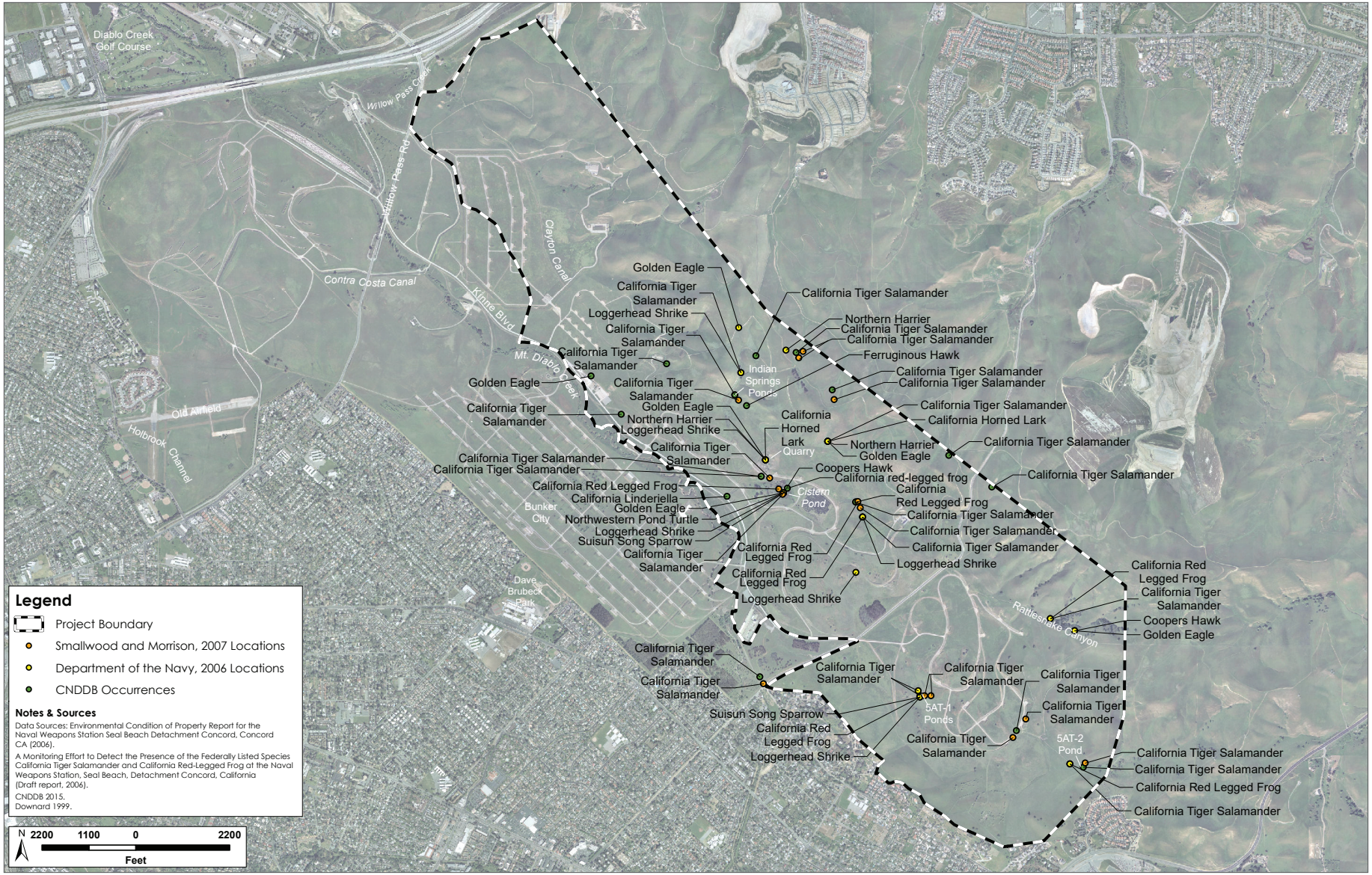
Name	*Status	Habitat	Potential for Occurrence on the Project Site
Suisun song sparrow (*Melospiza melodia maxillaris*)	CSSC	Tidal salt and brackish marsh around Suisun Bay.	**Absent.** Song sparrows breed on the project site in riparian and freshwater marsh habitat, and Suisun song sparrows have been reported on the CNWS. However, due to the habitat associations of *maxillaris* (tidal salt and brackish marsh) vs. *gouldii*, which is the common, widespread subspecies breeding in nontidal and freshwater habitats throughout the San Francisco Bay area, it is likely that all song sparrows occurring on the project site represent *gouldii*. Therefore, *maxillaris* is presumed absent from the project site.
American badger (*Taxidea taxus*)	CSSC	Typically associated with extensive grasslands containing small mammal prey, but will use other open and scrub habitats.	**May be Present.** Although several burrows in upland grasslands were identified that exhibited characteristics of typical badger burrows (e.g., elliptical) during the multi-season University of Arizona study, only a single badger was observed on the CNWS, a dead individual along Kinne Boulevard.[c] Downard et al. also cited a badger recorded by the Public Works Engineering Division (1980). Individuals may occasionally occur in grasslands on the project site. However, based on the infrequency with which it has been recorded and the lack of observations of this species' distinctive dens during field surveys conducted by H.T. Harvey & Associates, this species is expected to occur infrequently and in low numbers.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Builds large stick nests in a variety of habitats, including riparian areas, oak woodlands, and scrub.	**Absent.** None of the intensive biological surveys of the CNWS, including the project site, has recorded the presence of this species, and field surveys by H.T. Harvey & Associates did not detect any nests on the site. Thus, this species was determined to be absent.
Pallid bat (*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**May be Present.** During the multi-season University of Arizona studies,[c] bats were detected acoustically on the project site at a pond at the base of Rattlesnake Canyon, freshwater marsh 5AT, and Indian Springs; however, the species of bat was not determined. Mist netting at Rattlesnake Canyon pond and Indian Springs captured no bats.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	**May be Present.** Although this species has not been recorded on the project site, Downard et al.[c] and Tetra Tech, Inc.[n] concluded that it could occur here. Trees with cavities, and possibly old buildings or magazines, provide potential roost sites, and this species may occur (and could possibly even form maternity roosts) on the site. An old mine in upper Rattlesnake Canyon could possibly provide a roost site as well.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	**Absent as Breeder.** Although this species has not been recorded on the project site,[c] concluded that it could occur here. This species is not known or expected to breed on or near the site, but it could roost on the site in small numbers during migration or in winter.

TABLE 4.3-3 SPECIAL-STATUS ANIMAL SPECIES, THEIR STATUS, AND POTENTIAL OCCURRENCE ON THE PROJECT SITE

Name	*Status	Habitat	Potential for Occurrence on the Project Site
State Fully Protected Species			
Golden eagle (*Aquila chrysaetos*)	SP	Nests in tall trees or on cliffs, forages in grasslands and other open habitats.	**Present.** A pair of golden eagles has nested regularly in a eucalyptus grove located along the north-central boundary of the site.[f,c] This nest site, which has been active for a number of years, has been enclosed with fencing and posted by the Navy with information regarding the provisions of the Bald Eagle and Golden Eagle Protection Act. Additionally, several nesting pairs of golden eagles occur on District lands to the south of the site. Eagles from one or more of these nest sites regularly forage in grasslands on the site.
White-tailed kite (*Elanus leucurus*)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	**Present.** Pine and eucalyptus plantations and oak woodlands on the project site provide suitable nesting habitat and the grasslands and other open habitats provide suitable foraging habitat throughout the site. The species has been recorded on the project site[h] and has been recorded breeding in the immediate vicinity.[c]

Notes:
*Status Codes:
FE = Federally listed Endangered
FT = Federally listed Threatened
SE = State listed Endangered
ST = State listed Threatened
CSSC = California Species of Special Concern
SP = State Fully Protected Species

a. EDAW, 2008, Listed Vernal Pool Branchiopod Wet-Season and Dry-Season Surveys, 90-Day Report. Naval Weapons Station Seal Beach Detachment. Concord, Contra Costa County, California.
b. EDAW, 2008, Final California Tiger Salamander Upland Habitat Study Report. Naval Weapons Station Seal Beach Detachment. Concord, Contra Costa County, California.
c. Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.
d. Ecology & Environment, Inc. and Swaim Biological, 2009, Alameda Whipsnake Habitat Assessment in Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment, Concord, California.
e. Contra Costa County, 2006, Final East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan.
f. Jones and Stokes Associates, Inc., 1982, A Natural Resource Survey: Naval Weapons Station, Concord, California, page 171.
g. Ecology and Environment, Inc. and Foothill Associates, 2009, Least Bell's Vireo Survey Report – In Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Former Naval Weapons Station Seal Beach Detachment. Concord, California. Prepared for NAVFAC Southwest, Environmental Contracts Core – BRAC Code R08B2. Prepared by: Ecology and Environment, Inc., and Foothill Associates.
h. City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.
i. California Natural Diversity Data Base, 2018, Rarefind. California Department of Fish and Game.
j. Mills Associates, 2002, Chapter 4.8 Biological Resources. Bailey Road Estates Project Final Environmental Impact Report.
k. Smith, D.A., K. Ralls, B.L. Cypher, H.O. Clark, Jr., P.A. Kelly, D.F. Williams, and J.E. Maldonado, 2006, Relative abundance of endangered San Joaquin kit foxes (*Vulpes macrotis mutica*) based on scat-detection dog surveys. Southwestern Naturalist 51: pages 210 to 219.
l. CH2M HILL, 2007, Technical Memorandum: Summary of Aquatic Field Reconnaissance. Survey at the CNWS Inland Unit on February 15, 2007.
m. Department of the Navy, 2006, Final Environmental Condition of Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Base Realignment and Closure Program Management Office, San Diego, California.
n. Tetra Tech, Inc., 2002, Integrated Natural Resources Management Plan and Environmental Assessment. Naval Weapons Station Seal Beach, Detachment Concord, California.



Source: H.T. Harvey & Associates, 2018.

Figure 4.3-3
Representative Special-Status Species Occurrences

Thirteen special-status wildlife species are known or expected to occur within the habitats present on the project site and could potentially breed or roost there. These are the California tiger salamander, California red-legged frog, Alameda whipsnake, western pond turtle, coast horned-lizard (*Phrynosoma coronatum frontale*), burrowing owl, golden eagle, white-tailed kite, loggerhead shrike, San Francisco common yellowthroat, American badger (*Taxidea taxus*), pallid bat, and Townsend's big-eared bat (*Corynorhinus townsendii*).

Sensitive and Regulated Plant Communities and Habitats

The CDFW ranks certain rare or threatened plant communities, such as wetlands, meadows, and riparian forest and scrub, as "threatened" or "very threatened." These communities are tracked in the CNDDB. Impacts on CDFW sensitive plant communities, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA. Furthermore, wetland and riparian habitats are also afforded protection under applicable federal, State, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS. Sensitive and regulated plant communities and habitat include the following:

- Natural Communities of Special Concern. Based on a query of Rarefind[38] for sensitive habitats in the *Vine Hill*, *Walnut Creek*, and *Clayton*, *California* USGS 7.5-minute quadrangles in which the project site occurs, no sensitive habitats were identified on the project site.
- Waters of the U.S./State. As discussed under *Regulatory Setting* above, a delineation of wetlands and other waters on the project site that are under the jurisdiction of the USACE was completed as part of the Concord Reuse Project Area Plan CEQA review process[39] and verified by the USACE in 2011.[40] No wetlands were identified that would likely be considered waters of the State but not waters of the U.S. (e.g., isolated wetlands).
- CDFW Stream/Riparian Habitat. The beds and banks of the unnamed drainages on the project site, as well as associated riparian habitat, are potentially subject to regulation by the CDFW per Section 1602 of the Fish and Game Code. Any work within the bed or banks of the unnamed drainages, or within adjacent riparian habitat, would require Notification of Streambed Alteration and, if necessary, a Streambed Alteration Agreement from the CDFW.

4.3.1.4 INVASIVE SPECIES

Since the exploration of California by Europeans began, people have brought non-native plants and animals into the project area, either accidentally (e.g., as stowaways in cargo shipments) or intentionally (e.g., as pets or for food, ornament, or sport), and many of these species have been introduced into the wild. Introduced species that cause harm and, once established, spread quickly are often called "invasive" species. Invasive species can threaten the diversity and abundance of native species through predation,

[38] California Natural Diversity Data Base, 2018, Rarefind. California Department of Fish and Game.

[39] H.T. Harvey & Associates, 2011, Concord Community Reuse Plan Concord, California Preliminary Delineation of Wetlands and Other Waters.

[40] U.S. Army Corps of Engineers, 2011, Jurisdictional Delineation for the Concord Community Reuse Plan Site 8.

competition for resources, transmission of disease, parasitism, and physical or chemical alteration of the habitat.

A floristic survey of the Inland Area of the CNWS by Vollmar Consulting[41] identified 75 non-native plant species listed on the California Invasive Plant Inventory.[42] Many of these species are present on the project site, including medusahead (*Taeniatherum caput-medusae*), peppergrass (*Lepidium latifolium*), yellow-star thistle (*Centaurea solstitialis*), and fennel (*Foeniculum vulgare*), which have been rated as having "high" ecological impact and can invade into additional areas.

Introduced animal species are also present on the project site. A few of the more common introduced/invasive wildlife species present in, or with a high potential to be introduced to, the project site are discussed in more detail below.

The American bullfrog (*Lithobates catesbeianus*) has been accidentally and intentionally introduced (e.g., for food in the 1920s by commercial frog farmers) throughout the world and is now established throughout most of California,[43] including the project site.[44,45] Compared to native frogs, the American bullfrog is larger in size, highly mobile, and have generalized eating habits (their prey includes native amphibians as well as other aquatic and riparian vertebrates).[46]

Non-native species such as red foxes (*Vulpes vulpes*) and Norway rats, which have been documented on the CNWS,[47] are significant predators of native birds. For example, Norway rats have long been known to be effective predators of California Ridgway's rail (*Rallus obsoletus obsoletus*) nests,[48,49,50] and according to Harvey and Foerster et al., predators, especially rats, have accounted for California Ridgway's rail nest losses of 24 to 29 percent in certain South Bay marshes.

[41] Vollmar Consulting, 2008, 2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area.

[42] California Invasive Plant Council (Cal-IPC), 2018, Cal-IPC Inventory Database, http://www.cal-ipc.org/paf/, accessed on March 2018.

[43] California Herps, 2018, *Lithobates catesbeianus* – American bullfrog. http://www.californiaherps.com/frogs/pages/r.catesbeiana.html, accessed on March 25, 2015.

[44] Jones and Stokes Associates, Inc., 1982, A Natural Resource Survey: Naval Weapons Station, Concord, California, page 171.

[45] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[46] Graber, D.M., 1996, Status of terrestrial vertebrates. In Sierra Nevada Ecosystem Project: Final report to Congress. Chapter 25. Davis, California: Centers for Water and Wildland Resources.

[47] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

[48] D.S. DeGroot, 1927, The California clapper rail: It's nesting habitats, enemies, and habitat. Condor. 29: pages 259 to 270.

[49] Harvey, T.E., 1980, A breeding season survey of the California clapper rail (*Rallus longirostris obsoletus*) in South San Francisco Bay, California. Prepared for the U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge.

[50] Foerster, K.S, J.E. Takekawa, and J.D. Albertson, 1990, Breeding density, nesting habitat, and predators of the California Clapper Rail. Fremont, California: Unpubl. Rep. No. Refuge-116400-90-1, San Francisco Bay Wildlife Refuge. Newark, California, page 21 *et seq*.

4.3.2 STANDARDS OF SIGNIFICANCE

Based on CEQA Guidelines Appendix G, the proposed project would result in a significant impact on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
3. Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.3 IMPACT DISCUSSION

BIO-1	**The project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.**

Special-Status Plant Species

Although no special-status plant species have been identified on the project site, there is potential for one species with a California rare plant ranking of Rank 1B (rare, threatened, or endangered in California and elsewhere), big tarplant, to be present on the site. Conservation of CRPR 1B species is important because their populations contribute to preserving the genetic resources for the species and ensuring persistence of rare species in the county and state. Thus, the proposed Plan, which has been prepared consistent with the Long-Term Management Plan (LTMP), includes a management prescription (identified as BIO 25)[51] to monitor and document the presence and relative abundance of special-status species, including big

[51] Concord Hills Regional Park Land Use Plan, 2019, Table 4-1

tarplant, within the project site over time and inform management to aid this species. In addition, the proposed Plan includes management prescriptions BIO 17 through BIO 20 to minimize the spread of existing nonnative invasive plants and prevent the unintentional introduction and spread of invasive plant species that can degrade the value of habitat for native species (see also the discussion under Impact BIO-2).

Nevertheless, construction and operation of proposed Regional Park facilities would impact up to 16.5 acres of California annual grassland, and additional grassland would be impacted during the City's construction of amphibian breeding ponds in the Regional Park (as discussed in Condition 5, on page 27, of the BO); this grassland provides suitable habitat for big tarplant. In addition, if this species is present, future development, operation, and maintenance activities may result in impacts on individuals of this species. Potential direct impacts include loss or degradation of suitable habitat (e.g., as a result of grading or alteration of surface drainage patterns resulting from movement of heavy equipment or soil disturbance); loss of individual plants and populations as a result of mechanical or physical removal of vegetation in the work site; and damage to special-status plants as a result of crushing by equipment, trampling by construction crews or recreationists, and compaction of soil, which could result in damage to plant roots. These activities could result in death, altered growth, or reduced seed set through physically breaking, crushing, wilting, or uprooting plants. Potential indirect impacts include increased mobilization of dust onto plants, which can affect their photosynthesis and respiration. Due to the regional rarity of these special-status species, such impacts would be *significant*.

Significance without Mitigation: *Significant.*

Impact BIO-1.1: Construction and operation of Regional Park facilities would result in direct and indirect impacts to up to 16.5 acres of California annual grassland, which provides suitable habitat for special-status plant species. This would be a significant impact.

Mitigation Measure BIO-1.1a: Pre-Activity Survey. A focused survey for big tarplant will be conducted within suitable habitat in areas of the project site that may experience ground disturbing activities. The surveys will be conducted prior to initial ground disturbance and during the appropriate blooming period (late summer and early fall). The survey area will include all suitable habitat that may be impacted as well as a 50-foot buffer. Surveys are to be conducted in a year with near-average or above-average precipitation. The purpose of the surveys will be to assess the presence or absence of big tarplant. If this species is not found in the survey area, then no further mitigation will be warranted. If big tarplant is found in the impact area, then Mitigation Measures BIO-1.1b and BIO-1.1c will be implemented.

Mitigation Measure BIO-1.1b: Avoidance Buffer. Populations of big tarplant shall be avoided to the extent feasible. Avoided populations shall be protected by establishing and observing a 50-foot buffer between plant populations and the impact area. All such populations located in the impact area, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around special-status plants to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities. If complete avoidance is not feasible, Mitigation Measure 1.1c will be implemented.

Mitigation Measure BIO-1.1c: Implementation of Plan Management Prescriptions BIO 8 through BIO 16. The destruction of populations of big tarplant on the project site shall be mitigated by specifically managing portions of the Regional Park's open grasslands within designated Natural Units for this species. The vast majority of the Los Medanos Hills and areas located southeast of Bailey Road are not proposed for development. These same areas represent the most suitable habitat for big tarplant on the project site. A review of the regional occurrences of this species reported in various databases reveals that off-site populations generally occur on specific soil types (namely Altamont clay, Altamont-Fontana Complex, and Diablo clay). These same soil types underlie much of the Natural Units within the project boundaries. As such, specific habitat management measures (i.e., Plan management prescriptions BIO 8 through BIO 16 identified in Chapter 4 of the proposed Land Use Plan) to enhance the open space for the California red-legged frog, California tiger salamander, and burrowing owl, will also benefit the germination, growth, and long-term viability of populations of the big tarplant, if it is present.

Significance with Mitigation: *Less than significant*.

Special-Status Animal Species

California Red-Legged Frog and California Tiger Salamander

As described in Chapter 3, Project Description, the proposed Regional Park is the designated conservation area for the Concord Project Reuse Area Plan. As such, it provides compensatory mitigation for impacts on three federally- and State-listed species (i.e., the California red-legged frog, California tiger salamander, and Alameda whipsnake) resulting from development of the non-conservation areas of the Concord Reuse Project Area Plan, and it is required to implement all applicable avoidance and minimization measures contained in the BO.

The California red-legged frog, federally listed as threatened and a California species of special concern, occurs on the project site primarily in ponds and freshwater marshes, which provide suitable breeding habitat. Extensive surveys of the project site have documented California red-legged frog breeding at the Cistern Pond, upper and lower Indian Springs, Rattlesnake Canyon Pond, 5AT-1 Marsh, and 5AT-2 Pond and Lower Marsh. However, California red-legged frogs could occur virtually anywhere on the project site, especially during wet-season dispersal. The California tiger salamander, federally and State listed as threatened, is also known to breed in a number of locations on the site, including the upper and lower Cistern Ponds, Rock Quarry Pond, 5AT-1 Pond and adjoining marsh, 5AT-2 Pond, Rattlesnake Canyon Pond, Lower Indian Springs Pond, north and south Hilltop Ponds, and other pools. In addition, California tiger salamanders use upland habitats surrounding their breeding sites for aestivation and for dispersal between breeding sites and aestivation areas. The California red-legged frog and California tiger salamander are assessed together because project-related impacts on these species are expected to be similar.

The majority of California red-legged frog and California tiger salamander breeding habitat on the project site would be located within Natural Units, which would be planned and managed to preserve and enhance natural habitat with only lower intensity recreational uses and facilities (primarily trails) permitted. In addition, approximately 620 acres within the Natural Units, including the majority of known

California red-legged frog and California tiger salamander breeding sites, would be distinguished as Special Protection Features (SPFs) within which public access would be restricted. Further, the proposed Plan includes siting and design guidelines for the protection of biological resources, including the following measures relevant to the California red-legged frog and California tiger salamander:

- All new trails, roads, and all other recreational facilities will maintain a buffer of at least 500 feet from California red-legged frog and California tiger salamander breeding habitat.
- Group picnic sites and camping areas will be sited over 1,000 feet from any California red-legged frog or California tiger salamander breeding habitat.
- Existing roads used for regional park access should maintain a buffer of at least 500 feet from California red-legged frog and California tiger salamander breeding habitat, wherever possible. Where buffers are not feasible, fencing, signage, reduced speed limit, and other management barriers will be used to restrict trail users to the designated trails.

Thus, development of proposed Regional Park facilities would not result in the loss or disturbance of breeding habitat for the California red-legged frog or California tiger salamander.

Proposed construction (including the City's construction of amphibian breeding ponds in the Regional Park, as discussed in Condition 5, on page 27, of the BO) would result in the loss of suitable upland dispersal and aestivation habitat for the California red-legged frog and California tiger salamander. However, as required by the BO and described in the proposed Plan, to offset the loss of a maximum of approximately 16.5 acres of presently undeveloped land (i.e., California annual grassland), including approximately 6.2 acres of disturbance around the proposed visitor center and other park facilities, and approximately 6.1 miles (9.6 acres) of new trail connections and 0.3-mile (0.7-acre) of new roads, the District would remove 10.3 miles of rail lines in biologically sensitive areas as shown on Figure 3-3 of the Plan. Rail ties and associated rock would also be removed along a 5.6-miles portion of these former rail lines, which would be converted to trail. Further, the District would restore up to 5.7 miles of unutilized unpaved roads within SPFs to deter public use of areas closed to recreation. The restored habitat would be managed to benefit listed species, including the California red-legged frog and California tiger salamander.

Regional Park development and maintenance activities in upland areas could also result in injury or mortality of any individual California red-legged frogs or California tiger salamanders within work areas due to vehicle traffic and foot traffic or as a result of predation from domestic animals. In addition, individuals may be crushed in their refugia by the passage of heavy equipment or trapped and suffocated. Petrochemicals, hydraulic fluids, and solvents that were spilled or leaked from construction vehicles or equipment might also kill individuals of this species. However, as required by the BO, the District would implement all relevant construction-related Avoidance and Minimization Measures (AMMs) (see Appendix C) to avoid and minimize impacts on the California red-legged frog and California tiger salamander. These measures include, but are not limited to, implementation of a Storm Water Pollution Prevention Plan (SWPPP), restoration of temporary impact areas, implementation of a Worker Environmental Awareness Program, preparation of a California red-legged frog and California tiger salamander relocation plan, observance of upland and aquatic work windows, observance of a 20-mile-per-hour (mph) speed limit in construction areas, installation of wildlife exclusion fencing around

construction areas, monitoring of exclusion fencing, preconstruction surveys for California red-legged frogs and California tiger salamanders, construction monitoring, and implementation of measures to minimize effects of lighting.

Further, per the proposed Plan, the District will implement a series of management prescriptions (BIO 1 through BIO 25) focused on the management and monitoring of biological resources, including the California red-legged frog and California tiger salamander. These tasks include, but are not limited to: (1) monitoring and managing the Regional Park's potential breeding ponds for the benefit of the California red-legged frog and California tiger salamander; (2) managing, enhancing, and monitoring upland habitat for the benefit of the California red-legged frog and California tiger salamander; (3) maintaining amphibian breeding ponds free from fish and minimizing bullfrog and crayfish numbers; (4) maintaining California red-legged frog and California tiger salamander presence, relative abundance, and distribution within the Regional Park; and (5) recording a restrictive covenant for the preservation of conservation values (including endangered species habitat) within the Regional Park Area.

Thus, with implementation of the proposed Plan's siting and design guidelines and management prescriptions, as well as the AMMs prescribed in the BO, impacts on the California red-legged frog and California tiger salamander and their habitat as a result of proposed Regional Park development, operation, and maintenance activities would not rise to the CEQA standard of having a substantial adverse effect. The impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

Western Pond Turtle

The western pond turtle, a California species of special concern, has been observed in small numbers at the Cistern Pond but has not been documented elsewhere on the project site. Western pond turtles may nest in upland habitats around the Cistern Pond and possibly around other ponds (both temporary and perennial) on the site. In addition, western pond turtles are expected to disperse to some extent between the project site and off-site aquatic habitats, likely traveling along Mount Diablo Creek to the west of the project site, but possibly also along the Contra Costa and Clayton Canals.

The proposed project does not include development of any recreational facilities near the Cistern Pond. Rather the Cistern Pond would be located within an approximately 35-acre SPF (Cistern Pond SPF) to which public access would be restricted. Similarly, no development would occur within other suitable aquatic (i.e., pond or seasonal wetland) habitat on the site. Thus, development of Regional Park facilities would not result in the loss or disturbance of aquatic habitat for the western pond turtle. The implementation of the proposed Plan's management prescriptions for the California red-legged frog and California tiger salamander (i.e., BIO 1 through BIO 25) would also be consistent with the maintenance of suitable aquatic habitat for the western pond turtle by ensuring that ponds within the project area continue to provide appropriate aquatic habitat. Further, implementation of construction-related AMMs for the California red-legged frog and California tiger salamander, per the requirements of the BO, would avoid and minimize potential indirect impacts on western pond turtles and their habitat (e.g., due to water quality effects resulting from unregulated discharge of contaminants or sediment during construction activities and increased nighttime lighting).

Nevertheless, development and maintenance of proposed Regional Park facilities in upland areas may result in the disturbance or loss of nesting habitat. Western pond turtles may lay eggs 0.25-mile or more from aquatic habitats;[52] thus, development or disturbance of upland habitats within 0.5-mile of the Cistern Pond, and possibly in other areas, may affect turtle nesting habitat. However, because of the widespread nature of suitable pond turtle nesting habitat on the project site, the limited acreage of undeveloped habitat that would be lost due to project implementation (i.e., 16.5 acres), the maintenance of the Cistern Pond as an SPF, and the passive nature of recreational activities on the site, impacts on potential nesting habitat for this species would not be substantial.

Implementation of the proposed project may result in the harm or death of individual turtles or their eggs due to crushing by vehicle or foot traffic, as a result of desiccation or burying (e.g., during grading), or as a result of disturbance or predation from domestic animals and humans. These potential impacts pertain not only to development of recreational and interpretive facilities but also to operation and maintenance of such facilities. However, the number of individual turtles that have been observed at the Cistern Pond is very low, and the species has not been documented elsewhere on the project site. As a result, the number of individuals or their nests that could be impacted by the project is likely low. Nevertheless, this species has suffered declines throughout much of its range,[53] and loss of individual turtles would constitute a significant impact. Further, western pond turtles occasionally nest communally. Thus, the loss of a single nesting area could adversely affect a large proportion of a breeding population and possibly result in the loss of an entire cohort of incubating eggs or hatchlings, which would also be a *significant* impact.

Significance without Mitigation: *Significant.*

Impact BIO-1.2: Implementation of the proposed Land Use Plan could result in harm to or loss of western pond turtles or their eggs. This would be a significant impact.

> Mitigation Measure BIO-1.2: Preconstruction Surveys. The East Bay Regional Park District shall require a qualified biologist to conduct surveys for communal/traditional western pond turtle nesting areas prior to initiating any ground-disturbing activities with 0.25-mile of potential western pond turtle aquatic habitat. If a communal/traditional nesting area is detected, the East Bay Regional Park District shall install temporary exclusion fencing around any construction areas within 0.25-mile of the aquatic habitat; have a qualified biologist conduct a preconstruction survey for individual turtles within 0.25-mile of the communal/traditional nesting area, and relocate any turtles detected during the survey or during construction to suitable habitat outside of the active construction areas; and have a qualified biologist conduct a Worker Environmental Awareness Program that includes discussion of the western pond turtle.
>
> Significance with Mitigation: *Less than significant.*

[52] Jennings, M.R., and M.P. Hayes, 1994, Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

[53] Jennings, M.R., and M.P. Hayes, 1994, Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Alameda Whipsnake and California Horned Lizard

The Alameda whipsnake, federally and State listed as threatened, has not been recorded on the project site, but the small patches of sage scrub in upper Rattlesnake Canyon and grassland with rock outcrops in the areas southeast and just northwest of Bailey Road were determined to provide potential habitat. The coast horned lizard, a California species of special concern, is typically associated with loose, often sandy soils which are completely absent from the project site, and the species has been recorded only once on the project site. The precise location of this record is unknown, but the most likely area of occurrence is in the area southeast of Bailey Road. The Alameda whipsnake and coast horned lizard are assessed together because project-related impacts on these species are expected to be similar.

Regional Park development activities that would occur within suitable habitat for the Alameda whipsnake and coast horned lizard would be so limited in extent, especially in the area southeast of Bailey Road where scrub or rock outcrops provide the highest potential to support these species, that impacts on suitable habitat for these species would be very limited. In addition, approximately 400 acres of habitat southeast of Bailey Road within Rattlesnake Canyon would be included within an SPF (Rattlesnake Canyon SPF), within which public access would be restricted and no development would occur. Further, the implementation of the proposed Plan management prescriptions for the California red-legged frog and California tiger salamander (i.e., BIO 1 through BIO 25) would be consistent with the maintenance of suitable habitat for the Alameda whipsnake by maintaining suitable upland habitat conditions for all of these species. Thus, the project is not expected to result in a substantial impact on habitat for the Alameda whipsnake or coast horned lizard.

If either species is present on the project site, there is at least a potential for individuals to be injured or killed during Regional Park development, operation, and maintenance activities due to vehicle traffic, foot traffic, or disturbance by domestic animals. Based on the lack of confirmed records of the Alameda whipsnake and the presence of only a single record of the horned lizard, both species are expected to occur on the site only in very low numbers, if they are present at all. Nevertheless, if these species are present, loss of individuals would be potentially significant.

The District would implement the relevant construction-related AMMs included in the BO (see Appendix C) to avoid and minimize impacts on individual Alameda whipsnakes. These measures include, but are not limited to, implementation of a Worker Environmental Awareness Program, preparation of an Alameda whipsnake relocation plan, preconstruction surveys for Alameda whipsnakes, and construction monitoring. Implementation of proposed Plan siting and design guidelines and creation of the Rattlesnake Canyon SPF would also avoid and minimize the potential for proposed project operations and maintenance activities to result in impacts on individual Alameda whipsnakes and coast horned lizards by restricting public access to areas of habitat most likely to support these species. Further, the District would install informational signage near larger rock outcroppings to educate visitors regarding potential Alameda whipsnake habitat.

Thus, with implementation of the proposed Plan's siting and design guidelines and management prescriptions, as well as the AMMs prescribed in the BO, impacts on the Alameda whipsnake, coast horned lizard, and their habitat as a result of project construction, operation, and maintenance activities

would not rise to the CEQA standard of having a substantial adverse effect. The impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

Golden Eagle

The golden eagle, a fully protected species, is known to occur on the project site, and a pair has nested regularly in a eucalyptus grove located along the site's north-central boundary).[54,55] Additionally, several nesting pairs of golden eagles occur on District lands to the south of the project site. The pair of eagles nesting on the project site, and possibly those nesting nearby, also forage in grasslands on the site.

Regional Park development would result in the loss of approximately 16.5 acres of habitat (i.e., California annual grassland) that are currently used by foraging golden eagles. The City's construction of amphibian breeding ponds in the Regional Park (as discussed in Condition 5, on page 27, of the BO) would result in additional impacts, mostly temporary, to grassland. Because of the abundance of such habitats in the region, and because the project would implement a grazing management approach that would benefit species, including golden eagles, which rely on California ground squirrels as prey, impacts on foraging habitat are not considered substantial. Further, the proposed project would not impact the known eagle nest tree. This tree would be included within an approximately 185-acre SPF (Hilltop Ponds SPF), within which public access would be restricted and no development or other construction activities would occur. All proposed trails would be located at least 0.3 mile from the eagles' nesting area, and other recreational features (such as overlooks and picnic areas) would be located 0.4 mile or more from the nesting areas. Although some of these passive recreation facilities would be within the viewshed of the nesting area, nesting eagles are not expected to be disturbed by passive recreation due to the distance between these facilities and the nesting area, coupled with the eagles' habituation to existing cattle ranching and remediation activities that currently occur in the same areas. However, if new construction activities occur within 0.5 mile of an active eagle nest during the breeding season, it is possible that the eagles could be disturbed. In addition, if the eagles move to a nest site closer to proposed recreational facilities (i.e., if eagles move prior to the construction of a proposed facility), then it is possible that construction and/or use of that facility could disturb nesting eagles. Therefore, there is some potential for the project to disturb the nesting eagles to the point of abandonment of the nest, and possibly eggs and chicks, or to result in reduced reproductive success due to construction or recreation-related disturbance. Due to the relatively low size of regional golden eagle populations, the loss or disturbance of an active nest would be considered *significant*.

Significance without Mitigation: *Significant.*

[54] Jones and Stokes Associates, Inc., 1982, A Natural Resource Survey: Naval Weapons Station, Concord, California, page 171.

[55] Downard, G.T., P. Guertin, and M. Morrison, 1999, Characterization of wildlife and plant communities for Naval Weapons Station Seal Beach, Detachment Concord, July 1998 to September 1999 Results. University of Arizona, Advanced Resources Technology Group.

Impact BIO-1.3: Regional Park development and recreation could result in the disturbance of an active golden eagle nest. This would be a significant impact.

Mitigation Measure BIO-1.3a: Pre-Activity Survey. Within 15 days prior to the initiation of ground-disturbing activities during the breeding season (February 1 to August 31), a qualified biologist shall conduct a preconstruction survey for nesting golden eagles within 0.5-mile of the limits of work areas, including access and staging areas.

Mitigation Measure BIO-1.3b: Nest Buffers. If nesting eagles are present, a buffer free from new construction disturbance shall be established within a 0.5-mile radius of the nest. No new project-related construction activities (i.e., activities that were not already ongoing when the nest was established, or that are of a substantially greater intensity than when the nest was established) shall be undertaken within the buffer. In some cases (e.g., if the activity is not visible from the nest site), it is possible that a lesser buffer would be adequate to avoid disturbance of the nesting eagles, but such a variance would be set by a qualified biologist in consultation with the CDFW and USFWS. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW and USFWS shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW and USFWS) for as long as the nest is active and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities.

Any required buffer shall remain in place until young are no longer dependent on the nest, or until the nesting attempt fails (for reasons other than project activities) and it is determined that the birds will not attempt to re-nest. A qualified biologist shall determine through direct observation when the nest is no longer in use (e.g., if the young have fledged or the nesting fails for non-project-related reasons). Constant monitoring of the nest is not necessary, but before construction activities occur within the buffer area, the biologist must confirm that the nest is no longer active.

Mitigation Measure BIO-1.3c: Recreational Facilities Siting and Design. If, prior to the establishment of trails or other recreational features on the project site, the eagles move to a new nest tree and breed successfully there, no new trails or other recreational features that can be seen by eagles on the nest will be established within 0.25-mile of the nest tree unless the new trail and all existing trails and other recreational features within this distance are closed during the breeding season when the nest is active. However, any ongoing activities that were part of the existing environmental background at the time of nest establishment can continue, since by establishing a nest in a given area the eagles would be demonstrating tolerance of ongoing conditions in the area.

Significance with Mitigation: *Less than significant.*

Western Burrowing Owl

Short grassland with abundant ground squirrel burrows is present throughout much of the project site, providing apparently high-quality habitat for the burrowing owl, a California species of special concern. Still, burrowing owls have only been observed in small numbers on the project site, and they have primarily been observed during the nonbreeding season. Thus, if the species breeds on the site, it does so only in very low numbers.

The proposed project would impact up to 16.5 acres of grassland that provides potential burrowing owl habitat. However, the results of surveys of the site have consistently demonstrated this species to be present only in small numbers, and primarily during the nonbreeding season. The low number of burrowing owls using the site, relative to the abundance of high-quality habitat, suggests that habitat availability is not limiting on-site numbers of this species. Thus, the loss of 16.5 acres of grassland habitat would not result in a substantial impact on the burrowing owl's regional population. Further, the project would implement a grazing management approach (Plan management prescriptions BIO 8 through BIO 16) on the remaining grassland (approximately 2,228 acres) on the site that would emphasize maintenance of habitat values for burrowing mammals through the reduction of accumulated dense, annual grass biomass. Burrowing owls are dependent upon fossorial mammals for nesting and roosting burrows. Thus, management of the grasslands to support ground squirrel populations would also improve the quality of the habitat for the burrowing owl.

Potential impacts on burrowing owls due to Regional Park operations include increased disturbance by recreational users, including domestic animals (e.g., dogs). However, passive recreation with limited infrastructure for visitors, such as proposed by the project and detailed in the proposed Plan, can be consistent with management of burrowing owl populations. As described above, the District would implement a grazing management approach that would improve the quality of the habitat for the burrowing owl and would implement management prescriptions focused on monitoring the presence of, and employing adaptive management to maintain sensitive species, including the burrowing owl, in the Regional Park. In addition, disturbance of burrowing owls would be minimized through the restriction of recreational activities to Recreation/Staging Units and trails and roads in Natural Units. No off-trail access would be allowed. Further, there would be no areas of the Regional Park where off-leash domestic animals (e.g., dogs) would be allowed.

Regional Park development and maintenance activities in occupied burrowing owl habitat could result in injury or mortality of individual owls that are trapped in burrows underground, regardless of the season. During the breeding season, nests with eggs or young could be lost by such direct disturbance, or by abandonment of burrows by adults that are disturbed by construction-related activities. Due to the precipitous declines of San Francisco Bay Area burrowing owl populations in recent decades, loss of burrowing owls resulting from project construction or maintenance activities would be *significant*.

Significance without Mitigation: *Significant.*

Impact BIO-1.4: Regional Park development and maintenance activities in occupied burrowing owl habitat could result in loss of burrowing owls. This would be a significant impact.

Mitigation Measure BIO-1.4a: Pre-Activity Survey. Pre-activity surveys for burrowing owls shall be performed by a qualified biologist no more than 15 days before initial ground disturbance activities within a development area. A survey to determine presence or absence may be performed at any time to facilitate passive relocation efforts (which can only occur outside of the nesting season of February 1 to August 31). In addition, a pre-activity survey by a qualified biologist must be conducted no more than 15 days prior to the commencement of grading, to confirm the absence of burrowing owls. This survey shall be conducted in all areas on and within 250 feet of the impact area and shall be conducted in accordance with the California Burrowing Owl Consortium guidelines.[56]

Mitigation Measure BIO-1.4b: Buffers. For burrowing owls present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone shall be maintained around the occupied burrow(s) if practicable. If such a buffer is not practicable, then a buffer adequate to avoid injury or mortality of owls (based on the determination of a qualified biologist) shall be maintained. If an adequate buffer (as determined by a qualified biologist) cannot be maintained, the birds shall be passively relocated. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no new activity will be permissible, shall be maintained between project activities and occupied burrows. Owls present on the site after February 1 will be assumed to be nesting unless evidence indicates otherwise as confirmed by a qualified biologist. This protected buffer area shall remain in effect until August 31, or based upon monitoring evidence, until the young owls are foraging independently or a qualified biologist has determined that the nest is no longer active. In some cases (e.g., if an activity is not visible from the nest site), it is possible that a breeding-season buffer less than 250 feet would be adequate to avoid disturbance of nesting burrowing owls, but such a variance would be set by a qualified biologist in consultation with the CDFW. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW) for as long as the nest is active and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities.

Mitigation Measure BIO-1.4c: Passive Relocation. If construction will directly impact occupied burrows, eviction of owls should occur outside the nesting season to prevent injury or mortality of individual owls. No burrowing owls may be evicted from burrows during the nesting season (February 1 through August 31) unless evidence indicates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Relocation of owls during the nonbreeding season shall be performed by a qualified biologist using one-way doors, which should be installed in all burrows within the impact area and left in place for at least two nights. These one-way doors shall then be removed and the burrows backfilled immediately prior to the initiation of grading.

[56] California Burrowing Owl Consortium, 1993, Burrowing Owl Survey Protocol and Mitigation Guidelines, April.

Significance with Mitigation: *Less than significant.*

White-Tailed Kite

The white-tailed kite, a California fully protected species, nests in riparian woodland, oak savannah, pine and eucalyptus plantations, and other trees at scattered locations throughout the site. Based on H.T. Harvey & Associates' field surveys during early spring of 2009, it is likely that two to three pairs nest in the project area.

Regional Park development would result in the loss of few, if any, potential nest trees for white-tailed kites, but would result in the loss of approximately 16.5 acres of suitable foraging habitat (i.e., California annual grassland). Because of the abundance of such habitats in the region, and because the project would implement a grazing management approach that would benefit species, including white-tailed kites, which prey on small burrowing mammals, project impacts on white-tailed kite foraging and nesting habitat are not considered substantial.

If Regional Park development activities occur during the nesting season (roughly February 1 to August 31), construction could reduce the productivity of nesting white-tailed kites in several ways. Nests with eggs or young could be destroyed directly due to removal of the tree on which the birds are nesting. Although adult kites can avoid direct injury or mortality in most such cases, such an impact would destroy any eggs or young in the nest, and the adults would either lose that season's reproductive effort or have to undertake another nesting attempt. Construction near an active nest could cause adults to abandon the nest, including eggs and young, due to the construction-related disturbance of noise, vibrations, heavy equipment, and construction personnel, even if the nest or its substrate is not physically disturbed. Even passive recreational activities in open space areas could result in disturbance of nesting pairs of this species. Due to the number of nesting pairs of white-tailed kites on the site, and because this species is listed as a fully protected species by the State, this impact would be considered *significant*.

Significance without Mitigation: *Significant.*

Impact BIO-1.5: Regional Park construction activities during nesting season could reduce the productivity of nesting white-tailed kites. This would be a significant impact.

Mitigation Measure BIO-1.5a: Avoidance. To the extent feasible, construction and tree removal activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting white-tailed kites will be avoided. The nesting season in Contra Costa County typically extends from February 1 through August 31.

Mitigation Measure BIO-1.5b: Pre-Activity Surveys. If it is not possible to schedule construction and vegetation removal activities between September 1 and January 31, then pre-activity surveys for nesting white-tailed kites shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. The survey shall be conducted by a qualified biologist no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats in the impact area plus a 300-foot buffer for nests. If removal of potential nesting substrate or project grading will occur during more than one

nesting season, or in different parts of the site in phases over the course of a single season, then additional pre-activity surveys shall be performed within seven days prior to initiation of work in any particular area. If the pre-activity survey does not identify the presence of any active nests of white-tailed kites on or within 250 feet of the site, construction activities may proceed. If active nests are identified within 250 feet of the activity area, Mitigation Measure BIO-1.7c will be implemented.

Mitigation Measure BIO-1.5c: Nest Buffers. If white-tailed kite nests known to have eggs or young, or that cannot be confirmed to be inactive or to lack eggs or young, are found, a qualified biologist shall establish an appropriate construction-free buffer around each nest in consultation with the CDFW. Generally, a buffer of 300 feet for white-tailed kites is adequate to avoid causing nest abandonment. The buffer shall remain in place until the qualified biologist has confirmed that the nest is no longer active.

Significance with Mitigation: *Less than significant.*

Loggerhead Shrike and San Francisco Common Yellowthroat

Two songbirds that are California species of special concern are known to breed or could potentially breed on the site, the loggerhead shrike and San Francisco common yellowthroat. Loggerhead shrikes have been observed regularly and fairly commonly in grasslands on the project site, and small numbers of San Francisco common yellowthroats nest in emergent and other wetland vegetation in freshwater marsh habitat, and possibly in seeps and springs.

Regional Park development would not result in the loss of wetlands, but would result in the loss of approximately 16.5 acres of suitable nesting and foraging habitat (i.e., California annual grassland) for the loggerhead shrike. Because of the abundance of such habitats in the region, project impacts on loggerhead shrike nesting and foraging habitat are not considered substantial.

If Regional Park development activities occur during the nesting season (roughly February 1 to August 31), construction could reduce the productivity of nesting shrikes and common yellowthroats in ways similar to those described for the white-tailed kite above. Both the loggerhead shrike and San Francisco common yellowthroat have suffered population declines and occur on the site in sufficient abundance that project-related construction could potentially impact multiple nests of these species. As a result, construction impacts on active nests of these species are *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact BIO-1.6: Regional Park development activities during the nesting season could reduce the productivity of nesting shrikes and common yellowthroats. This would be a potentially significant impact.

Mitigation Measure BIO-1.6a: Avoidance. To the extent feasible, construction and tree removal activities should be scheduled to avoid the nesting season. If construction activities involving removal of trees, shrubs, or other vegetation; demolition of buildings; or grading are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Contra Costa County, including

the loggerhead shrike and San Francisco common yellowthroat, extends from February 1 through August 31.

Mitigation Measure BIO-1.6b: Pre-Activity Survey. If it is not possible to schedule construction and vegetation removal activities between September 1 and January 31, then pre-activity surveys for nesting loggerhead shrikes and San Francisco common yellowthroats will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. Surveys will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., shrubs and buildings) in the impact area plus a 100-foot buffer for nests. If removal of potential nesting substrate or project grading will occur during more than one nesting season, or in different parts of the site in phases over the course of a single season, then additional pre-activity surveys must be performed within seven days prior to initiation of work in any particular area. If the pre-activity survey does not identify the presence of any active nests of loggerhead shrikes or San Francisco common yellowthroats on or within 100 feet of the site, construction activities may proceed. If active nests of either species are identified within 100 feet of the activity area, Mitigation Measure BIO-1.5c will be implemented.

Mitigation Measure BIO-1.6c: Nest Buffers. If nests known to have eggs or young, or that cannot be confirmed to be inactive or lack eggs or young, are found, a qualified biologist shall establish an appropriate construction-free buffer around each nest in consultation with the CDFW. Generally, a buffer of 100 feet for loggerhead shrikes and San Francisco common yellowthroats is adequate to avoid causing nest abandonment. The buffer shall remain in place until the qualified biologist has confirmed that the nest is no longer active.

Significance with Mitigation: *Less than significant.*

Bat Roosts

The abundance, distribution, and species composition of bats within the project site have not been well documented. However, it is expected that a number of bat species occur on the site, including common species as well as species of special concern such as the pallid bat, Townsend's big-eared bat, and western red bat.

Western red bats are foliage roosters that typically occur solitarily; small numbers of these bats may roost in the foliage of trees on the site, but they do not breed on the site. Several other species may roost in colonies ranging from a few individuals to hundreds of bats. Such colonies may occur in crevices in buildings or magazines, or in cavities in the larger trees on the site.

If bats are day-roosting in trees or structures within the project site, the removal of these structures would result in the permanent loss of day-roost habitat, and the removal of roost sites containing bats may result in the injury or mortality of individual bats. Construction activities in close proximity to active roosts may also cause roost abandonment. Although some displaced bats would be able to find alternative roost sites safely, bats abandoning a roost during daylight hours are subject to high predation risk, and disturbance of a maternity roost to the point of abandonment could result in the mortality of

young in that roost. While the loss of small numbers of common bats, and the roosts supporting such colonies, would not have measurable effects on regional populations, impacts on special-status species or on large colonies of common species would result in a *potentially significant* impact.

Significance without Mitigation: *Potentially significant.*

Impact BIO-1.7: Removal of trees or structures within the project site could result in the loss of day-roost habitat, the injury or mortality of individual bats, or the abandonment of active roosts. This would be a potentially significant impact.

Mitigation Measure BIO-1.7a: Pre-Activity Survey. A pre-activity survey for roosting bats shall be conducted by a qualified bat biologist prior to any removal of trees, buildings, magazines, or other structures that could potentially support roosting bats. Any trees or structures immediately adjacent to the impact areas that are identified by a qualified bat biologist as being high-potential roost sites shall be surveyed as well. If suitable roost sites are found but a visual survey is not adequate to determine presence or absence of bats (which would be particularly likely in the case of potential roost trees), acoustical equipment shall be used to determine occupancy. This survey shall be conducted prior to the beginning of the breeding season (i.e., prior to March 1) in the year in which construction or demolition in a given area is scheduled to occur so that adequate measures can be implemented, if feasible, to relocate the bats during the nonbreeding season.

Because the aforementioned survey will be conducted prior to the breeding season, weeks or months may pass between that survey and the initiation of construction or demolition in a given area. Therefore, a second pre-activity survey for roosting bats, following the methods described above, shall be conducted by a qualified bat biologist within 15 days prior to the commencement of these activities in a given area to determine whether bats have occupied a roost in or near the project's impact areas.

Mitigation Measure BIO-1.7b: Roost Buffers. If a maternity roost of any bat species is present, the qualified bat biologist (in consultation with the CDFW) shall determine the extent of a buffer free from new construction-related disturbance that will be maintained around the active roost. A typical buffer is 100 feet, though this buffer may be reduced in consultation with the CDFW. This buffer shall be maintained from April 1 until the young are flying, typically after August 31, as determined by a qualified bat biologist.

Mitigation Measure BIO-1.7c: Eviction. If a bat day roost is found in a structure or in a tree that is to be completely removed or replaced, individual bats shall be safely evicted under the direction of a qualified bat biologist. Eviction of bats shall occur at night, so that bats will have less potential for predation compared to daytime roost abandonment. Eviction shall occur between September and March 31, outside the maternity season, but may not occur during long periods of inclement or cold weather (as determined by the bat biologist) when prey are not available or bats are in torpor. If a roost is found in a building or magazine, bats shall be evicted by installing one-way doors on entry/exit points, or by opening the roosting area to allow air flow through the cavity. Demolition should then follow no sooner than the following day (i.e., there should be no less than one night between initial disturbance for air flow and the demolition). This action should allow bats to leave during hours of

darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. If feasible, one-way doors shall also be used to evict bats from tree roosts. If use of a one-way door is not feasible, or the exact location of the roost entrance in a tree is not known, the tree(s) with roosts that need to be removed shall first be disturbed by removal of some of the tree's limbs not containing the bats. Such disturbance shall occur at dusk to allow bats to escape during the darker hours. The tree would then be removed the following day. All of these activities shall be performed under the supervision of the bat biologist.

In some circumstances in which construction will occur near a roost but the roost itself will not be destroyed or altered, it may be beneficial to the bats to allow them to continue using a roost while construction is occurring on or near the roost site. If a qualified bat biologist, in consultation with the CDFW, determines that the risks to bats from eviction (e.g., increased predation or exposure, or competition for roost sites) are greater than the risk of colony abandonment, then the bats shall not be evicted.

Mitigation Measure BIO-1.7d: Alternative Bat Roost. If a day roost of pallid bats or Townsend's big-eared bats, both California species of special concern, will be impacted, an alternative bat roost structure shall be provided because suitable roosts of these special-status bats are likely more limited than those of other, more common species. The design and placement of this structure shall be determined by a qualified bat biologist based on the species of bat to be displaced, the location of the original roost, and the habitat conditions in the vicinity. This bat structure shall be erected at least one month prior to removal of the original roost structure. This structure shall be checked during the breeding season for up to three years following completion of the project, or until it is found by a qualified bat biologist to be occupied by bats, to provide information for future projects regarding the effectiveness of such structures in minimizing impacts to bats.

Significance with Mitigation: *Less than significant.*

American Badger

The American badger, a California species of special concern, has been recorded on the project site on only a few occasions, but the species has the potential to occur in grassland habitat virtually anywhere on the site. Regional Park development would impact up to 16.5 acres of potential badger habitat. Because of the abundance of such habitat in the region, and because the project would implement a grazing management approach that would benefit species, including badgers, which rely on small burrowing mammals as prey, impacts on habitat for the American badger are not considered substantial.

However, construction activities could result in injury or mortality of badgers (including adults and young) in their dens and increased human activity on the site may increase vehicular mortality or disturbance of badger dens. Due to the scarcity of the American badger in the region, the loss of individuals due to project activities is considered *potentially significant*.

Impact BIO-1.8: Construction activities could result in injury or mortality of badgers, and increased human activity on the site may increase vehicular mortality or disturbance of badger dens. This would be a potentially significant impact.

Mitigation Measure BIO-1.8a: Pre-Activity Survey. Pre-activity surveys for badger dens shall be performed within 15 days prior to commencement of grading or other ground-disturbing activities. These surveys shall be conducted by a qualified biologist familiar with the characteristics of badger burrows. If active badger burrows are identified within the proposed development area, they should be avoided to the maximum extent practicable. If avoidance is not feasible, a qualified biologist should determine if the burrow is being used as a maternity den. If young are determined to be present, a buffer free from new construction-related disturbance shall be established around the den; the dimensions of this buffer shall be determined by the biologist in consultation with the CDFW. The buffer shall be maintained until young vacate the den, as determined by a qualified biologist.

Mitigation Measure BIO-1.8b: Relocation. If the occupied burrow is simply being used as a refugium by a single badger, or after young have been weaned from a maternity den, one of the following measures shall be implemented to avoid potential impacts on individual badgers:

- Active trapping and relocation of badgers to suitable off-site habitat by a qualified biologist.
- An on-site passive relocation program, through which badgers are excluded from occupied burrows by installation of a one-way door in burrow entrances, monitoring of the burrow for one week to confirm badger usage has been discontinued, and hand-excavation and collapse of the burrow to prevent reoccupation.

If relocation of badgers is necessary, the biologist shall conduct a follow-up survey of the impact areas the day that grading or construction is to commence to determine whether any relocated badgers have returned to the construction site. If badgers have returned to the construction site, they shall be relocated again using one of the measures described above.

Significance with Mitigation: *Less than significant*.

BIO-2	**The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.**

Riparian Habitat or Other Sensitive Natural Communities

Riparian woodland is very limited in extent (approximately 1 acre) and not well developed on the project site, occurring only adjacent to upper and lower Indian Springs. No Regional Park facilities are proposed within the riparian woodland on the project site. Further, per the proposed Plan, the Regional Park would be developed in accordance with siting and design guidelines developed to protect undeveloped habitats. These guidelines include maintaining buffers around sensitive habitats and the siting and design of park features to minimize potential impacts on sensitive habitat, including riparian woodlands. Thus, the project would not result in a significant adverse effect on riparian habitat and the impact would be *less than significant*.

Both freshwater marsh and seasonal wetlands, which are considered sensitive habitats, are also present on the project site; impacts on these features are addressed under Impact BIO-3, below.

Significance without Mitigation: *Less than significant.*

Non-Native and Invasive Plant Species

Several non-native, invasive plant species occur in the California annual grassland and oak woodland savannah habitats located throughout the project site. Invasive species can spread quickly and can be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment. Activities such as trampling, equipment staging, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of non-native species, which could degrade the ecological values of sensitive communities (e.g., riparian woodland and wetlands) and adversely affect native plants and wildlife that occur there. Invasive species can have an adverse effect on native species and habitats in several ways, including by altering nutrient cycles, fire frequency and/or intensity, and hydrologic cycles; by creating changes in sediment deposition and erosion; by dominating habitats and displacing native species; by hybridizing with native species; and by promoting non-native animal species.[57] However, the proposed Plan includes the following management prescriptions related to nonnative invasive plant species:

- BIO 17 – Assess the extent and abundance of invasive plants
- BIO 18 – Prioritize populations of invasive plants for treatment
- BIO 19 – Treat high-priority infestations of invasive plants
- BIO 20 – Integrate Best Management Practices into habitat maintenance and management activities

With implementation of the management prescriptions described above, project impacts due to spread of nonnative and invasive plant species would be *less than significant*.

Significance without Mitigation: *Less than significant.*

BIO-3	**The project could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

A delineation of wetlands and other waters on the project site that are under the jurisdiction of the USACE was completed as part of the Area Plan CEQA review process[58] and verified by the USACE in

[57] Bossard, C.C., J.M. Randall, and M.C. Hoshovsky, eds., 2000, Invasive Plants of California's Wildlands. University of California Press, Berkeley, California.

[58] H.T. Harvey & Associates, 2011, Concord Community Reuse Plan Concord, California Preliminary Delineation of Wetlands and Other Waters.

2011.[59] The site contains no other wetland features (e.g., isolated wetlands) that are not considered waters of the U.S. but should be regulated by the RWQCB as waters of the State. Freshwater marsh, seasonal wetlands, drainages, canals, and ponds that may be subject to the regulatory jurisdiction of the USACE and/or RWQCB are present on the project site. Wetlands are relatively scarce regionally, and even small wetland areas make important contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region.

Per the proposed Plan, the Regional Park would be developed in accordance with siting and design guidelines developed to protect undeveloped habitats. These guidelines include maintaining buffers around sensitive habitats and the siting and design of park features to minimize potential impacts on sensitive habitat, including wetlands and other waters, wherever feasible. The majority of the Regional Park's roads and trails would be located along the existing road and rail network and new trail alignments would be designed to avoid impacts on jurisdictional waters to the extent feasible. Nevertheless, construction or modification of drainage crossings (e.g., hardened stream crossings, improvements to existing culverts) may be required. Placement of fill in waters of the U.S. or State would result in a potentially significant impact under CEQA if the impact were sufficiently extensive and/or the feature being impacted provided sufficiently high ecological functions and values. Project development also has the potential to cause indirect impacts on wetlands due to changes in water quality.

Per management prescription Resource 1 of the Plan, the District would implement Best Management Practices (BMPs) for erosion and sediment control during Regional Park development, operations, and maintenance activities. In addition, construction projects in California causing land disturbances that are equal to 1 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A SWPPP must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control BMPs, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

In many Bay Area counties, including Contra Costa County, projects must also comply with the RWQCB, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (MRP) (Water Board Order No. R2-2015-0049). This MRP requires that all projects implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. Thus, impacts on water quality would be reduced to a level of less-than-significant.

Further, the project would result in the placement of a maximum of 0.05 acre (or 2,178 square feet) of fill in jurisdictional waters as a result of construction or modification of drainage crossings. This fill placement

[59] U.S. Army Corps of Engineers, 2011, Jurisdictional Delineation for the Concord Community Reuse Plan Site.

will result in the conversion of jurisdictional waters to upland habitats and the loss of the functions and values that those waters provide. The majority of drainages on the project site are associated with the mid to upper slopes of the Los Medanos Hills and drain minimal surface flows from the adjacent foothill grasslands onto the project site during the winter rainfall period. Most support only a minimal amount of herbaceous vegetation, including grasses and forbs comprised largely of non-native species. Thus, they do not provide high-quality aquatic or wetland habitat for wildlife. Further, intermittent and ephemeral drainages are common in the region. Nevertheless, owing to the general ecological importance of wetlands and streams and regional losses of these features from development and other activities, any loss of jurisdictional waters would be considered a *significant* impact.

Some or all of these features are regulated by the USACE, RWQCB, and/or the CDFW. Project activities resulting in fill of jurisdictional features would require permits from the applicable regulatory agencies.

Significance without Mitigation: *Significant.*

Impact BIO-3: Regional Park development would result in the loss of up to 0.05-acre of jurisdictional wetlands and/or other waters. This would be a significant impact.

> Mitigation Measure BIO-3a: Permitting. Prior to placing any fill in jurisdictional wetlands and/or other waters of the U.S. or state, the District will provide the necessary permit application/notification materials to the USACE for a Clean Water Act Section 404 permit, to the RWQCB for Clean Water Act Section 401 water quality certification, and to the CDFW for a Fish and Game Code Section 1602 Streambed Alteration Agreement, as applicable (e.g., impacts to jurisdictional wetlands that are not in a channel may not necessitate CDFW notification). The District will comply with all conditions of these permits/agreements when performing the work; for example, if any compensatory mitigation is required by one or more permit/agreement, then the District will provide such mitigation in accordance with permit/agreement requirements.
>
> Mitigation Measure BIO-3b: Impact Minimization. Impacts to jurisdictional wetlands and/or other waters of the U.S. or state will be minimized to the smallest area necessary to perform the activity, and all temporary impact areas will be restored to pre-activity conditions after construction has been completed.
>
> Significance with Mitigation: *Less than significant.*

BIO-4 The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Wildlife movement on the project site takes many forms and is different for the various suites of species associated with these lands. Bird and bat species move readily over the landscape, and many forage over and within both natural lands and landscaped or disturbed areas. Some species, particularly birds and bats, are migratory, moving into or through the project area during specific seasons. Generally, reptiles and amphibians settle within home ranges, sometimes moving between breeding areas and alternative

refugia (e.g., aestivation sites), but also dispersing to new areas. Mammals of different species move within their home ranges, but also disperse between patches of habitat. The young of many mammal species disperse from their natal home ranges, sometimes moving over relatively long distances, in search of new areas to establish themselves within home ranges.

Approximately 95 percent of the proposed Regional Park would be composed of Natural Units that would be managed to preserve and enhance natural habitats while supporting lower intensity recreational uses and facilities (primarily trails). Natural Units are intended to provide continuous and cohesive open space to support large and robust ecosystems and support wildlife movement. Within the proposed 2,543-acre project site, only 86 acres (3.4 percent) has been planned for recreational facilities and trails (including 35 acres within Recreation/Staging Units). In addition, Regional Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, would be concentrated in previously disturbed areas to minimize fragmentation of habitats. Per the Plan, new trails would be constructed only where needed to avoid steep or highly eroded areas of existing roads, to avoid sensitive habitat, or to connect areas of the Regional Park that are not currently connected by the existing road network. Remnant infrastructure, including roads, rails, buildings, and magazines, that is not retained for park uses (including interpretive programming) would be removed if feasible and as funding becomes available. Priorities for initial habitat improvements consist of removal of 10.3 miles of rail line and restoration of 5.7 miles of unutilized unpaved roads.

The proposed Plan also includes measures to enhance habitat in upland areas throughout the site via managed grazing, which would benefit native species such as the California red-legged frog, by facilitating their movement through uplands. Further, in addition to preserving existing oak and native trees wherever feasible, new trees would be planted in association with Regional Park development. Target areas for native tree plantings include along natural drainages, which would enhance the quality of the drainages on site as movement corridors for wildlife by providing additional vegetative cover.

CH2M HILL[60] discussed wildlife movement in the vicinity of the proposed Regional Park and the potential effects of the project on such movement. That technical memorandum described the project site in its landscape context, described existing movement by wildlife known to occur on the site, and described potential effects of the project on such movement. The present analysis reiterates and expands upon the salient points of that memorandum, focusing on specific wildlife taxa to describe the potential effects of the project on wildlife movement. Because birds and bats are able to move on and off the site freely due to their mobility, no further discussion of these species is provided. Rather, this analysis focuses on movement of less mobile or more restricted species between high-quality habitat areas.

Movement of reptiles and amphibians between most of the project site and areas to the north is currently impeded by the presence of State Route 4. Median barriers, BART tracks, and heavy traffic would make a surface crossing highly unlikely. Although undercrossings of State Route 4 are present at Willow Pass Road and in two tunnels between Willow Pass Road and Kinne Boulevard, these paved undercrossings provide little or no cover for reptiles and amphibians, and they are not located in landscape positions (such as creeks or drainages) conducive to directing movement of these species. As a result, it is likely that very

[60] CH2M HILL, 2008f. Technical Memorandum: Wildlife Movement, Concord Community Reuse Plan, March.

little dispersal by reptiles and amphibians occurs through these crossings. Rather, any movement of reptiles and amphibians that currently occurs across State Route 4 likely occurs along Mount Diablo Creek just to the west of the project site. Because proposed Regional Park facilities development would not occur within 300 feet of Mount Diablo Creek, the project is not expected to interfere substantially with the movement of reptiles and amphibians along Mount Diablo Creek.

Small mammals such as mice, voles, ground squirrels, and pocket gophers are currently able to move fairly freely around the site, and between the site and areas of suitable habitat off-site. However, the tall fencing that surrounds much of the project site presents an impediment to movement of larger animals. Such fencing is present where the site borders Bailey Road, Willow Pass Road, and State Route 4. Fencing is also present in several areas within the interior of the site. Larger animals such as coyotes, gray foxes, and bobcats (*Lynx rufus*) can pass through these fences only where there are gaps under or within the fences. While the presence of these species on the project site indicates that they do enter and exit the site at times, movement of these species on and off the site is certainly constrained. Mule deer are present on the site only in very small numbers and are infrequently seen, attesting to the difficulty of movement through the perimeter fencing for this typically widespread species.

As a heavily-traveled roadway, Bailey Road poses a more substantial barrier to the free movement of amphibians, reptiles, and mammals. Roadways can cause wildlife mortality due to collisions when animals attempt to cross the roadway, and Bailey Road bisects the site, with only the bridge under crossing of Mount Diablo Creek to the west of the project site allowing free movement of wildlife across the roadway in the project vicinity. As described above, fencing on both sides of Bailey Road within the project site also creates an obstacle to larger mammals moving in the north-south directions. Under the proposed project, use of perimeter fencing would be limited to areas where necessary to address security and safety concerns and would remain in place along both sides of Bailey Road. Perimeter fencing would not be used in the hillside area or where the park is adjacent to other undeveloped open space. The implementation of the proposed project would not result in a change in wildlife movement across Bailey Road, while the potential removal of perimeter fencing in other locations would facilitate wildlife movement.

Thus, due to the limited development of park facilities in previously undisturbed areas, the removal of existing remnant infrastructure, and the management of the vast majority of the Regional Park to preserve and enhance natural habitats, impacts on wildlife movement are considered less than significant. Even after the Concord Reuse Project is implemented, impacts of the project on wildlife movement would be less than significant because wildlife would be able to move along Mount Diablo Creek at least as well as they currently do, and possibly better because of the Concord Reuse Project's proposed creek restoration, including removal of culverts and construction of only free-span bridges.

A number of species of birds nest in the varied habitats of the project site. Regional Park development would result in the loss of few, if any, potential nest trees, but would result in a small reduction in the availability of ground nesting and foraging habitat due to the development of approximately 16.5 acres of California annual grassland. Due to the widespread nature of this regionally common habitats, the loss of nesting habitat for common bird species would not be a substantial impact.

Construction disturbance during the avian breeding season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or

disturbance of active nests or indirectly by causing the abandonment of nests. However, species of birds currently using the project site are expected to continue to nest and forage on the site after project construction is completed as approximately 95 percent of the Regional Park would be composed of Natural Units planned and managed to preserve and enhance natural habitat. Further, birds on the site are habituated to low levels of disturbance related to the existing CNWS.

Therefore, project impacts on common nesting and foraging birds that use the site, due to minimal habitat impacts and minor disturbances of nesting birds, would not rise to the CEQA standard of having a substantial adverse effect, and these impacts on these species' movement, native resident or migratory corridors, and use of nursery sites would be *less than significant*.

All native bird species are protected from direct take by federal and State statutes (see Section 4.3.1.1). Mitigation Measures BIO-1.6a through BIO-1.6c would be implemented for all nesting birds to ensure compliance with the MBTA and California Fish and Game Code.

Significance without Mitigation: *Less than significant.*

BIO-5 The project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

A number of trees on the project site meet the criteria for a protected tree under the City of Concord's Tree Preservation and Protection Ordinance. Per the proposed Plan, the Regional Park would be developed in accordance with siting and design guidelines developed to protect undeveloped habitat. These guidelines include maintaining buffers around sensitive habitats, and the siting and design of park features to minimize potential impacts on sensitive habitat, including existing oak and native trees wherever feasible. Further, per management prescription Resource 5 of the Plan, the District would monitor and maintain trees, including existing oak trees and planted native trees, for species health and to minimize potential hazards. Nevertheless, complete avoidance of all heritage trees may not be feasible and trees that meet the criteria for a protected tree could be removed, trimmed, or otherwise affected by Regional Park development and maintenance-related activities. Removal of heritage trees would be considered a *significant* impact owing to the City's Tree Preservation and Protection Ordinance.

Significance without Mitigation: *Significant.*

Impact BIO-5: Regional Park development could result in the loss of heritage trees protected by the City of Concord's Tree Preservation and Protection Ordinance. This would be a significant impact.

> Mitigation Measure BIO-5: Tree Removal Permit. Prior to removing or trimming any heritage tree protected by the City of Concord's Tree Preservation and Protection Ordinance, the District will obtain any necessary permit from the City of Concord to impact that tree. The District will then comply with any conditions of the permit, including any tree replacement that might be required.

Significance with Mitigation: *Less than significant.*

BIO-6 The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project site is not within any local, regional or state habitat conservation plan areas, nor is the project site within the permit area of the ECCC HCP/NCCP,. Therefore, the project would not conflict with the conservation strategy in any HCP/NCCP. Although the eastern portion of the site shares a boundary with the ECCC HCP/NCCP area, the conservation measures are not applicable to the site, and the ECCC HCP/NCCP does not discuss or regulate adjacent projects. Further, the Biological Opinion adopted by the USFWS in May 2017, including the conservation measures and project elements described therein, are compatible with and will serve to support the conservation goals and objections of the ECCC HCP/NCCP. Therefore, the impact is *less than significant*.

Significance without Mitigation: *Less than significant.*

4.3.4 CUMULATIVE IMPACTS

BIO-7 The project would not contribute to significant biological resource impacts.

The region of influence for the biological resources cumulative assessment includes the area shown on Figure 2-2 of the proposed Plan, which encompasses the proposed Concord Reuse Project and Faria/Southwest Hills project sites as well as development sites in Concord, Pittsburg, and Contra Costa County. In addition, areas farther east and south in Contra Costa County that provide habitat types similar to those in the project area are also included within the region of influence for this analysis. This area comprises the location in which potential impacts from the proposed project, in combination with the impacts of the other projects, could combine to result in cumulative impacts on biological resources.

In 2006, the Concord City Council launched a multi-year process to prepare a Reuse Plan for the inland area of the former Concord Naval Weapons Station (CNWS), including the proposed Regional Park site. The City Council, acting as the Local Reuse Authority (LRA), prepared the Concord Community Reuse Plan and the associated EIR, which was finalized in 2010. Subsequently, the City prepared the Concord Reuse Project Area Plan, which translates the community vision of the Reuse Plan into policies and standards to guide development on the inland portion of the former CNWS. The Concord Reuse Project Area Plan was adopted by the City in 2012 and incorporated into the City's General Plan. The portion of the CNWS to be used for the purpose of economic development—including housing, employment, education, and retail uses—will be transferred to the City while a significant portion will be transferred to the District for the proposed Regional Park.

The City released a Notice of Preparation in November 2018, for the Concord Reuse Project Specific Plan and associated EIR; which will detail development plans associated with the economic development conveyance portion of the former Naval Weapons Station. The City is leading a sitewide permitting approach that started with working with the USFWS on the BO and will continue with the USACE, RWQCB, and CDFW. The City's planning for the entire inland area of the former CNWS determined where the

highest-quality biological resources were and planned for those to be conservation areas (i.e., the proposed Regional Park).

New development, whether associated with the proposed project or potentially cumulative projects, has the potential to result in a substantial loss of habitat that, in the absence of mitigation measures, would comprise a significant effect on various special-status plant and animal species and could result in a substantial loss of sensitive habitats. Conversion of natural habitats to urban land uses would result in a direct loss of important habitats, and urban-associated factors such as new roads, increased traffic and noise, pets and urban associated predators, and non-native plants may indirectly affect natural lands abutting new urban development. Construction activities can result in ground disturbance, noise, runoff, and particulate emissions that can temporarily affect habitat quality. These effects could result in the injury or mortality of special-status species and the loss of these species' habitats. It is also possible that construction by the City in the Concord Reuse Project's Economic Development Conveyance area, which will be phased over a period of several decades, may occur simultaneously with some of the District's Regional Park construction activities, thereby subjecting special-status species to the effects of construction over a larger area. However, by setting aside the most sensitive lands for conservation, focusing development on lower-quality lands, comprehensively assessing impacts in the 2010 Concord Community Reuse Project Final EIR and this EIR, implementing mitigation measures from both EIRs as applicable, engaging with the USFWS and implementing the BO's conditions, and working with regulatory agencies as needed, the District and the City together will reduce cumulative impacts on biological resources as a result of implementation of the Concord Area Plan and the Concord Hills Regional Park Land Use Plan, even if construction activities occur simultaneously.

Development in most of the remainder of the region of influence for the biological resources cumulative assessment is described in the ECCC HCP/NCCP, and the impacts of that development (as well as of the beneficial conservation measures employed by the HCP/NCCP) have been described in the HCP/NCCP and its EIR/EIS. The ECCC HCP/NCCP mitigates impacts on sensitive biological resources, including many of the same species and sensitive habitats that would be impacted on the project site, over a much broader area of eastern Contra Costa County. Together, implementation of the mitigation measures described in this EIR and the HCP/NCCP and its EIR/EIS are expected to prevent impacts on special-status species and sensitive habitats from becoming cumulatively significant.

Impact BIO-4 describes the effects of the proposed project on wildlife movement, which are considered to be less than significant for reasons described in that impact discussion. Furthermore, any impacts on wildlife movement on the site do not contribute to regional impacts on connectivity or reduce regional wildlife movements. The site is located at the northwestern end of a long, broad swath of natural habitat, and development proposed by this project would not inhibit any regionally important wildlife movements. Rather, because of existing development to the west of the site and approved development (e.g., the Bailey Estates and San Marco developments) to the east, the preservation and management of open space under the proposed project would maintain existing landscape linkages between the site and natural areas to the southeast. The preservation of this wildlife linkage would be positive compared with the development proposed by adjacent projects, and it would reduce the impacts from those other projects. Thus, the project would not contribute to cumulative impacts on wildlife movement and the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

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4.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This chapter describes the regulatory framework, existing conditions, and potential effects of proposed Plan implementation related to cultural resources, including historic-era resources of the built environment, historic-era and prehistoric archaeological resources, tribal cultural resources (TCRs), and human remains. This chapter also discusses paleontological resources. The information presented in this chapter has been adapted from the following two comprehensive studies completed for the Concord Naval Weapons Station (CNWS) Base Realignment and Closure (BRAC):

- In 2013, JRP Historical Consulting prepared an inventory and evaluation of the built environment (including buildings, structures, bridges, railroads, water-conveyance systems, etc.).[1,2]
- In 2014, ASM Affiliates documented and evaluated archaeological resources (both historic-era and prehistoric).[3,4]

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 REGULATORY FRAMEWORK

Federal Laws and Regulations

Effects of federal undertakings on historic and archaeological resources are considered through the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [U.S.C.] 306108), and its implementing regulations. Before an undertaking (e.g., federal funding or issuance of a federal permit) is implemented, Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties (i.e., properties listed in or eligible for listing in the National Register of Historic Places [National Register]) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register. Under the NHPA, a property is considered significant if it meets the National Register listing criteria a through d, at 36 Code of Federal Regulations 60.4, as follows:

[1] JRP Historical Consulting, 1998, Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Naval Weapons Support Facility, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for the U.S. Army Corps of Engineers.

[2] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California. Prepared for NAVFAC SOUTHWEST.

[3] ASM Affiliates, 2008, Final Report for Concord Inland BRAC Disposal Archeological Survey, Naval Weapons Stations, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

[4] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

a) Are associated with events that have made a significant contribution to the broad patterns of our history, or

b) Are associated with the lives of persons significant in our past, or

c) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or

d) Have yielded, or may be likely to yield, information important in prehistory or history.

For a resource to be eligible for the National Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. Resources that are less than 50 years old are generally not considered eligible for the National Register.

Federal review of the effects of undertakings on significant cultural resources is carried out under Section 106 of the NHPA and is often referred to as the Section 106 review. This process is the responsibility of the federal lead agency. The Section 106 review typically involves a four-step procedure, which is described in detail in the implementing regulations of the NHPA:

- Define the Area of Potential Effects in which an undertaking could directly or indirectly affect historic properties.
- Identify historic properties in consultation with the State Historic Preservation Officer (SHPO) and interested parties.
- Assess the significance of effects of the undertaking on historic properties.
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation and proceed with the Project according to the conditions of the agreement.

In compliance with Section 106, the United States Department of the Navy (Navy), the City of Concord, the East Bay Regional Park District (District), and the SHPO entered into a Memorandum of Agreement (MOA) in regard to historic properties in the United States Naval Weapons Station, Concord (CNWS). The MOA was executed on April 10, 2017 for a period of 10 years.

As discussed further below, the Navy identified two prehistoric archaeological sites in the CNWS (CA-CCO-680 and P-07-000861). Site CA-CCO-680 is on City of Concord property. Site P-07-000861 is on District property. The Navy consulted with SHPO, ACHP, and federally recognized Native American tribes on a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action, executed in July 2012 and the Navy reburied human remains and NAGRPA cultural items at site CA-CCO-680. The federally-recognized tribes included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians, and Wilton Rancheria.

In the MOA, the District agreed that site P-07-000861 on District property is eligible for listing in the National Register under criteria a and d, and may have cultural and religious significance to Native Americans. In addition, the District agreed to withhold public disclosure of the location and character of site P-07-000861 and protect the site with a 50-foot-wide buffer in a habitat conservation area restricted from public access.

State Laws and Regulations

The State of California implements the National Historic Preservation Act of 1966, as amended, through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation, as an office of the California Department of Parks and Recreation (DPR), implements the policies of the National Historic Preservation Act on a statewide level. The Office of Historic Preservation also maintains the California Historical Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Environmental Quality Act

The California Environmental Quality Act (CEQA), as codified in Public Resources Code (PRC) Sections 21000 *et seq.*, is the principal statute governing the environmental review of projects in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on historical resources, including archaeological resources. A project that may cause a "substantial adverse change in the significance of an historical resource" is considered to have a significant environmental effect (PRC Section 21084.1). A "substantial adverse change in the significance of an historical resource" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1).

The term "historical resource" includes, but is not limited to: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record (CEQA Guidelines Section 15064.5(a).)

CEQA applies to effects on archaeological sites as well. A lead agency must first determine whether the archaeological site is an historical resource pursuant to CEQA Guidelines Section 15604.5(a). If so, PRC Section 21084.1 applies. If an archaeological site does not qualify as a historical resource, but meets the definition of a unique archaeological resource, the site shall be treated in accordance with the provisions of PRC Section 21083.2. A unique archaeological resource is "an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person" (PRC Section 21083.2 [g]).

If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment with respect to that particular, cultural resource (CEQA Guidelines Section 15064.5[c][4]).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). A resource may be listed as an historical resource in the California Register if it meets any of the criteria for the National Register criteria (PRC Section 5024.1(b)):

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history (PRC Section 5024.1[c]).

Historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register but may still be eligible for listing in the California Register if it maintains the potential to yield significant scientific or historical information or specific data.

Assembly Bill 52: Tribal Cultural Resources

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC, that included the definition of a new resource type, tribal cultural resources, for consideration under CEQA. AB 52 outlines the process for evaluating proposed project impacts on tribal cultural resources and following consultation requirements with California Native American tribes. In particular, AB 52 requires lead agencies to analyze project impacts on tribal cultural resources separately from archaeological resources (PRC Sections 21074, 21083.09). AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes when a tribe has specifically requested consultation with an agency (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

Specifically, PRC Section 21084.3 states:

a) Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.

b) If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process provided in Section 21080.3.2, the following are examples of mitigation measures that, if feasible, may be considered to avoid or minimize the significant adverse impacts:

    1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

    2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

        (A) Protecting the cultural character and integrity of the resource.

        (B) Protecting the traditional use of the resource.

        (C) Protecting the confidentiality of the resource.

    3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

    4) Protecting the resource.

AB 52 applies to those projects for which a lead agency has issued a Notice of Preparation of an environmental impact report or notice of intent to adopt a negative declaration on or after July 1, 2015.

California Health and Safety Code Sections 7052 and 7050.5

Section 7052 of the Health and Safety Code regulates the disturbance of Native American cemeteries as a felony. This provision protects human remains and prohibits the disturbance or removal of human remains from any location other than a dedicated cemetery. The provision further identifies steps to follow in the event of accidental discovery or recognition any human remains, directs the county coroner to determine whether the remains are those of a Native American, and, if so, the coroner is required to contact the Native American Heritage Commission (NAHC).

California Native American Historical, Cultural and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State-owned and privately-owned lands. The Act requires that construction or excavation activity cease when human remains are discovered, and that the County coroner be notified. If the remains are of a Native American, the NAHC is notified; the Commission is authorized to identify the most likely descendant of the deceased. The Act details the process which descendants follow for treating the remains and any associated grave goods. California Native American Historic Resource Protection Act.

The California Native American Historic Resource Protection Act imposes civil penalties, including imprisonment and fines, for persons who unlawfully and maliciously excavate upon, remove, destroy injures or defaces a native American historic, cultural or sacred site that is listed or may be listed in the California Register.

California Public Resources Code Section 5097

PRC Section 5097.99 states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairns. This provision prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency.

California Penal Code Section 622.5

California Penal Code Section 622.5 details the penalties for damage or removal of paleontological resources.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals addressing cultural resource management.

The Cultural Resource Management (CRM) section of the Master Plan includes the following policies related to cultural resources, and applicable to the proposed project:

- CRM 1: The District will manage, conserve, and when practical restore parkland cultural and historic resources and sites; to preserve the heritage of the people who occupied this land before the District was ·established; and continue to encourage the cultural traditions associated with the land today.
- CRM-2: The District may acquire cultural and historic resource sites when they are within land that meet parkland acquisition criteria and will maintain and active archive of its institutional history and the history of its parklands and trails.
- CRM 3: The District will maintain a current map and written inventory of all cultural features and sites found on park land, and will preserve and protect these cultural features and sites “in situ” in accordance with Board policy. The District will evaluate significant cultural and historic sites to determine if they should be nominated for State Historic Landmark status or for the National Register of Historic Places.
- CRM 4: The District will determine the level of public access to cultural and historic resources using procedures and practices adopted by the Board of Directors. The District will employ generally accepted best management practices to minimize the impact of public use and access on these resources, and to appropriately interpret the significance of these resources on a regional scale.

- CRM 5: The District will notify Native Americans and other culturally associated peoples in a timely manner of plans which may affect sites and landscapes significant to their culture and will include them in discussions regarding the preservation and land use planning of culturally significant sites and landscapes.
- CRM 6: The District will accommodate requests by Native Americans, ranching or farming communities and other groups to help maintain and use cultural sites and to play an active role in their preservation and interpretation.

Additional policies in the Master Plan include:

- IRS 1: The District will provide a variety of interpretive programs that focus attention on the region's natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resources for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.
- KEP 4: The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards and plan for appropriate urban growth boundaries. The District will work with other jurisdictions to develop open space preservation plans and policies that recognize the District's public interests in open space preservation and that are consistent with Board policy.
- PRPT22: Areas with unique or fragile features will be designated as Special Protection Features to preserve and enhance them through specialized management. Special Protection Features may be closed seasonally or permanently to public access, if public access will endanger them.

East Bay Regional Park District Ordinance 38

District Ordinance 38 addresses the protection of cultural resources on District lands. These protections include:

- Section 805. Geological Features. No person shall damage, injure, collect or remove earth, rocks, sand, gravel, fossils, minerals, features of caves, or any article or artifact of geological interest or value located on District parklands.
- Section 806. Archaeological Features. No person shall damage, injure, collect or remove any object of paleontological, archaeological or historical interest or value located on District parklands. In addition, any person who willfully alters damages, or defaces any object of archaeological or historical interest or value or enters a fenced and posted archaeological or historical site shall be arrested or issued a citation pursuant to Penal Code Section 622-1/2.
- Section 807. Special Permission. Special permission (Section 103) may be granted to remove, treat, disturb, or otherwise affect plants or animals or geological, historical, archaeological, or paleontological materials for research, interpretive, educational, or park operational purposes.

East Bay Regional Park District General Conditions (2016)

Article 22 of the District's internal General Conditions for contractors applicable to the cultural resources in the proposed Concord Hills LUP include:

- Article 23. Protection of Historic Resources and Human Remains:

  (a) If cultural resources or human remains should be encountered during construction, all ground disturbing activities within fifty (50) feet of the find shall be halted and the District Inspector notified immediately. Work shall not be permitted to commence until the District provides written direction to proceed. Only the balance of that work day shall be compensated by the District if the Contractor cannot perform work elsewhere on the project. Examples of cultural resources include:

  1. Prehistoric archaeological deposits such as obsidian or chert flakes or tools; ground-stone mortars, slabs, or pestles; cultural deposits of shell or bone; locally darkened midden (trash) soils; and human interments.
  2. Historic-period archaeological materials such as foundations or other structural remains; refuse deposits; backfilled wells or privies; nails; glass and pottery.

  (b) Do not collect, deface, excavate, or destroy any objects of antiquity. Examples of such objects include stone-flaked or ground tools, bones, shells, beads, bottles, nails, barbed wire, ceramic pieces, buttons, weathered boards, and tin cans. Leave these objects undisturbed. If discovered, leave in place, note their location, and immediately notify the District Inspector.

Local Regulations and Land Use Plans

City of Concord General Plan

The City of Concord General Plan includes the following relevant goal, principle, and policies regarding cultural resources.

- Goal POS-4: Preserve Historic and Archeological Resources.
- Principle POS-4.1: Protect the City's historic sites and structures and prehistoric cultural resources.
  - Policy POS-4.1.1: Preserve all City, State, and federally designated historic sites and structures to the maximum extent feasible.
  - Policy POS-4.1.2: Consult with the State Office of Historic Preservation with respect to managing impacts of development and land use on historic and archaeological resources.
  - Policy POS-4.1.3: Preserve important historic and archaeological sites during new development, reuse, and intensification.
  - Policy POS-4.1.4: In identified sensitive areas, require archaeological studies as part of the development review process.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan, which is incorporated by reference in the City of Concord General Plan, includes the following relevant policies regarding cultural resources.

- Policy C-9.1: 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: 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: 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.

City of Concord Development Code

Chapter 18 of the City of Concord Municipal Code addresses cultural resources, in particular, standards to protect recognize, preserve, and enhance areas, places, sites, buildings, and structures of historic, community, or aesthetic interest or value. No person is permitted to alter the exterior of, construct improvements to, demolish, or relocate any structure or alter the appearance of any property designated as a city historic landmark except in compliance with the requirements of the City Code. The City Code also outlines the procedures for nominations of areas, places, sites, buildings, structures, and similar objects for designation as landmarks or districts.

4.4.1.2 EXISTING CONDITIONS

Definitions

Historic-era architectural resources include buildings, structures, objects, sites, and historic districts. Military-related architectural resources include earthen batteries, concrete foundations, rock alignments, water-conveyance features, and other artifact concentrations. Historic architectural resources that are listed in or are eligible for listing in the National Register are considered “historic properties.” Historic architectural resources that are listed in or are eligible for listing in the California Register are considered “historical resources.”

Archaeological resources consist of prehistoric or historic-era archaeological resources. Prehistoric archaeological materials include: obsidian and chert flaked-stone tools (e.g., projectile points, knives,

scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, milling slabs). Historic-era archaeological materials (not associated with military installations or activities) include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Similar to historic-era architectural resources, archaeological resources that are listed in or are eligible for listing in the National Register are considered "historic properties." Archaeological resources that are listed in or are eligible for listing in the California Register are considered "historical resources." In addition, archaeological resources can be considered "unique archaeological resources" under CEQA.

Tribal Cultural Resources is defined in CEQA[5] as either of the following:(1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to California Native American Tribe that are either on or eligible for the California Register or a local historic register, or (2) a resource determined by the lead agency, at its discretion, and supported by substantial evidence, to be significant pursuant to CEQA Guidelines Section 5024.1(c).. As discussed above, AB 52 requires lead agencies to analyze project impacts on TCR, separately from archaeological resources, in recognition that archaeological resources have cultural values beyond their ability to yield data important to prehistory, or history.

Setting

Natural Setting

The project site is in the Mount Diablo Creek drainage system along a south-north sloping valley. Hills on the east of the valley rise over 600 feet above sea level, reaching a maximum elevation of approximately 1,000 feet in the south. The area is within the Bay Area-Delta bioregion, which consists of a variety of natural communities that range from the open waters of the Suisun Bay and Delta to salt and brackish marshes to chaparral and oak woodlands. The temperate climate is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers. Habitat types include annual (non-native) grasslands, coastal scrub, Eucalyptus woodland, riparian corridors, emergent wetlands, and ruderal communities. A wide variety of migratory and year-round resident birds use the bay and associated creeks and marshes as habitat for nesting and feeding. Salmonid and other fish were historically present in local creeks, and Mount Diablo Creek is still identified as an important fish habitat.

The San Francisco Bay Area has undergone dramatic landscape changes since humans began to inhabit the region more than 13,000 years ago. Sea levels began rising about 15,000 years ago, at which time the coastline was located west of the Farallon Islands, and reached the present level of the bay about 5,000 years ago. This dramatic change in stream base-level has resulted in increased deposition of sediment along the lower reaches of streams and bays.[6] Gold Rush-era sedimentation has exacerbated this

[5] California Public Resources Code, Section 21074.

[6] Helley, Edward J., Lajoie, K.R., Spangle, W.E., and Blair, M.L., 1979, Flatland Deposits of the San Francisco Bay Region, California - their geology and engineering properties, and their importance to comprehensive planning, Geological Survey Professional Paper 943.

deposition over alluvial fans and within the bay and delta. Active alluvial fan[7] deposits are generally less than 5,000 years old and overlie older land surfaces (including stabilized and abandoned Pleistocene-age alluvial fans).

In many places, the interface between older land surfaces and active alluvial fans is marked by a well-developed buried soil profile, or a paleosol.[8] Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archaeological resources if the area was occupied or settled by humans.[9] Because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archaeological resources than older paleosols (early Holocene or Pleistocene).

Holocene-age alluvial sediment has a high potential to contain paleosols and buried archaeological resources, especially near to the meandering alignment of Mt. Diablo creek. Numerous archaeological sites have been found in this context in the greater Bay Area; no buried sites have been previously documented in the project site, the vicinity of Mount Diablo Creek, or the city of Concord.

Prehistoric Context

Categorizing the prehistoric period into cultural stages allows researchers to describe a range of archaeological resources with similar cultural patterns and components during a given time frame, creating a regional chronology. This section provides a brief discussion of the prehistoric chronology for the project site.

The natural marshland communities along the edges of bays and channels were the principal source for subsistence and other activities during the prehistory of the San Francisco Bay region. Many of the original surveys of archaeological sites in the Bay region were conducted between 1906 and 1908 by U.C. Berkeley archaeologist N.C. Nelson. Such surveys yielded the initial documentation of nearly 425 "earth mounds and shell heaps" along the littoral zone of the bay.[10] From these beginnings, the most notable sites in the region were excavated scientifically, such as the Emeryville shellmound (CA-ALA-309), the Ellis Landing Site (CA-CCO-295) in Richmond, and the Fernandez Site (CA-CCO-259) in Rodeo Valley.[11] These dense midden sites, such as CA-ALA-309, have been dated to be 2,310 ± 220 years old, but other evidence suggests that human occupation in the region is of greater antiquity, perhaps as early as 7000 B.C. (Davis & Treganza, 1959, cited in Moratto, 1984).[12]

[7] Alluvial fans are fan-shaped deposits of water-transported material (alluvium). They typically form at the base of topographic features where there is a marked break in slope, and contain both active and abandoned stream channels, terraces, natural levees and other fluvial morphologies.

[8] A paleosol is a buried soil that forms when sediment is deposited over a surface with a developed soil profile without it being eroded away first.

[9] Meyer, Jack, and Jeffrey Rosenthal, 2007, Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4. Prepared for Caltrans District 4.

[10] Nelson, N.C., 1909, Shellmounds of the San Francisco Bay Region, University of California Publications, American Archaeology and Ethnology.

[11] Moratto, M.J., 1984, California Archaeology, Smithsonian Press: San Diego.

[12] Moratto, M.J., 1984, California Archaeology, Smithsonian Press: San Diego.

Milliken *et al*.[13] has provided a framework for the interpretation of the San Francisco Bay Area and divided human history into four periods: the *Paleoindian Period* (11,500 to 8000 B.C.), the *Early Period* (8000 to 500 B.C.), the *Middle Period* (500 B.C. to A.D. 1050), and the *Late Period* (A.D. 1050 to 1550). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

The *Paleoindian Period* (11,500 to 8000 B.C.) was characterized by big-game hunters occupying large geographic areas. Evidence of human habitation during the *Paleoindian Period* has not yet been discovered in the San Francisco Bay Area. During the *Early Holocene* (*Lower Archaic*, 8000 to 3500 B.C.), geographic mobility continued from the *Paleoindian Period* and is characterized by the milling slab and handstone as well as large wide-stemmed and leaf-shaped projectile points. The first cut shell beads and the mortar and pestle are first documented in burials during the *Early Period* (*Middle Archaic*, 3500 to 500 B.C.), indicating the beginning of a shift to sedentism. During the *Middle Period*, which includes the *Lower Middle Period* (*Initial Upper Archaic*, 500 B.C. to A.D. 430), and *Upper Middle Period* (*Late Upper Archaic*, A.D. 430 to 1050), geographic mobility may have continued, although groups began to establish longer term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian, and chert concave-base projectile points, as well as the occurrence of sites in a wider range of environments, suggest that the economic base was more diverse. By the *Upper Middle Period*, mobility was being replaced by the development of numerous small villages. Around A.D. 430, a dramatic cultural disruption occurred as evidenced by the sudden collapse of the *Olivella* saucer bead trade network. During the *Initial Late Period* (*Lower Emergent*, A.D. 1050 to 1550), social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

Ethnographic Background

Based on a compilation of ethnographic, historic, and archaeological data, Milliken[14] describes a group known as the Bay Miwok, who once occupied the general vicinity of the project site. Bay Miwok territory extended from East Contra Costa County eastward to the Sacramento—San Joaquin Delta. Miwok refers to the entire language family that was spoken by the Bay Miwok, as well as Coast, Lake, Valley, and Sierra Miwok. Along with the Ohlone peoples of the San Francisco Bay Area, the Miwok are members of the Utian language family. While traditional anthropological literature portrayed the Miwok peoples as having a static culture, today it is better understood that many variations of culture and ideology existed within and between villages. While these static descriptions of separations between native cultures of California make it an easier task for ethnographers to describe past behaviors, this masks Native adaptability and

[13] Milliken, R., R. Fitzgerald, M.G. Hylkema, R. Groza, T. Origer, D.G. Bieling, A. Leventhal, R.S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D.A. Fredrickson, 2007, Punctuated Culture Change in the San Francisco Bay Area. Chapter 8 in California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar. Altamira Press, Lanham, Maryland.

[14] Milliken, Randall T., 1995, A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area, 1769-1810. Ballena Press, Menlo Park.

self-identity. California's Native Americans never saw themselves as members of larger cultural groups, as described by anthropologists. Instead, they saw themselves as members of specific villages, perhaps related to others by marriage or kinship ties, but viewing the village as the primary identifier of their origins.

The *Chupcan*, a subgroup of the Bay Miwok, consisted of 300 to 400 people who inhabited the lower Diablo Valley, including the project site and the areas of the present cities of Concord, Clayton, and Walnut Creek.[15] Each large village had a tribal leader but there does not appear to have been a defined larger organization.[16,17] The settlement pattern included permanent villages in valleys, along rivers or other waterways, organized as districts of smaller settlements or 'tribelets' around "one larger and continuously inhabited town, the center of a community with some sense of political unity."[18] Economically, the *Chupcan* engaged in hunting and gathering. Their territory encompassed both coastal and open valley environments that contained a wide variety of resources, including grass seeds, acorns, bulbs and tubers, bear, deer, elk, antelope, a variety of bird species, and rabbit and other small mammals. Marshlands were utilized for resource procurement, including the collection of fish, shellfish, plants, and sea mammals. The *Chupcan* built two types of dwellings including semi-subterranean pit houses used in the winter months and pole-framed houses thatched with tule or other brushy plants.[19]

By the mid-1800s Spanish missionization, diseases, raids by Mexican slave traders, and dense immigrant settlement had disrupted Miwok culture, dramatically reducing the population, and displacing the native people from their villages and land-based resources. Descendants of Bay Miwok groups and adjacent Patwin and Ohlone groups, who resided at the Missions San Francisco and San José during the Spanish period, are the closest genetic relatives.[20]

Historical Overview

The information presented in this section has been adapted from the summarized historic context developed by JRP Historical Consulting[21,22] during the inventory and evaluation of the historic built environment for the Inland Area of the Concord Naval Weapons Station, which includes the project site.

[15] Milliken, Randall T., 1995, A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area, 1769-1810. Ballena Press, Menlo Park.

[16] Kroeber, Alfred L., 1925, Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C., Reprinted 1976 by Dover, New York.

[17] Levy, Richard, 1978, Costanoan In California, edited by Robert F. Heizer, pages 485 to 495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

[18] Kroeber, Alfred L., 1925, Handbook of the Indians of California, page 218. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C., Reprinted 1976 by Dover, New York.

[19] Levy, Richard, 1978, Costanoan In California, edited by Robert F. Heizer, pages 485 to 495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

[20] Milliken, R., L.H. Shoup, and B.R. Ortiz, 2009, Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today. Prepared for National Park Service, Golden Gate National Recreation Area.

[21] JRP Historical Consulting, 1998, Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Naval Weapons Support Facility, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for the U.S. Army Corps of Engineers.

[22] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California. Prepared for NAVFAC SOUTHWEST.

Spanish, Mexican, and Early American Periods

The earliest documented uses of the land that comprises the project site revolved around the agricultural operations of Spanish, Mexican, and early American settlers. The Mexican land grants of Rancho Los Medanos and Rancho Monte Del Diablo, both granted in the 1830s, occupied the variable swath of mountains, plains, and coastline extending between the contemporary areas of Pittsburg and Antioch to Pacheco. Orchards, cattle ranching, and sheep grazing dominated the landscape until the middle of the nineteenth century, when the discovery of coal on the slopes of Mount Diablo brought an influx of mining activity, increased population, and greater connectivity through a burgeoning network of railroads.

With the decline of coal extraction in the 1880s, mining boomtowns dwindled and agriculture regained preeminence. The waterfront proved ideal for shipping, as the bay remained deep enough even at low tide to permit the passage and docking of steam vessels. Further, the Southern Pacific and Santa Fe Railroad lines passing through the area along Suisun Bay allowed for increasingly productive agricultural transfer and storage. Wharves and warehouses were built along the shoreline of the Carquinez Strait, storing abundant agricultural production, most notably wheat. A further shift in land use occurred in the 1890s with the development of the short-lived Copper King Smelting Company Plant. Sited at Seal Bluff Landing, the Plant increasingly drew men and material to the coastal area. While the company declared bankruptcy in 1903, the area boasted many amenities including a post office, a general store, and a saloon. Upon the heels of the company's failure, a new venture came to dominate the area when C.A. Smith developed a substantial lumber processing complex at Seal Bluff Landing. Employing over 2,000 workers, the company established the town-site of Bay Point, later called Port Chicago. Despite a 1913 fire which destroyed virtually the entire stock of lumber, the company remained a dominant figure in the area until the Great Depression when a diminished demand for lumber forced the plant's closing.

In the early twentieth century, two additional railroad lines were constructed in the area: the Bay Point & Clayton and the Sacramento Northern Railroad (then called the Oakland, Antioch and Eastern Railway). With ample rail and shipping capabilities, the area was well suited to respond to the military demands of the First World War. In 1917 the Navy entered into a contract with the Electro Metals Company and the Pacific Ship Building Company to build freighters for the war effort. Situated at Bay Point, the wartime production facilities assured continued expansion in the area. The town of Clyde was a product of this boom and established to provide much needed support for businesses and residences. Even with the abandonment of the production facilities at the close of the War, the surrounding towns remained populated throughout the 1920s and 1930s.

Central Valley Project

The U.S. Bureau of Reclamation (USBR) constructed the Contra Costa Canal in the project site just prior to World War II. The Contra Costa Canal (with its subsidiary, the Clayton Canal) is a component of the Central Valley Project, a massive and innovative water project implemented to address the need for fresh water distribution for industrial, agricultural and residential use throughout California.

Construction of the Central Valley Project began in 1935 as a federal reclamation project, ensuring that the USBR would be the constructing agency and that the system would remain in federal ownership for the foreseeable future. The plan was composed of five units operating as an integrated system: the Shasta

Dam, the Delta- Mendota Canal, the Friant Dam, the Friant-Kern Canal and the Contra Costa Canal. The Shasta Dam and the Delta-Mendota Canal operated together to store and deliver Sacramento River water as far south as Fresno County. The Friant Dam and the Friant Kern Canal also operated together to store San Joaquin River water to the southern extremes of the Central Valley. The Contra Costa Canal, the least integrated and smallest of the initial units, was designed to deliver water to farms, industries and homes in the Sacramento-San Joaquin Delta and northern Contra Costa County. The major initial units were finished in the early 1950s. In subsequent decades, the USBR has greatly expanded the system, adding or absorbing reservoirs, canals, pipelines, pumping plants, and other units.

During the construction of the Contra Costa Canal, smaller branches were built from the main canal to service more specific areas. The Clayton Canal was built between 1947 and 1948 and begins within the former United States Naval Weapons Station, Concord (CNWS), approximately 0.38 miles south of where Willow Pass Road runs under State Route 4. The Clayton Canal, while no longer in use, is approximately 4.8 miles long.

Both canals have a series of bridges and culverts, which facilitate crossing the roadways and railroad crossings over those canals. JRP Historical Consulting recorded and evaluated 13 bridges in the project site.[23,24] Four bridges, constructed mainly out of timber, were built to carry farm vehicles only. The remaining nine bridges, erected by the USBR or the Navy, were constructed with concrete and steel, and were meant to carry heavy duty military vehicles and rail road cars.

World War II Era: 1942 to 1945

With the bombing of Pearl Harbor, American military officials and political leaders oversaw an unprecedented expansion of America's military facilities as they sought to transform outdated and inadequate military installations into a functioning modern wartime machine. The Navy established Naval Magazine Port Chicago (NMPC) in February 1942, naming it after the adjacent town. The facility was the first new naval depot designed to specialize in ammunition transshipment for use in overseas combat, and planned as a permanent addition to the Navy's shore establishment, rather than simply a temporary wartime facility. NMPC received ammunition manufactured and tested at the remote inland naval ammunition depot located in Hawthorne, Nevada. Initially, the facility was responsible for some assembly and quality control, but served mostly as an ordnance storage, maintenance and loading point for the growing Pacific Fleet.

NMPC was established as a subordinate command to the sole existing ammunition transshipment point for the 12th Naval District, the depot at Mare Island. Upon opening, the station boundaries encompassed 640 acres of tideland on the south side of Suisun Bay, approximately midway between Martinez and Pittsburg. By November 1942 the original facilities were in place, including an ammunition pier, a barge

[23] JRP Historical Consulting, 1998, Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Naval Weapons Support Facility, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for the U.S. Army Corps of Engineers.

[24] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California. Prepared for NAVFAC SOUTHWEST.

pier, barricaded railroad sidings, storage buildings, housing for officers and enlisted men, guard buildings, a commissary, and an administrative building.

Throughout the years of 1944 and 1945 the facility expanded inland, where numerous barricaded sidings, magazines, storehouses, and auxiliary buildings were constructed to accommodate military personnel. During this period, the Navy also added to the size of the tidal area by condemning roughly 600 acres for the construction of a recreational building, bachelor officers' quarters and additional barracks and mess facilities.

Shortly after completion of this second phase of growth, the station suffered the largest domestic war-related loss of life during World War II, when a massive explosion occurred on the piers. On July 17, 1944, while sailors were loading ammunition onto waiting vessels, two explosions completely destroyed Pier #1, sinking two docked ships, and killing 320 military personnel, primarily African American stevedores and longshoremen. An additional 390 civilians and military personnel were injured. In the weeks following the explosion, many of the surviving ammunition loaders refused to load waiting ships, leading to the infamous "Port Chicago Mutiny" that resulted in the court martial, conviction and imprisonment of 50 enlisted men.

Despite the controversy, the Navy worked quickly to bring the facility back into service and by the closing months of 1944 six deep-water berths along a new ammunition pier, Pier #2, were ready to receive ships. Another pier, Pier #3, soon followed. By 1945, NMPC also included active facilities inland, including 75 high-explosive magazines located in the hills, a group of 93 gun-ammunition magazines on the flat land, and 30 barricaded sidings built along sidings fanning out amidst the hills. The new piers, new construction and expanded storage areas soon enabled the base to take over the functions of the old Mare Island ammunition depot.

At the close of World War II, the Bureau of Ordnance reported that NMPC "had become the principal ammunition loading port and storage point for ammunition and high explosives on the Pacific Coast." The Bureau also noted that the station was unusual in the diversity of ordnance it handled. While other stations loaded greater quantities of ammunition, few were capable of handling as many distinct types of ammunition. The primacy of NMPC's role in supplying the Pacific Fleet throughout Word War II assured the station a continued strategic place in the years following the war. Despite some diminishments of scale, for example the installation of only 55 sidings for rail cars rather than the originally slated 550, the facility remained a powerful and fully functioning station as the United States entered a new political and militaristic era: the Cold War.

Cold War Era: 1946 to 1989

During the early years of the Cold War (1946 to 1963), the NMPC served as a weapons storage facility providing support to the naval fleet. By 1946, NMPC had become the principal loading and storage point for ammunition and high explosives on the West Coast. Further, it existed as the Navy's sole high explosives loading facility on the west coast that was located in a relatively remote area. Depots at Mare Island, Puget Sound, and San Diego were all situated in close proximity to densely populated areas and thus faced greater political and social pressures, as well as expansion challenges.

During the Korean War of 1950 to 1953, NMPC handled 75 percent of all ammunition sent to U.S. forces in the Korean Peninsula. The NMPC installation became the Naval Ammunition Depot Concord (NAD, Concord), replacing NAD, Mare Island, which was in turn reclassified as the Mare Island Annex. NAD, Concord's ascendancy to independent command was accompanied by technological advancements in weapons. In July 1963, NAD, Concord was again re-designated, this time with its most recent identification of CNWS). The CNWS participated in several Department of Defense programs, such as the Polaris Fleet Ballistic Missile Program, Air-launched Missile Programs, and the Special Weapons Program. The installation also boasted an Advanced Weapons Division and a Guided Missile Facility.

During the Vietnam War years (1964 to 1972), CNWS continued to provide support for military efforts, including the transshipment of ordnance, and other supplies, to U.S. troops in all branches of the military serving in Southeast Asia. Deliveries often included mail, water, and personnel transfers. In support of the war, the station processed as much as 100,000 tons of munitions each month. Citing concern for the civilian population in the event of an explosion similar to that during World War II, the Navy succeeded in condemning the town of Port Chicago as part of its program to provide a buffer zone around the depot. The following year, with the inhabitants relocated, the Navy razed nearly all of the buildings and structures in the town.

From 1973 to the end of the Cold War in 1989, the facility continued its mission of supplying ammunition, loading and unloading ships, re-arming ships, and maintaining and assembling missiles. The CNWS included three ammunition piers, about 200 ammunition magazines and more than 150 buildings by this time, and infrastructure included 75 miles of paved roads and over 100 miles of railroad track.

Due to the end of the Cold War in 1989 and the subsequent cessation of the military's demands for personnel and material, the station saw a reduction in workforce and volume of ordnance shipped and stored. The station's value to the Navy was still acknowledged and the CNWS survived multiple rounds of base closure (BRAC) determinations that shuttered many military facilities across the United States. In November 2005, however, the CNWS was recommended for partial closure and realignment. The final BRAC determination resulted in closure at the end of 2008.

ESA completed a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System on March 5, 2015 (File No. 14-1164). The District also provided completed cultural resources studies not on file at the NWIC. The purpose of the background research was to (1) determine whether site conditions have changes since the completion of the most recent cultural resources studies; and (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites.

The known potential cultural resources within the project site include ten archaeological sites, two isolated finds, approximately 35 buildings and structures, and numerous ammunition magazines. As detailed below, of these resources, one built structure (the Contra Costa/Clayton Canal) is listed in the National and California Registers as a contributing element to the Central Valley Project, and one archaeological site has been recommended eligible for listing.

The remaining historic-era archaeological sites, prehistoric isolated finds, and built environment resources (including magazines, main and auxiliary buildings, bridges, railroads, water storage facilities, tunnels, and

a small mine) are not included in or do not meet the eligibility criteria for listing in the National or California Registers.

Architectural and Structural Resources

Previous Studies

Several previous studies have been completed regarding cultural resources of the built environment in the project site. The most recent and comprehensive of these studies was *Final Historic Building Inventory and Evaluation Update Report, Concord Naval Weapons Station Contra Costa County, California* completed in April 2013 for the CNWS BRAC.[25] That report provided a summary of two studies completed in the 1990s.

JRP Historical Consulting[26] also completed an earlier inventory and evaluation of Cold War era, and several World War II era buildings and structures in *Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Naval Weapons Support Facility*. That report included a historical context for Cold War development and evaluated 375 buildings and structures. JRP Historical Consulting found none eligible for listing in the National Register.

William Self Associates[27] evaluated World War II era buildings and structures in *Cultural Resources Overview, Naval Weapons Station Concord, Contra Costa County, California*. This study included an inventory and evaluation of 506 World War II-era buildings and structures located at the CNWS. Only the Port Chicago National Memorial located in the CNWS tidal area was recommended eligible for listing in the National Register.

Known Resources and Significance Evaluation

As a result of the above inventories, a total of 422 cultural resources of the built environment were evaluated within the greater inland area of the CNWS. Approximately 35 buildings and structures as well as numerous ammunition magazines are within the project site. Primarily naval buildings and structures, the categories were divided by construction during World War II or the Cold War and included earth-covered ammunition magazines, ordnance handling facilities, unused warehouses, administrative buildings, barracks, other military-related buildings, and the system of rail lines. JRP Historical Consulting (2013) recommended that none of the buildings or structures meet the criteria for listing in the National or California Registers. The evaluators noted that "while it is apparent that the…CNWS played a substantive role in major military campaigns of the second half of the twentieth century, this role does not

[25] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California. Prepared for NAVFAC SOUTHWEST.

[26] JRP Historical Consulting, 1998, Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Naval Weapons Support Facility, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for the U.S. Army Corps of Engineers.

[27] William Self Associates, 1993, Cultural Resources Overview, Naval Weapons Station Concord, Contra Costa County, California. Prepared for Department of the Navy.

meet the high threshold of importance necessary to convey direct historical significance" and that the "accompanying lack of integrity further hinders any demonstration of significance."[28]

The Contra Costa Canal (and extension Clayton Canal) has been previously recommended as eligible for listing in the National and California Registers as contributors to the Central Valley Project.[29] The State Historic Preservation Officer concurred with this recommendation in March 2005 (FHWA050131A; OHP, 2012). The Canal was described as an "original and integral unit of the Central Valley Project" and was determined of historic significance at the state level as a part of the Central Valley Project and at the local level for its importance in the economic and industrial development of eastern Contra Costa County.

Within the project site, there is one bridge and two culverts over the Contra Costa Canal. Built by either the Bureau of Reclamation or the Navy, JRP Historical Consulting[30] evaluated these structures, and recommended them as not eligible for listing in the National or California Registers, either individually or as contributing elements to the Central Valley Project.

Archaeological Resources

Previous Studies

Numerous archaeological resources studies were conducted within the project site between 1989 and 2014. The most recent intensive-level surface survey was completed in 2007[31] in support of the CNWS BRAC. During that study a total of 5,197 acres were surveyed, including 4,158 acres intensively surveyed in walking transects spaced at no more than 25-meter intervals and 1,039 acres surveyed with a more mixed strategy within the steeply sloped upland region, focusing on ridges, mid-slope terraces, and watercourses. The goal of the survey was to revisit all previously recorded archaeological sites and document previously unrecorded historic-era and prehistoric archaeological sites and artifacts.

ASM Affiliates subsequently completed archaeological testing, as documented in the National Register of Historic Places *Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station*.[32] In the project site, the evaluation efforts included subsurface archaeological testing at one prehistoric archaeological site and a combined rural landscape study and subsurface testing at four historic-era archaeological sites.

[28] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California, page 63. Prepared for NAVFAC SOUTHWEST.

[29] JRP Historical Consulting, 2002, Department of Parks and Recreation Form 523 – Contra Costa Canal.

[30] JRP Historical Consulting, 2009, Department of Parks and Recreation Form 523 – CCC/Clayton Canal Bridges and Culverts.

[31] ASM Affiliates, 2008, Final Report for Concord Inland BRAC Disposal Archeological Survey, Naval Weapons Stations, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

[32] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

Known Resources and Significance Evaluation

Nine historic-era archaeological sites, one prehistoric archaeological site, and two prehistoric isolated finds were identified on the project site during the 2007 surface survey of the CNWS. Of these resources, five historic-era sites and both prehistoric isolated finds were immediately recommended not eligible for listing in the National or California Registers and no further consideration of these resources was completed.[33]

Five resources in the project site were subject to additional testing and evaluation.[34] These resources included a prehistoric site (P-07-000861), the remains of a historic-era residence with outbuildings (CA-CCO-777H), a series of historic-era concrete foundations and artifacts possibly associated with dairy farming (CA-CCO-787H), a historic-era foundation and artifact scatter (CA-CCO-791H), and a historic-era stone cistern with an associated artifact scatter and windmill (P-07-000860).

Testing at prehistoric site P-07-000861 demonstrates a high data potential with respect to ethnographic and prehistoric research.[35] ASM Affiliates recommended P-07-000861 eligible for National Register listing under Criterion A (associated with events significant to the broad patterns of our history) and Criterion D (has yielded and is likely to yield information important to prehistory). A MOA between the Navy, the City of Concord, the District, and the SHPO concluded that P-07-000861 is eligible for listing in the National Register and is therefore a historic property for the purposes of the National Historic Preservation Act. P-07-000861 is also considered eligible for listing in the California Register and therefore is a historical resource for the purposes of CEQA.

ASM Affiliates also evaluated the four historic-era resources in the project site (CA-CCO-777H, CA-CCO-787H, CA-CCO-791H, and P-07-000860) for National Register eligibility as part of a rural historic landscape study and archaeological testing program. The evaluation included 14 additional resources (totaling 18 historic-era resources in all) located within the greater inland area of the CNWS. Previously, researchers had recommended that the combination of historic features at P-07-000860 (a historic-era cistern with an associated artifact scatter and windmill) might be potentially significant.[36] Collectively, P-07-000860 as well as the other 17 evaluated sites were determined to not contain "sufficient information capable of collectively conveying a sense of the processes or components of a rural historic landscape that would be

[33] ASM Affiliates, 2008, Final Report for Concord Inland BRAC Disposal Archeological Survey, Naval Weapons Stations, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

[34] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

[35] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

[36] ASM Affiliates, 2008, Final Report for Concord Inland BRAC Disposal Archeological Survey, Naval Weapons Stations, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West, page 9-15.

associated with late nineteenth through mid-twentieth-century agriculture."[37] Additionally, the lack of integrity at most of the sites and the absence of features that would support a rural historic landscape did not represent the characteristics of a rural historic landscape. Therefore, the collective evaluation of the 18 historic-era archaeological sites as a potential rural historic landscape did not contain sufficient information for National Register eligibility. No further consideration of these resources is necessary as the resources are not considered historic properties for the purposes of the National Historic Preservation Act or historical resources for the purposes of CEQA.

4.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to cultural resources if it would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Disturb any human remains, including those interred outside of formal cemeteries.
4. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074.

4.4.3 IMPACT DISCUSSION

CULT-1	**The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.**

The following focuses on architectural and structural resources. Archaeological resources, including those that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed under Impact CULT-2, below.

Potential impacts on architectural resources are assessed by identifying any activities associated with implementation of the proposed Plan, such as new construction, demolition, or substantial alteration that could affect resources that have been identified as historical resources for the purposes of CEQA. Individual properties and districts identified as historical resources under CEQA include those that are significant because of their association with important events, people, or architectural styles or master architects, or for their informational value (National Register and California Register Criteria A/1, B/2, C/3, and D/4) and that retain sufficient historic integrity to convey their significance. Criterion D/4, however, is typically applied to the evaluation of archaeological resources and not to architectural resources, as

[37] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

described below. Once a resource has been identified as significant, it must be determined whether the impacts of the project would "cause a substantial adverse change in the significance" of the resource (CEQA Guidelines Section 15064.5[b]). A substantial adverse change in the significance of a historical resource means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of [the] historical resource would be materially impaired" (CEQA Guidelines Section 15064.5[b][1]). A historical resource is materially impaired through the demolition or alteration of the resource's physical characteristics that convey its historical significance and that justify its inclusion in (or eligibility for inclusion in) the California Register or a qualified local register (CEQA Guidelines Section 15064.5[b][2]).

JRP Historical Consulting[38] recommended that none of the buildings or structures in the project site are eligible for listing in the National or California Registers because "while it is apparent that the… CNWS played a substantive role in major military campaigns of the second half of the twentieth century, this role does not meet the high threshold of importance necessary to convey direct historical significance" and that the "accompanying lack of integrity further hinders any demonstration of significance."[39] No further consideration of these resources is necessary for the proposed project.

The Contra Costa Canal (and extension Clayton Canal) has been previously recommended eligible for listing in the National and California Registers as a contributor to the Central Valley Project.[40] Since these resources are owned separately, previously by the Bureau of Reclamation and, as of March 2019, in the process of being transferred to the Contra Costa Water District[41], they would not be impacted by the proposed project. No further consideration of these structures is necessary for the proposed project.

As there are no historical resources in the project site, the impact would be *less than significant* and no mitigation is required.

Significance without Mitigation: *Less than significant*.

CULT-2 The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

This section discusses archaeological resources that are potentially historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources defined in Section 21083.2(g).

The significance of most prehistoric and historic-period archaeological sites is usually assessed under National Register and California Register Criterion D/4. This criterion stresses the importance of the information potential contained within the site, rather than its significance as a surviving example of a

[38] JRP Historical Consulting, 2009, Department of Parks and Recreation Form 523 – CCC/Clayton Canal Bridges and Culverts.

[39] JRP Historical Consulting, 2013, Historic Building Inventory and Evaluation Update Report Inland Area, Concord Naval Weapons Station, Contra Costa County, California, page 63. Prepared for NAVFAC SOUTHWEST.

[40] JRP Historical Consulting, 2002, Department of Parks and Recreation Form 523 – Contra Costa Canal.

[41] John D. Dingell, Jr. Conservation, Management, and Recreation Act. S. 47, 116th Cong. (2019).

type or its association with an important person or event. Archaeological resources may qualify as historical resources under the definition provided in CEQA Guidelines Section 15064.5[a], or they may also be assessed under CEQA as unique archaeological resources, defined as archaeological artifacts, objects, or sites that contain information needed to answer important scientific research questions (PRC Section 21083.2). A substantial adverse change in the significance of an archaeological resource is assessed similarly to other historical resources, i.e., whether the project would result in destruction or adverse material alteration of those physical resource characteristics that convey its significance under the appropriate criteria (CEQA Guidelines Section 15064.5[b][2]).

The proposed Regional Park would include bicycle and pedestrian trails and promotes recreational activities. These activities could result in direct and indirect impacts to a prehistoric archaeological resource (P-07-000861), which has been recommended as eligible for listing in the National and California Registers.[42] Impacts could include vandalism, destruction, theft, and other actions that could adversely affect the site.

In accordance with Mitigation Measure Cultural Resources 2 of the Concord Reuse Plan EIR, the proposed Plan has been developed in accordance with the restrictions set forth in the Concord Reuse Plan EIR's mitigation to control public access including designing bicycle and pedestrian trails, signs, and other recreation facilities to avoid direct impacts to P-07-000861, thereby preserving and avoiding the site. Trails and signs would be designed and vegetation employed to minimize indirect effects. The executed MOA provisions for a 50-foot-wide buffer around the site in a habitat conservation area that will be restricted from public access.

While no other recorded significant archaeological resources have been identified in the project site through the background research and intensive surface survey, the discovery of unknown resources cannot be entirely discounted because archaeological resources may be buried or otherwise obscured with no surface manifestation. Comprehensive subsurface investigation of the project site is not feasible or practicable and could have other environmental impacts (e.g. biological, geological). Therefore, while unlikely, the inadvertent disturbance to unknown archaeological resources would be a *potentially significant* impact.

Significance without Mitigation: *Potentially significant.*

Impact CULT-2: Implementation of the proposed Plan could result in the inadvertent disturbance to unknown archaeological resources. This would be a potentially significant impact.

> Mitigation Measure CULT-2: Preconstruction Training, Archaeological Monitoring, and Inadvertent Discovery of Archaeological Resources. Prior to construction, a qualified archaeologist with expertise in California archaeology will develop an archaeological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of archaeological resources, and establishes accidental discovery procedures should

[42] ASM Affiliates, 2014, National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. Prepared for Navy Base Realignment and Closure Program Management Office West.

archaeological resources be encountered during construction. Project personnel would be provided the detailed information of who to contact at the District if resources are encountered.

In accordance with the executed MOA, archaeological monitoring is necessary when ground-disturbing activities occur within or adjacent to the boundaries of any National Register-eligible historic properties, including prehistoric site P-07-000861. Monitoring is not necessary in other portions of the project site. Monitoring should be conducted by a qualified archaeological monitor that meets the standards of the Register of Professional Archaeologists.

If an archaeological resource is encountered, all activity within 100 feet of the find should immediately halt until it can be evaluated by a qualified archaeologist (and a Native American representative if the artifacts are prehistoric). Prehistoric archaeological materials include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. If the archaeologist (and Native American representative) determines that the resources may be significant, they shall notify the East Bay Regional Park District (District). The archaeologist shall consult with Native American representatives in determining appropriate treatment for prehistoric or Native American cultural resources.

In considering any suggested mitigation proposed by the archaeologist and Native American representative, the District shall determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is not feasible, other appropriate measures (e.g., capping, data recovery, and/or interpretation as agreed upon between the District, the archaeological consultant, and Native American representatives) shall be instituted. In accordance with PRC 15126.4(b)(3)(C) when data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Work may proceed in other parts of the project site while mitigation for archaeological resources is being carried out.

Significance with Mitigation: *Less than significant*.

CULT-3 The project could disturb human remains, including those interred outside of formal cemeteries.

Human remains, including those buried outside of formal cemeteries, are protected under state law, including PRC Section 5097.98 and Health and Safety Code Section 7050.5. These laws are identified above in the State Laws and Regulations section. This analysis considers impacts including intentional disturbance, mutilation, or removal of interred human remains.

Prehistoric archaeological resources may contain human burials. While there are no known locations of prehistoric human burials or remains in the project site, the possibility of encountering human remains cannot be entirely discounted.

Potential project-related disturbance of human remains would be a *potentially significant* impact.

Significance without Mitigation: *Potentially significant.*

Impact CULT-3: Implementation of the proposed Plan could result in the accidental discovery of human remains. This would be a potentially significant impact.

> Mitigation Measure CULT-3: Inadvertent Discovery of Human Remains. If human skeletal remains are uncovered during project construction, work shall immediately halt within 100 feet of the find. The District shall contact the Contra Costa County coroner to evaluate the remains and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines and Health and Safety Code Section 7050.5(c). If the County coroner determines that the remains are Native American, the District shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission would then identify the person(s) thought to be the most likely descendent of the deceased Native American, who would help determine what course of action should be taken in treating the remains (PRC Section 5097.98).
>
> Significance with Mitigation: *Less than significant*.

CULT-4 The project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074.

Impacts on TCRs are assessed in consultation with affiliated Native American tribes that have requested consultation in accordance with PRC Section 21080.3. This analysis considers whether the project would cause damaging effects to any TCR, including archaeological resources and human remains.

To help determine whether a project may have an effect on TCRs, PRC Section 21080.3.1(b)(1) requires that Native American tribes request to be on an agency's permanent tribal notification list. The San Manuel Band of Mission Indians sent a letter to East Bay Regional Park District requesting consultation on projects within their ethnographic territory, which is in Southern California outside of San Bernardino. The District responded that the project is in Contra Costa County and not within their ethnographic territory. The East Bay Regional Park District has not received any formal requests to be on a notification list from tribes in the geographic vicinity of the project site.

During the cultural resources studies completed for the CNWS BRAC, the Navy identified no rural historic landscapes, Traditional Cultural Properties, or Traditional Cultural Landscapes that meet the criteria for listing in the National Register in the CNWS or the project site. The Navy did identify two historic properties (both prehistoric archaeological sites) in the CNWS; one of these resources (P-07-000861), discussed above under Impact CULT-2, is located within the project site and, for the purposes of this EIR, is considered a TCR. As outlined in the executed MOA, the District will protect and preserve P-07-000861 within a habitat conservation area and there will be no impacts to the resource. There are no additional TCRs in the project site.

During construction activities, it is possible that archaeological resources or human remains could be documented and determined to be TCRs, which would be a *potentially significant* impact.

Significance without Mitigation: *Potentially significant.*

Impact CULT-4: Construction activities during implementation of the proposed Plan could result in the discovery of archaeological resources or human remains and the determination that such discoveries are tribal cultural resources. This would be a potentially significant impact.

Mitigation Measure CULT-4: Implement Mitigation Measures CULT-2 and CULT-3.

Significance with Mitigation: *Less than significant.*

4.4.4 CUMULATIVE IMPACTS

CULT-5 The project would not contribute to significant cultural resource impacts.

The geographic scope of analysis for cumulative impacts on historical resources, archaeological resources, paleontological resources, TCRs, and human remains encompasses areas where development would occur in the vicinity of the project site. Projects in the geographic scope include the Concord Reuse Project, the Faria/Southwest Hills project, and the Keller Canyon Landfill Expansion project, as well as projects in the adjacent areas of Concord, Pittsburg, and Contra Costa County. In addition, construction for the Concord Reuse Project could occur at the same time as certain features of the proposed project in the same vicinity. This area was selected because of the similar themes of its Native American use, as well as prehistoric and historic-period use and associated cultural resources.

A cumulatively significant impact would result if incremental effects of the project, after implementation of mitigation, combined with the impacts of one or more cumulative projects, after implementation of their mitigation, were to cause a substantial adverse effect on the same cultural or paleontological resource.

There are no known historic architectural resources that qualify as historical resources in the project site; therefore, the project would not contribute to a significant cumulative effect on architectural historical resources.

There is one archaeological resource in the project site that is considered a historical resource. As discussed above, the project would avoid this resource. The project would have the potential to affect unknown archaeological resources, paleontological resources, tribal cultural resources, and human remains. However, there would not be the potential for the project and cumulative projects to affect the same undiscovered cultural or paleontological resources.

Federal, State, and local laws can generally protect cultural resources. Development in the geographic scope would be required to comply with the same provisions of CEQA and implement measures similar to those identified above (i.e., Mitigation Measure CULT-2 and Mitigation Measure CULT-3). These measures would require preconstruction training, monitoring in the vicinity of sensitive areas, and protocols for

responding in the event of inadvertent discovery of archaeological resources, paleontological resources, or human remains.

Through compliance with applicable regulations and implementation of associated avoidance and minimization measures, the project would not have a considerable contribution to adverse effects on cultural resources of the region. This cumulative impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

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4.5 ENERGY

In order to assure that energy implications are considered in project decisions, Appendix F, Energy Conservation, of the CEQA Guidelines, requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. As of April 2019, there are two specific thresholds of significance for potential energy impacts in the State CEQA Guidelines. This section provides a general description of the regulatory setting addressing existing electric and natural gas services and infrastructure, and supply and demand in Concord and the project site, and impact analysis from Appendix F and G of the CEQA Guidelines.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, this Act is an energy policy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. The Act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliance equipment.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the Department of Transportation (DOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million mile pipeline transportation system. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found at 49CFR Part 40, 40CFR Part 190, 40CFR Part 191, 49CFR Part 192, 49CFR Part 193 and 49CFR Part 199.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers were required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017 to 2025 that will require a fleet average of 54.5 miles per gallon in 2025. However, the EPA is reexamining the 2017–2025 emissions standards.

State Regulations

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-, mid-, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California.

The CPUC and the California Energy Commission have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- Goal 1: New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

California Energy Code

The State of California provides a minimum standard for energy conservation through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Energy Code." The California Energy Code was adopted by the California Energy Resources Conservation and Development Commission in June 1977 and revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the California Energy Code adopted the 2013 Building and Energy Efficiency Standards, which went into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

California Green Building Standards Code

CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process. The Code was updated again in 2016, effective January 1, 2017.

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design.
- Energy efficiency.
- Water efficiency and conservation.
- Material conservation and resource efficiency.
- Environmental quality.

The provisions of CALGreen apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the state of California.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Code on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Governor's Green Building Executive Order

In 2004, Executive Order S-20-04 was signed by the Governor, committing the State to take aggressive action to reduce state building electricity usage by retrofitting, building, and operating the most energy and resource-efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded or leased by the State and to encourage cities, counties, and schools to do the same. It also calls for State agencies, departments, and other entities under the direct executive authority of the Governor to cooperate in taking measures to reduce grid-based energy purchases for State-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. These measures should include, but are not limited to:

- Designing, constructing and operating all new and renovated State-owned facilities paid for with State funds as "Leadership in Energy and Environmental Design Silver" or higher certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a EPA Energy Star rating; and
- Purchasing or operating Energy Star electrical equipment whenever cost-effective.

Renewable Portfolio Standard

Signed into law in 2011, SB X1-2 directs CPUC's Renewable Energy Resources Program to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, 25 percent by December 31, 2016 and 33 percent by December 31, 2020. SB X1-2 codifies the 33 percent by 2020 renewable portfolio standard (RPS) *goal* established pursuant to the Global Warming Solutions Act of 2006. This new RPS applies to all electricity retailers in the state, including publicly-owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators.

Senate Bill 100 (Chapter 312, Statutes of 2018)

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero- emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

Local Regulations

City of Concord 2030 General Plan

The City of Concord General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the project. The following goal, principle, and policy are relevant to the proposed project:

- Goal E-7: Development of the Concord Reuse Project Area in a Manner that Creates Jobs, Has Positive Fiscal Impacts, and Provides Economic Benefits for Concord Residents and Businesses.
- Principle E-7.1: Transform the Concord Reuse Project Area into a Dynamic Transit-Oriented Community and Workplace that Redefines Concord's Role in the Bay Area Economy.
    - Policy E-7.1.4: Incorporate principles of sustainable development in the design and operation of workplaces at the Concord Reuse Project area, with an emphasis on green building, low impact development, green jobs, environmentally-friendly business practices, and non-polluting commute modes.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes the following principles and policies applicable to the proposed project:

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

City of Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 15, Buildings and Building Regulations, include regulations relevant to energy conservation in Concord as discussed below.

- Chapter 15.47, Energy Code. Chapter 15.47 adopts the 2016 California Energy Code by reference.
- Chapter 15.45, Green Building Standards Code. Chapter 15.45 adopts the 2016 California Green Building Standards Code by reference.

City of Concord Climate Change Action Plan[1]

The City adopted its CAP to reduce GHG emissions on July 23, 2013. The CAP recommends various renewable energy, energy efficiency and energy conservation strategies over the five-year period from 2020 to 2035 that are relevant to the proposed project, including:

- Adopt Tier I Reach Code above State Green Building Ordinance requirements.
- Conduct energy audits of existing buildings.
- Facilitate on-site renewable energy.
- Reduce emissions from building construction by using cleaner fuels and equipment.
- Develop citywide parking lot shading regulations to reduce heat island effect and thereby lower local temperatures.

[1] City of Concord, *Citywide Climate Action Plan,* 2013, http://www.cityofconcord.org/pdf/dept/planning/climate.pdf, accessed on March 13, 2018.

- Require paving that meets minimum Solar Reflectance Index (SRI) values that are higher than conventional paving in new developments and significant retrofit projects.

4.5.1.2 EXISTING CONDITIONS

Electricity

Grid electricity and natural gas service in Concord is provided by Pacific Gas & Electric (PG&E). PG&E is a publicly-traded utility company that generates, purchases, and transmits energy under contract with the California Public Utilities Commission. PG&E's service territory is 70,000 square miles in area, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada mountain range to the Pacific Ocean.[2]

PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines link power plants with the PG&E system. The distribution system, comprised of lower voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

PG&E produces or buys its energy from a number of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2016 consisted of non-emitting nuclear generation (24 percent), large hydroelectric facilities (12 percent) and eligible renewable resources (33 percent), such as wind, geothermal, biomass, solar and small hydro.[3] The remaining portion came from natural gas (17 percent) and unspecified power (14 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. In addition, PG&E has plans to increase the use of renewable power. For instance, PG&E purchases power from customers that install small-scale renewable generators (e.g., wind turbines or photovoltaic cells) up to 1.5 megawatts in size. In 2016, PG&E served 28 percent of their retail electricity sales with renewable power. PG&E's percentage of renewable power currently under contract for 2020 is 33 percent.[4]

In 2015, PG&E's preliminary projected average annual electricity demand growth (mid-demand forecast) between 2015 and 2026 is 1.02 percent.[5] Within the San Francisco Bay planning area (Zone 1) of PG&E's service area the preliminary projected average annual electricity demand growth between 2015 and 2026

[2] Pacific Gas & Electric, 2012, Company Info. http://www.pge.com/about/company/profile/ accessed on February 1, 2016.

[3] Pacific Gas & Electric, 2016, PG&E's 2016 Power Mix, https://www.pge.com/pge_global/local/assets/data/en-us/your-account/your-bill/understand-your-bill/bill-inserts/2017/november/power-content.pdf, accessed on March 2, 2018.

[4] Pacific Gas & Electric, 2018, Exploring Clean Energy Solutions, https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page, accessed on March 2, 2018.

[5] California Energy Commission, 2016, California Energy Demand Updated Forecast 2017-2027, Electricity Demand Forecast, December 2016, file:///L:/ERPD-02.0/02_BackgroundData/Outside%20Document%20Library/CEQA_BackgroundDocs/UtilSvcSys/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf, accessed on April 30, 2018.

is 1.05 percent. Energy providers in the State project demand by assuming future economic growth and taking into account projects such as the proposed project.

The existing electrical system in the project site consists of an overhead facility along the western edge of the project site adjacent to Kinne Boulevard.

Natural Gas

PG&E's natural gas (methane) pipe delivery system includes 42,000 miles of distribution pipelines, and 6,700 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.3 million gas customers in northern and central California. The system is operated under an inspection and monitoring program.[6] The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. The Pipeline 2020 program, created in 2010, aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely-operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.[7]

The PG&E gas transmission pipeline nearest the project site runs along Kirker Pass Road until the Concord Pavilion, where it continues through undeveloped land within Pittsburg and unincorporated Contra Costa County.[8]

Renewable Energy

PG&E obtains electricity from conventional and renewable sources. In 2017, 20 percent of PG&E's electricity was generated from natural gas and other fuels; 18 percent from large hydroelectric plants; 27 percent from nuclear power; 33 percent from renewable energy sources; and 2 percent from market purchases.[9,10]

[6] Pacific Gas & Electric, 2018, Learn about the PG&E natural gas system, https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page, accessed on March 2, 2018.

[7] Pacific Gas & Electric, 2010, News Releases: PG&E Aims to Advance Industry Best Practices, October 12, 2010, https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20101012_pge_announces_pipeline_2020_program_for_enhancing_natural_gas_pipeline_safety_and_reliability, accessed on March 2, 2018.

[8] Pacific Gas & Electric, 2014, Gas Transmission System Map web page, http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page, accessed on March 2, 2018.

[9] Renewable sources of electricity generation are solar, wind, biomass and waste, small hydroelectric, and geothermal.

[10] Pacific Gas & Electric, 2018, Where your electricity comes from, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf, accessed on July 31, 2019.

4.5.2 STANDARDS OF SIGNIFICANCE

As previously discussed, Appendix F, Energy Conservation, of the CEQA Guidelines, requires a discussion of the potential energy impacts of proposed projects; as of April 2019, there are two thresholds of significance for potential energy impacts in the State CEQA Guidelines. . Therefore, this EIR analysis determines that impacts would be significant if the project would result in a substantial increase in natural gas and electrical service demands that would require the new construction of energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities, paralleling the threshold determinations for other utility and service systems under Appendix G, Environmental Checklist of the CEQA Guidelines. To further the intent of Appendix F, Energy Conservation, relevant, potential impacts listed in that appendix are also incorporated in the evaluation.

Appendix F lists the following possible impacts to energy conservation that should be considered to the extent they are applicable and relevant to a particular project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

According to the 2019 Appendix G of the CEQA Guidelines, a project will have a significant effect on the environment if the project would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The analysis included in Section 4.5.3 below focuses on discussions related to Appendix F items numbered 2, 4, 5, and 6 listed above. Focus on these potential impacts was done because they are relevant and applicable to the programmatic analysis in this Draft EIR, and the development associated with implementation of the proposed Plan does not represent a unique or energy-intensive use that would be substantially different than other similar projects.

4.5.3 IMPACT DISCUSSION

This section analyzes the project’s potential impacts and cumulative impacts to electric and natural gas services and infrastructure, supply and demand, and energy conservation.

ENERGY

ENE-1	**The project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.**

The proposed project could result in new development potential up to 86 acres of park and recreational uses (including 35 acres within Recreation/Staging Units), and 2,417 acres of conservation open space uses in the former CNWS site, with the remaining acreage acting as a buffer between the park facilities and conservation areas. In comparison to the current use of the site, implementation of the proposed Plan would result in a long-term increase in energy demand, associated primarily with the operation of lighting and heating/cooling in proposed Regional Park buildings. In addition, construction activities would require the use of energy (e.g., electricity and fuel) for various purposes, such as the operation of construction equipment and tools, as well as excavation, grading, demolition, and vehicle travel.

Construction Energy Impacts

Even with energy-saving practices in place, new electrical connections, switches and/or transformers would be required to serve new or renovated structures. Similarly, new gas distribution lines and connections would be necessary. Most of the work would be in existing public rights-of-way or facilities. Although creation of new or re-located gas and electric lines could create short-term construction-related environmental effects (e.g., noise, dust, traffic, temporary service interruption, etc.), the work would be subject to compliance with the City's and PG&E's regulations and standard conditions for new construction related to infrastructure improvements. For example, these regulations and conditions would require gas and electric line construction to include BMPs that require construction areas to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. Also, any such work would be subject to compliance with applicable regulations and standard conditions of approval for construction projects, including City permits/review for construction (e.g., grading permits, private development review, or encroachment permits), the City's CAP, and CALGreen requirements.

Construction vehicles consume fuel. As discussed in Chapter 4.7, Greenhouse Gas Emissions, the US EPA updated the existing CAFE standards for vehicular fuel efficiency and GHG emissions in 2012 for model years 2017 to 2025, which include targets for gallons of fuel consumed per mile. While construction activities require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development.

Operation Energy Impacts

The potential future development under the proposed project would result in a long-term increase in energy demand associated with the operation of lighting and space heating/cooling, and vehicle travel. The proposed project is expected to use approximately 11,290 kWh (kilowatt hour) of electricity and

1,438,685 kBtu (kilo British thermal unit) of natural gas annually.[11] The proposed project would be constructed using energy efficient modern building materials and construction practices. The new buildings also would use new modern appliances and equipment, and would comply with the current CALGreen Building Code per CMC Chapter 15.45, which requires the use of recycled construction materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems.

Transportation Energy Impacts

Chapter 4.14, Transportation and Traffic, provides an evaluation of the expected vehicle trips generated by the proposed project. The proposed project would potentially generate about 590 typical weekday and 1,300 typical weekend trips, including visitors and employees. As discussed above and in Chapter 4.7, Greenhouse Gas Emissions, the US EPA adopted standards that include targets for gallons of fuel consumed per mile beginning in model year 2011. These standards were extended through model year 2025 through current rulemaking by the US EPA. While future transportation would require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development. In addition, as concluded in Chapter 4.7, Greenhouse Gas Emissions, the proposed project would not result in any significant impacts related to GHG emissions. Furthermore, the Regional Park would be accessible for hikers, bikers, and equestrians from the future regional trail along Mount Diablo Creek and local neighborhood trails that would connect to the North Concord/Martinez Bay Area Rapid Transit (BART) Station. There is also the potential for transit providers (e.g., Central Contra Costa County Transit Authority and Tri Delta Transit) to provide bus connections to link the BART station and the Regional Park. These alternative modes of transportation further reduce fuel consumption.

Renewable Energy Impacts

The proposed project would be within the 70,000-square-mile PG&E service territory for electricity and natural gas generation, transmission and distribution. Due to the proposed project's size and location adjacent to existing development, potential future buildout of the proposed project would not significantly increase energy demands within the service territory and would not require new energy supply facilities or transmission infrastructure. As a result, new energy supply facilities and transmission infrastructure, or capacity-enhancing alterations to existing facilities, would not be required. The proposed project would be required to comply with the applicable regulations (listed above), including the renewable energy measures in the City of Concord CAP and General Plan.

The proposed project would not result in a substantial increase in natural gas and electrical service demands, and would not require substantial new energy supply facilities and transmission infrastructure, or require increases in the capacity of existing energy provision facilities. Therefore, the impact would be *less than significant*.

[11] This values are consistent with *California Emissions Estimator Model User's Guide* of electricity and natural gas, respectively, for commercial uses, from California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2*. 2016. Calculations are included in Appendix B of this Draft EIR.

Significance without Mitigation: *Less than significant.*

ENE-2	**The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Construction

Construction of the proposed project would require the use of construction equipment for grading, hauling, and building activities. Electricity use during construction would vary during different phases of construction—the majority of construction equipment during demolition and grading would be gas or diesel powered, and the later construction phases would require electricity-powered equipment. Construction also includes the vehicles of construction workers traveling to and from the project site and haul trucks for the export of materials from site clearing and the export and import of soil for grading.

The construction contractors are anticipated to minimize idling of construction equipment during construction and reduce construction and demolition waste by recycling. These required practices would limit wasteful and unnecessary electrical energy consumption. Furthermore, there are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. Furthermore, as indicated in Impact ENE-1 above, construction vehicles for model years 2017 to 2025 are mandated by the CAFE standards. These standards include targets for gallons of fuel consumed per mile. Therefore, the proposed short-term construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operations

As indicated under Impact ENE-1, new structures would be designed in accordance with the 2016 Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11). The new buildings would also use new energy efficient appliances and equipment and would not result in inefficient, wasteful, or unnecessary electricity and natural gas consumption. The proposed project would also consume transportation energy during operations from the use of motor vehicles. Estimates of transportation energy use are based on the overall vehicle miles traveled (VMT) and related transportation energy use. Project-related VMT would come from employee and visitor vehicle trips; delivery and supply trucks, and trips by maintenance and repair crews. At project buildout (year 2050) the proposed project would increase VMT by 1,689,229 annually. Table 4.5-1 shows the proposed project's annual use of energy based on VMT. As shown in this table, the proposed project would consume 39,561 gallons of fuel per year (gasoline, diesel, and compressed natural gas) and 37,111 kilowatt-hours (kWh) of electricity per year (Refer to Appendix D, *Transportation Energy Use Calculations*).

TABLE 4.5-1 PROJECT OPERATION-RELATED VEHICLE FUEL/ENERGY USAGE

	Gas		Diesel		CNG		Energy[a]	
Total VMT	VMT	Gallons/ Year	VMT	Gallons/ Year	VMT	Gallons/ Year	VMT	kWh/ Year
1,689,229	1,565,767	37,208	30,684	2,353	0	0	92,777	37,111

Notes CNG = compressed natural gas; VMT = vehicle miles traveled; kWh = kilowatt-hour
a. Electricity use from electric vehicles is based on the average electricity consumption available from the U.S. Department of Transportation (DOT), 2017.
Source: CalEEMod 2016.3.2; EMFAC2017.

Although the project would increase annual fuel consumption associated with more trips, average corporate fuel economy would increase as a result of state and federal laws, including the Pavley Advanced Clean Cars program, as well as vehicle turnover, which improves the overall fuel economy of California's vehicle fleets. Therefore, fuel consumption associated with vehicle trips generated by the proposed project would not be considered inefficient, wasteful, or unnecessary.

Significance without Mitigation: *Less than significant.*

ENE-3 The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The project site is currently being serviced by PG&E. In 2017, 33 percent of PG&E's electricity was generated from renewable energy. Therefore, PG&E met California's 2020 renewable energy goal three years ahead of schedule.

The net increase in power demand associated with the proposed project is anticipated to be within the service capabilities of PG&E and would not impede PG&E's ability to implement California's renewable energy goals. Therefore, the proposed project would not obstruct a State or local plan for renewable energy. Additionally, and with reference to Impact ENE-2 above, the proposed project would not obstruct a state or local plan for energy efficiency. Therefore, impacts would be less than significant.

Significance without Mitigation: *Less than significant.*

4.5.4 CUMULATIVE IMPACTS

ENE-4 The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy conservation and renewable energy.

The area considered for cumulative impacts to energy consumption is the service area of PG&E as described above in Section 4.5.1. All of the development projects within the vicinity of the project site,

listed in Chapter 4, are within the service area of PG&E. All these projects would result in a long-term increase in operational energy demand for electricity and natural gas use. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the PG&E service area would implement the requirements of the 2016 Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6), the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11), the City's CAP. New buildings would also use new energy efficient appliances and equipment. Future projects would also implement renewable energy measures as indicated in the City's CAP and General Plan.

Future development would also increase annual fuel consumption. However, vehicles would be subject to the US EPA CAFE standards for vehicular fuel efficiency and average corporate fuel economy continue to increase as a result of state and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets.

All of these measures would contribute in minimizing inefficient, wasteful, or unnecessary energy consumption, and ensure compliance with state or local plans for renewable energy and cumulative impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.6 GEOLOGY AND SOILS

This section evaluates the potential for implementation of the proposed Plan to impact geological and soil resources in the proposed Regional Park. The analysis in this section is based, in part, upon the following sources:

- City of Concord, 2008, Concord Community Reuse Plan, Draft Environmental Impact Report (EIR).
- City of Concord, 2010, Concord Community Reuse Plan, Final EIR.
- City of Concord. 2012, Final EIR Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.
- Department of the Navy, Naval Facilities Engineering Command Headquarters, 2014, Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- TriEco-Tt, A Joint Venture of Tric Eco LLC and Tetra Tech, 2017, Final Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord, Concord California.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

State Regulations

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into State law in 1972. Its primary purpose is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. This Act delineates "Earthquake Fault Zones" along faults that are "sufficiently active" and "well defined." This Act also requires that cities and counties withhold development permits for sites within an earthquake fault zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this Act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA) was adopted by the State in 1990 to protect the public from the effects of non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the SHMA is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The SHMA requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate

mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within one of the designated seismic hazard zones.

California Building Code

Current law states that every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) (Title 24, Part 2 of the California Code of Regulations) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission. The most recent building standard adopted by the legislature and used throughout California is the 2016 version of the CBC (effective January 1, 2017), often with local, more restrictive amendments that are based on local geographic, topographic, or climatic conditions. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock on-site, and the strength of ground shaking with specified probability of occurring at a site.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more State-mapped hazard areas, including a Seismic Hazard Zone. California law also requires that when houses built before 1960 are sold, the seller must give the buyer a completed earthquake hazards disclosure report and a booklet titled "The Homeowners Guide to Earthquake Safety." This publication was written and adopted by the California Seismic Safety Commission.

California Environmental Quality Act

The California Environmental Quality Act (CEQA), as *codified in Public Resources Code (PRC) Sections 21000 et seq.,* is the principal statute governing the environmental review of projects in the state. Paleontological resources are afforded protection under CEQA. The Society of Vertebrate Paleontology (SVP) has set significance criteria for paleontological resources (1995).[1] Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP.

California Public Resources Code Section 5097

Public Resources Code (PRC) Section 5097.5 prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency.

[1] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

California Penal Code Section 622.5

The California Penal Code Section 622.5 details the penalties for damage or removal of paleontological resources.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals protecting geologic resources and soils, in the Natural and Resources Management section.

Policy NRM 13 is as follows:

- NRM 13: Geology, Soils and Paleontology – The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance in areas with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical, and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands, and will conform with applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

Local Regulations

Contra Costa County / City of Concord Local Hazard Mitigation Plan

Contra Costa County Office of Emergency Services and 12 incorporated cities in the County, including the City of Concord, worked together to create a county-wide Local Hazard Mitigation Plan, which includes the City of Concord[2]. The purpose of the Local Hazard Mitigation Plan is to enable the County and the City of Concord to take ongoing action to reduce or eliminate long-term risks to human life, property, and the environment from many types of natural hazards, such as earthquakes, which the City ranks as its highest "Hazard Risk". The plan was adopted by the City of Concord, but does not have specific policies for the Concord Naval Weapons Station.

[2] https://www.contracosta.ca.gov/6415/Local-Hazard-Mitigation-Plan. See Volume 2 Planning Partner Annexes.

Local Regulations

Concord 2030 General Plan

The City of Concord's General Plan includes goals, principles, and policies relevant to the environmental factors potentially affected by the proposed project, including the following:

- Goal S-3: A High Level of Life and Property Protection
- Principle S-3.1: Reduce Damage Due to Seismic Hazards.
  - Policy S-3.1.1: Require as part of the development review process a thorough evaluation of geologic-seismic and soils conditions and risks.
  - Policy S-3.1.2: Require all new development to design structures and building pursuant to applicable state and local codes. (These codes include seismic design criteria).
  - Policy S-3.1.3: Require geologic studies to be conducted for all structures, including those not for human occupancy, located above and below ground whenever a project is located within an Earthquake Fault Zone as identified by the California Geologic [sic] Survey.
  - Policy S-3.1.5: Cooperate with appropriate government agencies and public and private organizations to address seismic hazards.
- Principle S-3.2: Minimize the Effects of Landslides and Ground Failure.
  - Policy S-3.2.1: Require all development on hillsides where the grade exceeds 15 percent to submit a hillside development (i.e., grading) plan that demonstrates contoured grading techniques to ensure that buildings, streets, and drives can be accommodated safely with a minimum amount of grading.
  - Policy S-3.2.2: Restrict development on hillsides with slopes over 30 percent. Where slopes over 30 percent occur within areas shown for development on the General Plan Diagram, they should be set aside as open space where feasible.
  - Policy S-3.2.3: Require soils and geologic hazards analysis and mitigation as part of development project review.
  - Policy S-3.2.4: Regulate all development, including remodeling or structural rehabilitation, to assure adequate mitigation of safety hazards on sites having a history or threat of slope instability, erosion, subsidence, ground failure, ground rupture, and/or liquefaction.
  - Policy S-3.2.5: Control erosion of graded areas with revegetation or other acceptable methods.

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 16, Environment, and Title 18 Development Code, include regulations relevant to geology in Concord as discussed below.

- Chapter 16.10 Grading, Erosion, and Sedimentation Control. Chapter 16.10 of the City's Municipal Code establishes grading standards to prevent erosion.

- Chapter 18.300 Hillside Protection. Chapter 18.300 of the City's Municipal Code establishes regulations to minimize impacts to hillside development and risk of personal injury and damage to property from landslides, erosion, earth creep, stormwater runoff, and other hazards in and near hillside areas of the city.

4.6.1.2 EXISTING CONDITIONS

Geologic Setting and Seismicity

The project site is situated in the Coast Ranges Geomorphic Province, a long region of moderate relief containing many elongate ridges and narrow valleys that are approximately parallel to the coast. This geomorphic province encompasses an area that extends about 600 miles from the Oregon border to the Santa Ynez River and is subdivided into the ranges north of San Francisco Bay and the ranges south of the bay to Santa Barbara County.[3] The project site elevations range from approximately 100 feet above mean sea level at the western border to 1,000 feet above mean sea level at the eastern border. The south-western portion of the site is located in the Clayton Valley, which consists of gently sloping lowlands and hilly terrain ranging in elevation from sea level to 400 feet. The floor of the valley slopes gently toward the northwest. The northeast portion of the site is located within the Los Medanos Hills, which have peak elevations ranging from 800 feet in the lower hills to greater than 1,400 feet. The Los Medanos Hills have significant topographic relief including steep hill slopes of over 50 percent.

Native soil deposits within the Clayton Valley include Holocene and Pleistocene age alluvial fan and fluvial deposits, Holocene floodplain deposits, Holocene stream channel deposits, and undifferentiated Pliocene/Pleistocene continental gravels.[4] The upland areas along the Los Medanos Hills are generally composed of Tertiary and Cretaceous age sandstone, shale and mudstone bedrock units.[5,6,7] Soil deposits in the area are as follows:[8]

- *Alluvial fan and fluvial deposits (Holocene):* Alluvial fan deposits are brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, medium dense sand that fines upward to sandy or silty clay.
- *Floodplain deposits (Holocene):* Floodplain deposits are medium to dark gray, dense, sandy to silty clay. Lenses of coarser material (silt, sand and pebbles) may be locally present.

[3] Norris, R.M. and R.W. Webb, 1990, Geology of California, Second Edition, John Wiley & Sons, Inc., New York.

[4] Helley, E.J. and R.W. Graymer, 1997, Quaternary Geology of Contra Costa County, California, and Surrounding Areas: Derived from the Digital Database Open-File 97-98, U.S. Geological Survey Open-File Report 97-98, scale 1:100,000.

[5] Wagner, D.L. and E.J. Bortugno, 1999, Geologic Map of the Santa Rosa Quadrangle, California Geological Survey Regional Geologic Map Series, Map No. 2A (Geology), scale 1:250,000.

[6] Wagner, D.L., C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno, 1987, Geologic Map of the Sacramento Quadrangle, California Geological Survey Regional Geologic Map Series, Map No. 1A (Geology), scale 1:250,000.

[7] Wagner, D.L., E.J. Bortugno, and R.D. McJunkin, 1991, Geologic Map of the San Francisco-San Jose Quadrangle, California. California Geological Survey Regional Geologic Map Series, Map No. 5A (Geology), scale 1:250,000.

[8] Helley, E.J. and R.W. Graymer, 1997, Quaternary Geology of Contra Costa County, California, and Surrounding Areas: Derived from the Digital Database Open-File 97-98, U.S. Geological Survey Open-File Report 97-98, scale 1:100,000.

- *Stream channel deposits (Holocene):* Stream channel deposits are poorly to well-sorted sand, silt, silty sand, or sandy gravel with minor cobbles. Cobbles are more common in the valleys.
- *Alluvial fans and fluvial deposits (Pleistocene):* Alluvial fans and fluvial deposits are brown, dense gravelly and clayey sand, or clayey gravel that fines upward to sandy clay. These deposits display various sorting and are located along most stream channels in Contra Costa County. All of these deposits can be related to modern stream courses. They are distinguished from younger alluvial fans and fluvial deposits by higher topographic position, a greater degree of dissection, and stronger soil profile development. They are less permeable than Holocene deposits, and are overlain by Holocene deposits on lower parts of the alluvial plain.
- *Undifferentiated continental gravels (Plio-Pleistocene):* Undifferentiated continental gravels are semi-consolidated to unconsolidated poorly sorted gravel, sand, silt and clay. These deposits are unrelated to modern drainages.

The project site is located in the seismically active San Francisco Bay region, which has experienced repeated moderate to large earthquakes. Notable historic seismic events affecting the area are presented in Table 4.6-1. As shown in Table 4.6-1, the Clayton section of the Greenville Fault traverses the site. The fault crosses the site near the southwest base of the Los Medanos Hills. There is no record of historic earthquakes on this section of the fault, and the fault has been interpreted to have a low slip rate based on geomorphic evidence.[9]

A 2003 estimate made by the Working Group on California Earthquake Probabilities gave a 62 percent probability for one or more magnitude 6.7 or greater earthquakes to occur within the Bay Area in the 30-year period between 2002 and 2031.[10]

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), microscopic plants and animals (microfossils), and trace fossils (footprints, burrows, etc.). Fossils are preserved in sedimentary rocks, which are the most abundant rock type exposed at the surface of the earth. Despite the abundance of these rocks, and the vast numbers of organisms that have lived through time, preservation of plant or animal remains as fossils is a rare occurrence. In many cases, fossils of animals and plants occur only in limited areas and in small numbers relative to the distribution of the living organisms they represent. In particular, fossils of vertebrates—animals with backbones—are sufficiently rare to be considered nonrenewable resources. The Society of Vertebrate Paleontology (SVP) defines a significant fossil resource as, "identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older

[9] Bortugno, E.J., R.D. McJunkin, and D.L. Wagner, 1991, Map Showing Recency of Faulting, San Francisco-San Jose Quadrangle, California. California Geological Survey Regional Geologic Map Series, Map No. 5A , Sheet 5, scale 1:250,000.

[10] Working Group on California Earthquake Probabilities, 2003, Earthquake Probabilities in the San Francisco Bay Region: 2002-2031. U.S. Geological Survey Open-File Report 03-214 located at https://pubs.usgs.gov/of/2003/of03-214/OFR-03-214_FullText.pdf, accessed on May 10, 2018.

TABLE 4.6-1 SIGNIFICANT FAULTS NEAR THE SITE

Active Fault	Distance/Direction from Site	Recent Movement	Historical Seismicity (M)[a]	Mw[b]
Greenville: Clayton section	Bisects	Late Quaternary	Slip rate 0.004-0.0008 inches/year	6.25
Concord-Green Valley	1 mile southwest	Historic (1955) Holocene	M 5.4, 1955 Historic active creep	6.9
Mount Diablo Thrust	10 miles south	Holocene (Late Quaternary)	Slip rate 0.12 inches/year	6.6
Greenville: Marsh Creek-Greenville Section	11.3 miles southeast	Historic (1980)	M 5.6, 1980	6.9
West Napa	14 miles northwest	Historic (2014)	M 5.2, 2000, M 6.0, 2014	6.5
Hayward	15 miles west	Historic (1836, 1868)	M 6.8, 1868, Many <M 4.5	7.1
Calaveras	17 miles south	Historic (1861), Holocene	M 5.6-M 6.4, 1861, M 4-M 4.5, swarms 1970, 1990	6.8
Rodgers Creek	24 miles northwest	Holocene	M 6.7, 1898, M 5.6, M 5.7, 1969, Historic active creep	7.0
San Andreas	34 miles west	Historic (1906, 1989)	M 7.0, 1838, M 7.9, 1906, M 7.1, 1989 Many <M 4.5	7.9

Note: M = Richter magnitude; Mw = moment magnitude.
a. Richter magnitude and year for recent and/or large events. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.
b. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event. The maximum moment magnitude earthquake is derived from the "Probabilistic Seismic Hazard Assessment for the State of California." Cao, T., W.A. Bryant, B. Rowshandel, D. Branum, and C. J. Wills, 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, http://www.conservation.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/2002_ca_hazard_maps.pdf, ` on May 10, 2018.
Sources: Jennings, C.W. and W.A. Bryant, 2010. Fault Activity Map of California, California Geological Survey California Geologic Data Map Series, Map No. 6, scale 1:750,000; U.S. Geological Survey, 2014, M6.0 South Napa, California Earthquake of 24 August 2014, https://earthquake.usgs.gov/archive/product/poster/20140824/us/1480721358422/poster.pdf, accessed on May 10, 2018.

than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."[11]

The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historical record of past plant and animal life but can assist geologists in dating rock formations. Fossil discoveries can expand understanding of the time periods and the geographic range of existing and extinct flora and fauna.

[11] Society of Vertebrate Paleontology, 2010*, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources,* page 11. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

The SVP established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources.[12] Most practicing paleontologists in the United States adhere closely to the SVP's guidelines, which were approved through a consensus of professional paleontologists. Many federal, State, county, and city agencies have either formally or informally adopted the SVP's standard guidelines for the mitigation of adverse construction-related impacts on paleontological resources. The SVP has helped define the value of paleontological resources and, in particular, indicates that geologic units of high paleontological potential are those from which vertebrate or significant invertebrate or plant fossils have been recovered in the past (i.e., are represented in institutional collections). Geologic units of low paleontological potential are those that are not known to have produced a substantial body of significant paleontological material. Accordingly, the sensitivity of an area with respect to paleontological resources hinges on its geologic setting and whether significant fossils have been discovered in the area or in similar geologic units.

The SVP further states the following:

- Vertebrate fossils and fossiliferous deposits are considered significant nonrenewable paleontological resources, and are afforded protection by federal, State, and local environmental laws and guidelines.
- A paleontological resource is considered to be older than recorded history or 5,000 years before present and should not be confused with archaeological resource sites.
- Certain plant or invertebrate fossils may be designated as significant by a project paleontologist, special interest group, lead agency, or local government.

With these principles, the SVP has outlined criteria for screening the paleontological potential of rock units and established assessment and mitigation procedures tailored to such potential.[13] Table 4.6-2 lists the criteria for high-potential, undetermined, and low-potential rock units.

It is important to note that while paleontological potential as defined above can provide a rough idea of whether subsurface fossils may exist, the uniqueness or significance of a fossil locality is unknown until it is identified to a reasonably precise level.[14] Therefore, any fossil discovery should be treated as potentially unique or significant until determined otherwise by a professional paleontologist.

The project site is located in the Coastal Ranges Geomorphic Province, which consist of northwest-trending mountain ranges and valleys that run along the Pacific coast from Santa Barbara to the Oregon border and preserve a thick sequence of sedimentary strata dating back to the Mesozoic (approximately 251 million years ago) overlying granitic and metamorphic bedrock.[15] These sedimentary rocks have a rich fossil history in central California, recording the filling of offshore basins dating to the Mesozoic followed

[12] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, page 11. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[13] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[14] Scott and Springer, 2003, CEQA and Fossil Preservation in California, AEP Spring CEQA Workshop Series, The Environmental Monitor, Fall.

[15] Norris, R.M. and R.W. Webb, 1990*, Geology of California,* second edition: John Wiley & Sons, New York.

TABLE 4.6-2 PALEONTOLOGICAL POTENTIAL CRITERIA

Paleontological Potential	Description
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have high potential. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material, as demonstrated by paleontological literature and prior field surveys, and which are poorly represented in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e g. basalt flows or recent colluvium, and considered to have low potential.

Source: Society of Vertebrate Paleontology (SVP), 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

by the progressively shallowing sea and the emergence of terrestrial environments in the Miocene up through the Pleistocene Ice Ages, marked by intervals of sea level rise and fall.[16]

Geologic Hazards

Expansive Soils

Expansive soils shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Based on the presence of alluvial materials within the site, there is some potential for expansive soils.[17]

[16] Norris, R.M. and R.W. Webb, 1990, Geology of California, second edition: John Wiley & Sons, New York.

[17] U.S. Department of Agriculture, Natural Resources Conservation Service, 2018, Web Soil Survey, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on May 10, 2018.

Subsidence

The phenomenon of widespread land sinking, or subsidence, is generally related to substantial overdraft of groundwater or petroleum reserves from underground reservoirs. Gas production wells are present within the project site boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on California Department of Water Resources' estimation of low potential for future land subsidence[18] in the site vicinity, subsidence is not considered to be a significant potential hazard on the site.

Slope Failure

Landslides are perceptible downward movements of a mass of earth (soil and/or debris), rock or a combination of the two under the influence of gravity. Landslide materials are commonly porous and very weathered in the upper portions and along the margins of the slide. They may also have open fractures or joints. Slope failures can occur during or after periods of intense rainfall or in response to strong seismic shaking. Areas of high topographic relief, such as steep canyon walls, are most likely to be impacted by slope failure. Landslides, earthflows, and debris flows are relatively common features along the ridges and hillsides of the Los Medanos Hills within the site boundaries.

Seismic Hazards

Strong Seismic Ground Shaking

Earthquakes are common to northern California, and geologic evidence is used to determine the likelihood of future ruptures along a fault. The amplitudes of earthquake waves are measured on the Richter Scale. Each one-point increase in magnitude represents a ten-fold increase in wave amplitude and a 32-fold increase in energy. That is, a Magnitude (M) 7 earthquake produces 100 times (10 x 10) the ground motion amplitude of an M 5 earthquake, and releases over 1,000 times (32 x 32) more energy.

Peak horizontal ground acceleration values that could be expected at this location are based on types and characteristics of fault sources, distances and estimated maximum earthquake magnitude and subsurface site geology. The accuracy of the peak horizontal ground acceleration estimate would depend upon the method of determination. The maximum magnitude earthquake is considered to be the largest earthquake that is expected to occur along a fault under the current tectonic framework and is based in part on various fault characteristics (length, style of faulting and historic seismicity). The Greenville and Concord faults are the dominant active faults that could be expected to significantly impact the site.

[18] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 9, 2018.

Liquefaction and Related Ground Failure

Liquefaction is a process whereby strong earthquake shaking causes sediment layers that are saturated with groundwater to lose strength and behave as a fluid. This subsurface process can lead to near-surface or surface ground failure that can result in property damage and structural failure. If surface ground failure does occur, it is usually expressed as lateral spreading, flow failures, ground oscillation, and/or general loss of bearing strength. Sand boils (injections of fluidized sediment) can commonly accompany these different types of failure. In order to determine a region's susceptibility to liquefaction, the following three major factors must be analyzed:

- The intensity and duration of ground shaking.
- The age and textural characteristic of the alluvial sediments: Generally, the younger, less well compacted sediments tend to have a higher susceptibility to liquefaction. Textural characteristics also play a dominant role in determining liquefaction susceptibility. Sand and silty sands deposited in river channels and floodplains tend to be more susceptible to liquefaction and floodplains tend to be more susceptible to liquefaction than coarser or finer grained alluvial materials.
- The depth to the groundwater. Groundwater saturation of sediments is required in order for earthquake induced liquefaction to occur. In general, groundwater depths shallower than 10 feet to the surface can cause the highest liquefaction susceptibility.

Research and historical data indicate that loose, granular materials at depths of less than 50 feet with silt and clay contents of less than 30 percent saturated by relatively shallow groundwater table are most susceptible to liquefaction. The areas with the highest potential for liquefaction on the site are generally Holocene stream channel deposits. Holocene and Pleistocene alluvial fan and fluvial deposits, located adjacent to Mount Diablo Creek and extended from approximately a mile south of Willow Pass Road to Kirker Pass Road, have a high liquefaction potential. In addition, alluvial deposits near East Olivera Road between State Route 4 and Willow Pass Road and along Mount Diablo Creek have a moderate liquefaction potential.

Paleontological Resources

Known Resources and Sensitivity Assessment

The online collections database of the University of California Museum of Paleontology (UCMP) was searched for fossil localities from geologic units mapped as occurring in the project site. Data provided through the UCMP's online database includes taxonomic identification, locality number and name, age, and county, and geologic formation. Precise locality data is not provided; however, in some cases the locality name can be used to further refine the general vicinity of the locality within the county. The results of this search are as follows:

- Holocene Alluvium: As discussed above, Holocene-aged alluvium is too young to preserve fossil resources in its upper layers, but increases in age with depth and may therefore preserve fossils similar to those in Older Alluvium in the subsurface. Therefore, Holocene Alluvium has low-to-high paleontological potential, increasing with depth. While the exact depth of this transition is not known

for the project site, fossil discoveries in similar sediments indicate it may be as shallow as 5-10 feet below ground surface.[19,20]

- Landslide Deposits: As discussed above, landslide deposits form in a way that is both too young and unlikely to preserve fossil resources. Therefore, these sediments are assigned low paleontological potential. However, landslide deposits overlie the Markley and Kreyenhagen formations in the project site, and so ground disturbing activities that exceed the depth of the landslide deposits risk impacting those underlying units.
- Older Alluvium: The UCMP database lists 9,927 vertebrate fossil specimens and seven invertebrate fossil specimens from 56 localities in Pleistocene-aged sediments in Contra Costa County.[21] Of the localities for which more precise location could be inferred from the locality name, several are located within 10 miles of the project site. Of these, Pacheco 1 and 2 are the most fossiliferous, with 6,929 specimens of mammals, birds, reptiles, and amphibians collected from Pacheco, approximately 5 miles west of the project site.[22] Due to the established presence of abundant fossil resources in this unit in Contra Costa County and elsewhere across central California, Older Alluvium is assigned high paleontological potential.
- Oro Loma Formation: The UCMP database does not list any fossil specimens in the collection from the Oro Formation. While the Oro Loma Formation is of an age and represents a depositional setting conducive to the preservation of fossil resources, there is no information available in the literature or the UCMP collections to indicate fossils have ever been found in this unit. At this time, therefore, the Oro Loma Formation is assigned low paleontological potential.
- Markley Formation: The UCMP database has records of four vertebrate and 105 invertebrate fossils from 16 localities in the Markley Formation in Contra Costa County.[23] Of the localities for which more precise location could be inferred from the locality name, many are located in Markley Canyon, approximately 6.6 miles east of the project site.[24] The vertebrate fossils in the UCMP collection are all fish, while the invertebrates are gastropod and bivalve mollusks.[25] The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

[19] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.

[20] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.

[21] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[22] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[23] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[24] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[25] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

- **Kreyenhagen Formation:** The UCMP database has records of 37 vertebrate fossils from two localities in the Kreyenhagen Formation in Contra Costa County.[26] Both localities appear to be located in or around Byron, California, approximately 20 miles southeast of the project site.[27] The vertebrate fossils in the UCMP collection are primarily fish, with one bird fossil listed.[28] The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

Known Resources and Sensitivity Assessment

The online collections database of the University of California Museum of Paleontology (UCMP) was searched for fossil localities from geologic units mapped as occurring in the project site. The results of this search are as follows:

- **Holocene Alluvium**: Holocene Alluvium has low-to-high paleontological potential, increasing with depth. While the exact depth of this transition is not known for the project site, fossil discoveries in similar sediments indicate it may be as shallow as 5-10 feet below ground surface.[29,30]
- **Landslide Deposits**: Landslide deposits overlie the Markley and Kreyenhagen formations in the project site, and so ground disturbing activities that exceed the depth of the landslide deposits risk impacting those underlying units.
- **Older Alluvium**: The UCMP database lists 9,927 vertebrate fossil specimens and seven invertebrate fossil specimens from 56 localities in Pleistocene-aged sediments in Contra Costa County.[31] Due to the established presence of abundant fossil resources in this unit in Contra Costa County and elsewhere across central California, Older Alluvium is assigned high paleontological potential.
- **Oro Loma Formation**: While the Oro Loma Formation is of an age and represents a depositional setting conducive to the preservation of fossil resources, there is no information available in the literature or the UCMP collections to indicate fossils have ever been found in this unit. At this time, therefore, the Oro Loma Formation is assigned low paleontological potential.
- **Markley Formation:** The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

[26] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[27] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[28] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[29] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.

[30] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.

[31] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

- Kreyenhagen Formation: The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to geology and soils if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
    b. Strong seismic ground shaking.
    c. Seismic-related ground failure, including liquefaction.
    d. Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.6.3 IMPACT DISCUSSION

GEO-1	**The project would not result in significant impacts from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides.**

Pursuant to the *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 and *Ballona Wetlands Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473-474, CEQA does not require an EIR to analyze the environmental effects of attracting development and people to a hazardous area, except when the project exacerbates an existing environmental hazard or condition, or when specifically required by statute. Therefore, the discussion of geologic hazards below focuses on the extent to which the proposed project could exacerbate existing hazards.

Fault Rupture

Although no Alquist-Priolo Earthquake Fault Zone is located on the project site, the Clayton section of the Greenville Fault traverses the site near the southwest base of the Los Medanos Hills. There is no record of historic earthquakes on this section of the fault, and the fault has been interpreted to have a low slip rate based on geomorphic evidence. Based on the lack of known active faults on the site and the required geotechnical investigations for all grading within the city, fault rupture is not considered to be a potentially significant impact on the site. Therefore, the impact is *less than significant*.

Seismic Ground Shaking

The intensity of ground shaking at a given location depends on several factors, primarily on the earthquake magnitude, the distance from the epicenter to the site of interest, and the response characteristics of the soils or bedrock units underlying the site. The Greenville and Concord-Green Valley faults, which are the faults closest to the project site, are potentially capable of producing the most intense ground accelerations at the site, due to their proximity to the site. Secondary effects of earthquakes are nontectonic processes such as ground deformation, including fissures, settlement, displacement, and loss of bearing strength, and are the leading causes of damage to structures during a moderate to large earthquake. Secondary effects leading to ground deformation include liquefaction, lateral spreading, seismically induced landslides, and ground lurching.

In northern California, there is no way to completely avoid earthquake hazards. However, appropriate measures to minimize the effects of earthquakes are included in the most recent CBC, with specific provisions for seismic design. The CBC has been accepted as the basic design standard in the City of Concord and Contra Costa County. The design of structures in accordance with the CBC is expected to minimize the effects of ground shaking, except for during catastrophic seismic event, to the greatest degree feasible. Exposure of people or structures to seismic hazards is not a CEQA impact. Pursuant to the 2015 CBIA v BAAQMD case, CEQA applies to a project's impacts on the environment, not the environment's impacts on the project unless the project would exacerbate the environmental hazard.[32] Implementation of the proposed project would not cause or worsen seismic ground shaking; therefore, the impact would be *less than significant*.

Liquefaction

Research and historical data indicate that loose, granular materials at depths of less than 50 feet with silt and clay contents of less than 30 percent saturated by relatively shallow groundwater table are most susceptible to liquefaction. These geological conditions are typical in parts of northern California, including the City of Concord, and in valley regions and alluvial floodplains. Although liquefaction is expected within the site, based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering reports and implementation of any proposed

[32] California Supreme Court, 2015, California Building Industry Association v. Bay Area Air Quality Management District, Opinion No. S213478, date filed December 17, 2015.

recommendations from the report, liquefaction impacts to any new developments within the area would be reduced to a *less-than-significant* level.

Landslides

Marginally stable slopes (including existing landslides) may be subject to landslides caused by earthquakes. The landslide hazard depends on many factors, including existing slope stability, shaking potential, and presence of existing landslides. The terrain of the site is varied, ranging from relatively flat to hilly. Any grading permit for development activities within a hillside must have an engineering geology report prepared and submitted to the City. This report would include proposed recommendations for landslide hazards if applicable. Therefore, landslides impacts are expected to be *less than significant*.

Lateral Spreading

Lateral spreading is a phenomenon where large blocks of intact, non-liquefied soil move downslope on a large liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. Site-specific grading and compaction that could occur as part of future development on the site would mitigate any potential impacts from seismically induced lateral spreading. Therefore, the impact would be *less than significant*.

Settlement, Subsidence, and/or Collapse

The potential hazard posed by seismic settlement and/or collapse on the site is considered to be moderate, based on the compressibility of the underlying alluvial soils. Strong ground shaking can cause settlement of alluvial soils underlying the site by allowing sediment particles to become more tightly packed. Alluvial deposits are especially susceptible to this phenomenon. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. Because unconsolidated soils and undocumented fill material are present on the site, seismically induced settlement and/or collapse are potential impacts.

Subsidence of basins attributed to overdraft of groundwater aquifers or over-pumping of petroleum reserves has been reported in various parts of northern California. Gas production wells are present within the project boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on the estimated low potential for future land subsidence,[33] subsidence is not considered to be a potentially significant impact on the site, and no mitigation is required.

Site-specific grading and compaction that would occur as part of future development within the site area would serve to mitigate any potential impacts from seismically induced settlement and/or collapse. Therefore, the impact would be *less than significant*.

[33] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 10, 2018.

Ground Lurching

Seismically induced ground lurching occurs when soil or rock masses move at right angles to a cliff or steep slope in response to seismic waves. Structures built on these masses can experience significant lateral and vertical deformations if ground lurching occurs. Based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering, engineering geology and seismicity reports, ground lurching impacts would be reduced to a *less-than-significant* level.

Significance without Mitigation: *Less than significant.*

GEO-2	**The project would not result in substantial soil erosion or the loss of topsoil.**

Soils are particularly prone to erosion during the grading phase of development, especially during heavy rains. Reduction of the erosion potential can be accomplished through a Storm Water Pollution Prevention Plan, which specifies best management practices for temporary erosion controls. Such measures typically include temporary catchment basins and/or sandbagging to control runoff and contain sediment transport within the site. The Plan includes Management Prescription RESOURCE 1 "Implement Best Management Practices (BMPs) for erosion and sediment control." Therefore, the impact would be *less than significant*.

A more comprehensive discussion of erosion can be found in Chapter 4.9, Hydrology and Water Quality.

Significance without Mitigation: *Less than significant.*

GEO-3	**The project would not result in significant impacts associated with location on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.**

Liquefaction

As described under Impact GEO-1, soils susceptible to liquefaction are typical in parts of northern California, including the City of Concord, and in valley regions and alluvial floodplains.

Although liquefaction is expected within the site, based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering reports and implementation of any proposed recommendations from the report, liquefaction impacts would be reduced to a *less-than-significant* level.

Landslides

As described under Impact GEO-1, the terrain of the site is varied, ranging from relatively flat to hilly. Any grading permit for a hillside development must have an engineering geology report prepared and submitted to the City. This report would include proposed recommendations for landslide hazards if

applicable. Therefore, the proposed project would not exacerbate any potential landslide hazards and the impact would be *less than significant*.

Lateral Spreading

As described under Impact GEO-1, grading and compaction that would occur as part of future development on the site would mitigate any potential impacts from seismically induced lateral spreading. Therefore, the impact would be *less than significant*.

Settlement, Subsidence, and/or Collapse

As described under Impact GEO-1, the potential hazard posed by seismic settlement and/or collapse on the site is considered to be moderate, based on the compressibility of the underlying alluvial soils. Strong ground shaking can cause settlement of alluvial soils underlying the site by allowing sediment particles to become more tightly packed. Alluvial deposits are especially susceptible to this phenomenon. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. Because unconsolidated soils and undocumented fill material are present on the site, seismically induced settlement and/or collapse are potential impacts.

Subsidence of basins attributed to overdraft of groundwater aquifers or over-pumping of petroleum reserves has been reported in various parts of northern California. Gas production wells are present within the project boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on the estimated low potential for future land subsidence,[34] subsidence is not considered to be a potentially significant impact on the site, and no mitigation is required.

Site-specific grading and compaction that would occur as part of future development within the site would serve to mitigate any potential impacts from seismically induced settlement and/or collapse. Therefore, the impact would be *less than significant*.

Ground Lurching

Seismically induced ground lurching occurs when soil or rock masses move at right angles to a cliff or steep slope in response to seismic waves. Structures built on these masses can experience significant lateral and vertical deformations if ground lurching occurs. Based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering, engineering geology and seismicity reports, ground lurching impacts to any development within the site area would be reduced to a *less-than-significant* level.

Significance without Mitigation: *Less than significant.*

[34] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 10, 2018.

GEO-4	The project would not result in a significant impact associated with its location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

Expansive soils shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Based on the presence of alluvial materials within the site, there is some potential for expansive soils.[35]

The General Plan policies identified in Section 4.6.1.1 address how the City will mitigate risks due to soil expansion. It is assumed that all development on the site would comply with the applicable General Plan policies. Because the City controls the development approval process, the City would have the ability to enforce implementation of these policies, which include adequately analyzing site-specific conditions and risks, incorporating design features to mitigate those risks, and otherwise complying with established State and local codes. With this process in place, individual projects where expansive soils are identified would adequately control volume changes and potential damage to foundations, slabs, and paved roadways. Therefore, this impact is considered to be *less than significant*.

Significance without Mitigation: *Less than significant.*

GEO-5	The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The project does not include the construction of any septic or alternative wastewater disposal system. Pre-manufactured vault toilet restroom facilities are proposed for some staging areas, all campsites and other trail or picnic area locations. Vault toilets are designed to contain all the waste in sealed concrete vaults and regularly emptied by pumping by trained District staff. The toilets will be constructed meeting the California Building Code and the plans and specifications would be reviewed by the

Contra Costa County Department of Health Services, Environmental Health Division. The vault toilets construction would be overseen by a District staff person certified in pre-manufactured vault toilet installation. Implementation of these measures, which are standardized throughout the Park District would minimize potential impacts to *less than significant.*

Significance without Mitigation: *Less than significant.*

GEO-6	The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

[35] U.S. Department of Agriculture, Natural Resources Conservation Service, 2018, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on May 10, 2018.

A review of the scientific literature and the online collections database of the UCMP indicates that the geologic units present in the project site have the following SVP paleontologic potentials:

- Holocene Alluvium, low-to-high potential, increasing with depth
- Landslide Debris, low potential
- Older Alluvium, high potential
- Oro Loma Formation, low potential
- Basalt, no potential
- Markley Formation, high potential
- Kreyenhagen Formation, high potential

Therefore, it is possible that paleontological resources could be discovered during excavation into previously undisturbed areas mapped as Older Alluvium, Markley Formation, or Kreyenhagen Formation, or excavations that exceed 10 feet in depth in Holocene Alluvium.

The paleontological analysis identifies the potential to encounter paleontological resources (i.e., plant, animal, or invertebrate fossils or microfossils) during excavations associated with implementation of the proposed Plan. Each of the geologic formations mapped as occurring in the project site is assigned an SVP paleontological potential (High, Low, Undetermined, or None, as defined in Table 4.6-2). A potentially significant impact on paleontological resources would occur if fossil resources were damaged or destroyed during construction activities. The SVP paleontological potential assessment can be used to identify where mitigation measures are needed to avoid a significant impact, primarily when construction of a proposed Regional Park component would move or excavate previously undisturbed geologic bedrock (native rock) with high paleontological potential.

Despite the sensitivity of the geologic landform underlying portions of the project site, 95 percent of the project site would be preserved for conservation and management of natural resources and limited to no ground disturbance would occur. Recreation and park facilities that would involve ground disturbance would be completed on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the Navy's operation of the property) and there would be limited ground disturbance into previously undisturbed formations that could potentially impact paleontological resources that may be present.

The potential for paleontological resources to be encountered during ground disturbing activities is considered a *potentially significan*t impact.

Significance without Mitigation: *Potentially significant.*

Impact GEO-6: Implementation of the proposed Plan could result in the accidental discovery of paleontological resources. This would be a potentially significant impact.

> Mitigation Measure GEO-6: Preconstruction Training, Paleontological Monitoring, and Inadvertent Discovery of Paleontological Resources. Prior to construction, a qualified paleontologist meeting the

standards of the SVP[36] with expertise in California paleontology shall develop a paleontological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of paleontological resources, and establishes accidental discovery procedures should paleontological resources be encountered during construction.

Paleontological monitoring is necessary for all ground-disturbing activities that occur in previously undisturbed formations mapped as Pleistocene-aged Older Alluvium, Eocene-aged Markley, or Kreyenhagen formations. Monitoring is also necessary for ground-disturbing activities that exceed 10 feet in depth in previously undisturbed sediments mapped as Holocene alluvium. Monitoring is not necessary in other locations on the project site, including artificial fill, landslide deposits, Oro Loma Formation, or in areas that have been previously disturbed. Monitoring shall be conducted by a qualified paleontological monitor that meets the standards of the SVP.[37]

If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified paleontologist can assess the nature and importance of the find and, if necessary, develop appropriate salvage measures in conformance with SVP standards,[38] and in consultation with the East Bay Regional Park District.

Significance with Mitigation: *Less than significant.*

4.6.4 CUMULATIVE IMPACTS

GEO-7 The project would not contribute to significant cumulative geology and soils impacts.

The geographic context used for the cumulative assessment of geology and soils impacts is Concord, which encompasses the entire site. Cumulative impacts can occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

As discussed previously, new development and redevelopment under the proposed project would require conformance with State and local regulations, building standards, and policies that would reduce geology and soils impacts to less-than-significant levels. When applicable, any additional new development within the project site would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the Concord General Plan, design guidelines, zoning regulations, and other applicable City

[36] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[37] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[38] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

requirements that reduce impacts related to geology, soils, and paleontological resources. All cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and to be consistent with the General Plan. Therefore, cumulative impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.7 GREENHOUSE GAS EMISSIONS

This chapter evaluates the potential for land use changes associated with adopting and implementing the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions. Because no single project is large enough individually to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis. This analysis is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD). The proposed project was evaluated using BAAQMD's plan-level review criteria, based on the preliminary information. GHG emissions are based on average daily trip generation provided by ESA for the on-road transportation emissions section. The GHG emissions modeling is included in Appendix B, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Human activities contribute to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2] The four major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are

[1] Intergovernmental Panel on Climate Change, 2001, *Third Assessment Report: Climate Change 2001,* New York: Cambridge University Press.

[2] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of changing radiative forcing rather than a primary cause of change.

typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases. The fluorinated gases are as follows:

- Chlorofluorocarbons (CFCs) are GHGs used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
- Perfluorocarbons (PFCs) are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with hydrofluorocarbons (HFCs), to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
- Sulfur Hexafluoride (SF_6) is a colorless gas soluble in alcohol and ether, and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- Hydrochlorofluorocarbons (HCFCs) contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.
- Hydrofluorocarbons (HFCs) contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.[3,4]

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. Like the fluorinated gases discussed above, these are referred to as high GWP gases. The global warming potential or "GWP" is used to convert GHGs to carbon dioxide (CO_2) equivalence (CO_2e) to show the relative potential that different GHGs have to contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report GWP values for methane (CH_4), a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.[5] Specific climate change impacts that could affect the proposed project include water supply, wildfire risks, health impacts, and energy demand.[6] The GWP of GHG emissions are shown in Table 4.7-1.

[3] Intergovernmental Panel on Climate Change, 1995, Second Assessment Report: Climate Change 1995.

[4] United States Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity, http://yosemite.epa.gov/opa/admpress.nsf/0/08D11A451131BCA585257685005BF252, accessed on May 10, 2018.

[5] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

[6] California Climate Change Center, 2012, Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

TABLE 4.7-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[b] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Note: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report[7] that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 (radiative forcing is the difference of energy from sunlight received by the earth and radiated back into space).
a. Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.
b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
Source: Intergovernmental Panel on Climate Change , 1995, Second Assessment Report: Climate Change 1995; Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

4.7.1.2 REGULATORY FRAMEWORK

Federal Regulations

The United States Environmental Protection Agency (EPA) announced on December 7, 2009 that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat.[8] To regulate GHGs from passenger vehicles, the EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs: CO_2, CH_4,

N_2O, HCFCs, PFCs, and SF_6. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per BAAQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010 to 2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be considered to be in compliance with State requirements. The federal government issued new standards in 2012 for model years 2017 to 2025, which will require a fleet average of 54.5 mpg in 2025.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act (CAA), the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the Federal 2013 Climate Action Plan, the EPA was directed to also develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under the current Administration's Energy Independence Executive Order.

State Regulations

GHG Emission Reduction Legislation

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Assembly Bill (AB) 32, Senate Bill (SB) 32, Executive Order B-30-15, and SB 375.

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010.

[7] Intergovernmental Panel on Climate Change, 2013, Fifth Assessment Report: Climate Change 2013, New York: Cambridge University Press.

[8] US Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, https://yosemite.epa.gov/opa/admpress.nsf/0/08d11a451131bca585257685005bf252, accessed on May 10, 2018.

- 1990 levels by 2020.
- 80 percent below 1990 levels by 2050.

Assembly Bill 32

Also known as the Global Warming Solutions Act (2006), AB 32 was signed August 31, 2006, in order to reduce California's contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05. Under AB 32, California Air Resources Board (CARB) prepared the 2008 Climate Change Scoping Plan, the 2014 Climate Change Scoping Plan, and the 2017 Climate Change Scoping Plan, which is discussed below.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MMTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The first update to the Scoping Plan, adopted at the May 22, 2014 board hearing, highlighted California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the 2014 update, CARB recalculated the 1990 GHG emission levels with the updated IPCC's Fourth Assessment Report GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$.[9]

As identified in the 2014 Scoping Plan, California is on track to meeting the goals of AB 32. However, the 2014 update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the State to adopt a midterm target. According to the 2014 Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.[10] CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction

[9] California Air Resources Board, 2014, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

[10] California Air Resources Board, 2017, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[11]

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the 2014 Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, SB 32 and AB 197 were signed into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) to address the 2030 target for the state. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[12] California's climate strategy will require contributions from all sectors of the economy, in addition to the land base, and will include enhanced focus on zero- and near-zero emission vehicle technologies; continued investment in renewables; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard, with an increased stringency (18 percent by 2030).

[11] California Air Resources Board, 2017, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

[12] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes NZE technology, and deploys ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.[13]
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies, the 2017 Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals; projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible. Or lead agencies may develop a performance-based metric using a climate action plan or other plan to reduce GHG emissions as appropriate.

The 2017 Scoping Plan scenario is set against what is called the business-as-usual yardstick—that is, what the GHG emissions would look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 4.7-2. It includes the existing renewables requirements, advanced clean cars, the "10 percent" Low Carbon Fuel Standard, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. In order to make up the gap, a new Post- 2020 Cap-and-Trade Program and refinery measure are key components of the 2017 Scoping Plan.

[13] The 2017 Scoping Plan includes policies to require direct GHG reductions at some of the state's largest stationary sources and mobile sources in accordance with AB 197. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources.

TABLE 4.7-2 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP TO ACHIEVE THE 2030 GHG TARGET

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target with Known Commitments	**60**

Source: California Air Resources Board, 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

Table 4.7-3 provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

TABLE 4.7-3 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[a]	-7	TBD	TBD
Subtotal	*431*	*294-339*	*-32% to -21%*
Cap-and-Trade Program	NA	24-79	NA
Total	**431**	**260**	**-40%**

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.
a. Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.
Source: California Air Resources Board. 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

Senate Bill 1383

On September 19, 2016, SB 1383 was signed into law to supplement the GHG reduction strategies in the 2017 Scoping Plan to consider short-lived climate pollutants, including black carbon and CH4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the State board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to

achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also establishes targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Strategy," which identifies the State's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use.[14] In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Senate Bill 375

Also known as the Sustainable Communities and Climate Protection Act, SB 375 was adopted in 2008 to connect the 2017 Scoping Plan's GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional, long-range, transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 regions in California managed by a metropolitan planning organization (MPO). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. MTC's targets are a 7 percent per capita reduction in GHG emissions from 2005 by 2020, and 15 percent per capita reduction from 2005 levels by 2035. SB 375 requires CARB to periodically update the targets, no later than every 8 years.

SB 375 requires CARB to periodically update the targets, no later than every 8 years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the draft 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future State strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted Sustainable Communities Strategy (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 10 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the MTC/Association of Bay Area Governments (ABAG) region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent).[15] The updated targets

[14] California Air Resources Board, 2017, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed on May 10, 2018.

[15] California Air Resources Board, 2018, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, accessed on May 10, 2018.

and methodology took effect on January 1, 2018, and SCS adopted in 2018 and later are subject to these new targets.

2017 Update to the SB 375 Targets

In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of State technology and fuels strategies, and any potential future State strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels contained in the MPOs' currently adopted SCSs to achieve the SB 375 targets. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the MTC/ABAG region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent). CARB anticipates adoption of the updated targets and methodology in 2018 and subsequent SCSs adopted afterwards would be subject to these new targets.[16]

Plan Bay Area 2040

Plan Bay Area 2040 is the Bay Area's Regional Transportation Plan/SCS and was adopted jointly by ABAG and MTC on July 26, 2017. It lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area 2040 is a limited and focused update to the 2013 Plan Bay Area, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years. As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated in PDAs. Pursuant to the Plan Bay Area 2040, while the projected number of new housing units and new jobs within PDAs would increase to 629,000 units and 707,000 jobs compared to the adopted Plan Bay Area 2013, its overall share would be reduced to 77 percent and 55 percent.[17] However, Plan Bay Area 2040 remains on track to meet a 16 percent per capita

[16] California Air Resources Board, 2018, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf accessed on May 10, 2018.

[17] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[18] The project is not within an identified PDA.[19]

Assembly Bill 1493

Also known as Pavley I, AB 1493 is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under the heading for Federal Regulations, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[20]

Executive Order S-01-07

On January 18, 2007, the state set a new Low Carbon Fuel Standard for transportation fuels sold in California. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The Low Carbon Fuel Standard requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle," using the most economically feasible methods.

Executive Order B-16-2012

Signed on March 23, 2012, the State directed that CARB, the California Energy Commission, the Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. Finally,

[18] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

[19] Associated Bay Area Governments, 2015, Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/, accessed on May 10, 2018.

[20] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

the executive order sets a target of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard established under Senate Bill 1078 and 107. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Signed in September 2015, SB 350 establishes tiered increases to the renewable portfolio standard of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 seeks to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18.

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9,

2018, go into effect starting January 1, 2020.[21] The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; and 4) nonresidential lighting requirements.[22] Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient. When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[23]

California Building Code: CALGreen

On July 17, 2008, California Green Building Standards Code (24 California Code of Regulations, Part 11, known as "CALGreen") were adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[24] The mandatory provisions of the 2016 CALGreen building standards became effective on January 1, 2017. The CEC adopted the 2019 CALGreen on May 9, 2018, and it becomes effective January 1, 2020.

2006 Appliance Efficiency Regulations

Adopted by the California Energy Commission on October 11, 2006, the 2006 Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1608) were approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 *et seq.*) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this,

[21] California Energy Commission, 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf, accessed May 10, 2018.

[22] California Energy Commission, 2018. Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. News Release.

[23] California Energy Commission, 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed September 5, 2018.

[24] The green building standards became mandatory in the 2010 edition of the code.

the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity. AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 *et seq.*) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own. Section 5.408 of the CALGreen also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1826, signed on October of 2014, requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009 to 2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the Energy Commission, in consultation with the department, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Regional Regulations

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the regional governmental agency which regulates sources of air pollution in the nine San Francisco Bay Area counties. BAAQMD regulates greenhouse gas emissions through the following plans, programs and guidelines:

- The Bay Area Clean Air Plan (2017) provides a regional strategy to protect public health and protect the climate. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets. The 2017 Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.
- BAAQMD Climate Protection Program staff support the 2017 Clean Air Plan's 85 distinct control measures to decrease fossil fuel combustion, improve energy efficiency, and decrease emissions of potent GHGs and other pollutants. In 2018, the Climate Protection Grant Program awarded $4.5 million to 15 regional public agencies to reduce GHGs from existing buildings and to foster innovative strategies for long-term GHG reduction. Program staff also support local governments with GHG inventories and local climate action plans.
- CEQA Guidelines and Thresholds of Significance: In 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act. These thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA; the thresholds were revised in May 2017. The 2017 Guidelines provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA and AB 32. BAAQMD is currently updating the 2017 CEQA Guidelines to reflect substantive changes to the data and methodology assumptions, and to address the risks to public health posed by global climate change.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement and the identifies climate change as an institutional priority and states that the Park District has an important contribution to the sustainability of the region, while recognizing that climate change may affect ecosystems in complex ways not currently understood.

Specific policies addressing Greenhouse Gas Emissions and the effects on the parks from climate change, are in the Resource Management and Natural Resource Management sections of the Master Plan:

- RM 1: Climate Change is expected to affect these resources in various ways. Changes in the ranges of various species, increased potential for wildfires and pests are anticipated with this change in the weather. In a manner consistent with the desire to "conserve and enhance" its resources, the District must closely track the impact of this phenomenon and if necessary, act to relocate or protect in-situ resources that are being degraded or potentially lost by this change.
- RM 1b: The District will specifically track and monitor the effects of Climate Change on its resources, interceding when necessary to relocate or protect in-situ resources that are being degraded or lost by this shift in the environment.
- NRM 1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.
- NRM 12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

East Bay Regional Park District Policy Framework for Climate Change (2018)

On April 17, 2018, the District Board of Directors adopted Resolution 2018-04-081 to establish a policy framework for managing park resources in a changing climate. The climate policy framework includes five key principles: 1) Climate in All Policies, 2) Climate Friendly, 3) Climate Readiness, 4) Lead Climate Smart Practices; and 5) Advancing Climate Science.

To implement this policy, the District has completed an inventory of the agency GHG emissions in the building and vehicle fleet sectors, developed a baseline of carbon sequestration on District lands, and is working to implement a strategic energy plan, including development of a solar array that generates renewable energy sufficient to offset the District's energy use in its buildings. Additionally, the District's Climate Smart Initiative includes integrated adaptive management, such as wetland restoration at Dotson Family Marsh, wildfire hazard reduction practices, and expansion of a network of trails for green transportation.

Local Regulations

City of Concord General Plan

The City's General Plan establishes a vision and priorities for the City of Concord through 2030. Policies found in this document act as a road map for the Development Code, Capital Improvement Program and subdivision regulations. The Concord Reuse Project Area Plan (Area Plan) provides further guidance on the use of the site, including specific policies and standards for its development and conservation. The General Plan includes the following goals, principles, and policies relevant to the proposed project:

- Principle LU-8.1: Achieve a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit.
    - Policy LU-8.1.7: Follow community design principles which reduce greenhouse gas emissions and support environmental sustainability.

- Goal T-1: A safe and efficient multi-modal transportation system.
- Principle T-1.1: Provide an easily accessible, functional, and attractive circulation network.
    - Policy Transportation-1.1.2: Maintain and upgrade transportation systems to provide smooth flow of traffic, minimize vehicle emissions, and save energy. Transportation improvements should be consistent with statewide greenhouse gas reduction goals established by Assembly Bill 32, and the land use and transportation policy initiatives established by Senate Bill 375.

Concord Reuse Project Area Plan's Climate Action Plan

Book Three of the Area Plan, which was adopted by the City on January 24, 2012, is the Climate Action Plan (CAP) for the project site area. The purpose of Book Three is to focus on climate action as part of the vision for the former Concord Naval Weapons Station (CNWS). By including a GHG Reduction Program, the Area Plan responds both to the requirements of State law and to mitigation measures specified in the Final Environmental Impact Report (EIR) on the Concord Community Reuse Plan. The CAP includes strategies to reduce the climate impacts from Area Plan; an implementation and monitoring program; and principles, policies, and standards for climate action throughout the plan area of the City's Area Plan, which includes the project site. The Area Plan's standards, principles, and policies call for innovations in mobility, building design, building systems, and infrastructure. Together, these will result in GHG emissions at a level consistent with the State of California's aims for battling climate change.

The program is designed to achieve the target expressed in Climate Action Objective 2: annual per capita GHG emissions below 4.6 MT CO by 2020 and 2.8 MT CO by 2030, consistent with both California's Global Warming Solutions Act of 2006 (AB 32) and Executive Order S-3-05.[25] To create a practical way to implement the initiatives, the program combines specific implementation requirements with the performance-based objective for GHG emissions associated with Area Plan buildout. The City's strategy is structured around the following four initiatives: site-wide development standards, sector-based actions, education and collaboration policies, and implementation and monitoring. The Area Plan's CAP was incorporated into and adopted as part of the citywide CAP.

4.7.1.3 EXISTING CONDITIONS

The proposed project consists of 2,543 acres of mostly undeveloped land, and is not currently a substantial source of GHG emissions. The northern section contains most of the existing structures and a road and rail network, and the southern section is less developed with a small network of concrete, earth-covered magazines along a loop road.

[25] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Climate Action Plan, https://mtc.ca.gov/sites/default/files/Concord%20Naval%20Weapons%20Station%20Reuse%20Plan%202012%20Book%203.pdf, accessed on May 10, 2018.

4.7.2 STANDARDS OF SIGNIFICANCE

4.7.2.1 CEQA GUIDELINES APPENDIX G

Implementation of the proposed project would result in a significant impact related to GHG emissions if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.7.2.2 BAAQMD SIGNIFICANCE CRITERIA

BAAQMD has a tiered approach for assessing GHG emissions impacts of a project. If a project is within the jurisdiction of an agency that has a "qualified" GHG reduction strategy, the project can assess consistency of its GHG emissions impacts with the reduction strategy. Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions, because biogenic CO_2 is derived from living biomass (e.g., organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels.

AB 32 Goal: 2020

BAAQMD has adopted screening criteria and significance criteria for development projects that would be applicable for the proposed project. If a project exceeds the BAAQMD Guidelines' GHG screening-level sizes, the project would be required to conduct a full GHG analysis using one of the following BAAQMD significance criteria:

- 1,100 MT of CO_2e per year.
- 4.6 MT of CO_2e per service population (SP) for year 2020.[26]

AB 32 requires the statewide GHG emission to be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.[27] Hence, BAAQMD's per capita significance threshold is calculated based on the state's land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53

[26] The efficiency threshold for 2020 does not include the waste sector.
[27] California Air Resources Board, 2008, Climate Change Proposed Scoping Plan, a Framework for Change.

$MMTCO_2e$ and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 $MTCO_2e$/SP for year 2020.[28]

SB 32 Goal: 2030

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal. In September 2016, Governor Brown signed Senate Bill 32 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target.

Using a similar methodology as developed by BAAQMD, the efficiency targets have been adjusted based on the GHG reduction targets of SB 32, which set a goal of 40 percent below 1990 levels by 2030. Table 4.7-4 shows the 2030 efficiency target using the latest land use emissions inventory developed for the 2017 Scoping Plan. The 2017 Scoping Plan includes the regulations and programs to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[29]

Regional Park Service Population

Park visitors are the daytime population of the regional park. Because the primary users of the park are visitors, the service population (SP) considered for the proposed project includes average daily park visitors and park staff.

4.7.3 IMPACT DISCUSSION

4.7.3.1 METHODOLOGY

The analysis in this section is based on opening day and buildout of the proposed project as modeled using CalEEMod, Version 2016.3.2. Emissions are based on the following:

- Transportation: GHG emissions are based on the annual average trip generation data provided by ESA. For purposes of this analysis, both the average daily trips generated under phase one and full buildout conditions are utilized.
- Solid Waste Disposal: Indirect emissions from waste generation are based on CalRecycle solid waste generation rates. Emissions calculated using CalEEMod include biogenic emissions generated from solid waste.

[28] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.

[29] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

TABLE 4.7-4 2030 GHG REDUCTION TARGETS

GHG Sector[a]	Scoping Plan Scenario GHG Emissions $MMTCO_2e$
2017 Scoping Plan End Use Sector 2030 – Land Use Only Sectors	
Residential – residential energy consumption	41.4
Commercial – commercial energy consumption	30.1
Transportation – transportation energy consumption	105.1
Transportation Communications and Utilities – energy that supports public infrastructure like street lighting and waste treatment facilities	5
Solid Waste Non-Energy GHGs	9.1
Total 2017 Scoping Plan Land Use Sector Target	260
2030 Project-Level Efficiency Target	
2030 Population[b]	44,085,600
2030 Employment[c]	19,210,760
2030 Service Population	**63,296,360**
2030 Efficiency Target	**3.1 $MTCO_2e$/SP**
2050 Project-Level Efficiency Target	
2050 Population[b]	44,085,600
250 Employment[c]	19,210,760
2050 Service Population	**63,296,360**
2050 Efficiency Target	**3.1 $MTCO_2e$/SP**

Sources:
a. California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.
b. California Department of Finance, 2014, Report P-1 (County): State and County Total Population Projections, 2010-2060 (5 -year increments). http://www.dof.ca.gov/Forecasting/Demographics/Projections/, accessed on May 10, 2018.
c. California Department of Transportation, 2016, Long-Term Socio-economic Forecasts by County, http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html, accessed on May 10, 2018. Without industrial and agricultural sectors.

- **Water/Wastewater:** GHG emissions from this sector are associated with the embodied energy used to supply water, treat water, distribute water, and then treat wastewater and fugitive GHG emissions from wastewater treatment. Emissions are based on average water demand and wastewater generation using CalEEMod default indoor and outdoor water generation rates.
- **Area Sources:** Area and stationary sources are based on the CalEEMod defaults for use of consumer products and cleaning supplies.
- **Energy:** GHG emissions from this sector are from use of electricity and natural gas by the proposed buildings. For purposes of this analysis, new buildings are assumed to comply with the 2016 Building Energy Efficiency Standards.

Life-cycle emissions are not included in this analysis because not enough information is available for the proposed Regional Park; therefore, life-cycle GHG emissions would be speculative.[30] Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the State's AB 32 inventory and treats this short-lived climate pollutant separately.[31]

GHG-1 Implementation of the proposed project would not directly or indirectly generate GHG emissions that would result in a significant impact on the environment.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, the GHG chapter measures a project's contribution to the cumulative environmental impact. Future potential development under the proposed project would contribute to global climate change through direct and indirect GHG emissions from transportation sources, energy (natural gas and purchased energy), water use and wastewater generation, waste generation, and other, off-road equipment (e.g., landscape equipment, construction activities).

Construction Phase

BAAQMD does not have thresholds of significance for one-time construction-related GHG emissions. The proposed project would necessitate heavy construction for development of the paved roadways (3 miles) and grading associated with the approximately 3.5-acre corporation yard site. Based on preliminary construction details, the proposed project would not require more than 10,000 cubic yards of haul, or disturb more than 67 acres in any given year. Additionally, as described in Chapter 4.2, *Air Quality*, the proposed project would not exceed BAAQMD's screening criteria for construction activities. GHG emissions from construction activities are one-time, short-term emissions and therefore would not significantly contribute to the long-term cumulative GHG emissions impacts of the proposed project. Additionally, the proposed project would comply with the CALGreen and divert a minimum of 65 percent

[30] Life-cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction phases of individual development projects is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (Governor's Office of Planning and Research, 2008, CEQA and Climate Change: Addressing Climate Change through CEQA Review, Technical Advisory, http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf accessed on May 10, 2018).

[31] Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (California Air Resources Board, 2017. Final Proposed Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/shortlived.htm, accessed on May 10, 2018).

of construction and demolition debris by weight. The proposed project includes adaptation some of the existing buildings, rather than demolition, which would help minimize landfilled construction waste. Because the proposed project would not require extensive grading and the maximum acreage disturbed at any one time would be approximately 4 acres, which is substantially less than the screening size of 67 acres or larger for construction project, construction-related GHG emissions impacts of the proposed project would be *less than significant*.

Operational Phase

The proposed project would facilitate redevelopment of recreational and park facilities with and educational interpretive elements. Future potential development of the proposed project would accommodate approximately 2,665 average weekend daily visitors, generate one new residence, and employ 52 people at buildout, resulting in an increase in vehicle trips, energy use, water use, wastewater generation, and solid waste disposal on site. Additionally, the proposed project includes an experimental forest component the Cistern Pond Special Protection Feature that would increase carbon sequestration on-site. However, emissions benefits from carbon sequestration are conservatively not included in the emissions modeling. The GHG emissions associated with the proposed project are shown in Table 4.7-5 and compared to existing emissions from the project site.

As shown in Table 4.7-5, implementation of the proposed project would result in a net increase of GHG emissions of 131 $MTCO_2e$ at opening year (estimated at year 2023); and would not exceed BAAQMD's bright-line threshold of 1,100 $MTCO_2e$/year. Future development under project buildout (estimated at year 2050) would generate 1,008 $MTCO_2e$/year, which is below BAAQMD's bright-line threshold. Similarly, the proposed project's efficiency metric ($MTCO_2e$/Service Population/year) would not exceed BAAQMD's criteria, as shown in Table 4.7-5. Average annual emissions per service population are divided by the service population[32] of the proposed project to estimate the proposed project's efficiency at opening day and project buildout based on the GHG reduction target for the horizon year of the project (2023 and 2050, respectively). As described in Chapter 4.5, Energy, the new buildings also would use new modern appliances and equipment, and would comply with the current CALGreen Building Code per CMC Chapter 15.45, which requires the use of recycled construction materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems. Furthermore, compliance with the GHG Reduction Program as described in the Area Plan's CAP would minimize GHG emissions to the extent feasible to meet the reduction target established under AB 32. Therefore, overall, the proposed project's cumulative contribution to the long-term GHG emissions in the state would be considered *less than significant*.

Significance without Mitigation: *Less than significant.*

[32] BAAQMD defines service population (SP) as residents and employees who live or work within the project site.

TABLE 4.7-5 PROJECT GHG EMISSIONS – OPERATION PHASE

	GHG Emissions ($MTCO_2e$/Year)			
	Opening Year 2023 MT/year	Percentage	Buildout Year 2050 MT/year	Percentage
Net Increase				
Area	<1	<1%	<1	<1%
Energy[a]	<1	<1%	541	48%
On-Road Mobile Sources	123	70%	339	30%
Waste	<1	3%	41	4%
Water/Wastewater	7	27%	69	17%
Campfires	N/A	N/A	18	2%
Total	**131**	**100%**	**1,008**	**100%**
BAAQMD Bright-Line Threshold	1,100		1,100	
Exceeds Bright-Line Threshold?	**No**		**No**	
Service Population[d]	374		1,576	
Buildout Efficiency Metric Significance Threshold (Plan-Level)	6.56 $MTCO_2e$/SP/Year[b]		1.22 $MTCO_2e$/SP/Year[b]	
Project Emissions Per Service Population	0.34 $MTCO_2e$/SP/Year		0.64 $MTCO_2e$/SP/Year	
Exceeds Efficiency Threshold?	**No**		**No**	

Note: Emissions may not total to 100 percent due to rounding. Opening and buildout years are estimates. The proposed project includes an experimental forest component that would increase carbon sequestration on-site. However, emissions benefits from carbon sequestration are conservatively not included in the emissions modeling.

a. New buildings are assumed to achieve the 2016 Building Energy Efficiency Standards which are 5 percent more energy efficient for nonresidential structures and 28 percent more energy efficient for residential buildings compared to the 2013 Building Energy Efficiency Standards. Under the Building Energy Efficiency Standards, multi-family buildings four stories and higher are regulated under the non-residential standards. Modeling is conservative because the 2019 Title 24 Standards take effect on January 1, 2020, and it is anticipated that the proposed structures would conform to this latest standard, which is 30 percent more energy efficient for non-residential buildings than the 2016 Building and Energy Efficiency Standards.(California Energy Commission. 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions)

b. Based on the Land Use Sector Inventory 2008 Scoping Plan and extrapolated from year 2020 to the mid-term year 2030 GHG reduction target of SB 32. Project-level thresholds are based only on the State's land use emissions inventory sectors identified in the Scoping Plan to ensure consistency with the scope of emissions included in a development project's GHG emissions inventory; and are therefore, more stringent than the plan-level thresholds, which include all GHG sectors.

c. Based on the Land Use Sector Inventory 2008 Scoping Plan and adjusted to the 2030 GHG reduction target of SB 32.

d. Daytime service population includes average daily visitors and staff. Opening Day: 8 staff and 366 average visitors per day; Buildout: 52 staff and 1,524 average visitors per day.

Source: PlaceWorks, CalEEMod 2016.3.2.

GHG-2 Implementation of the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

CARB's Scoping Plan

The 2017 Scoping Plan, which establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030 corresponds to a 40 percent decrease in 1990 levels by 2030,[33] is applicable to State agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the 2017 Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts. The 2017 Scoping Plan provides the strategies for the state to meet the 2030 GHG reduction target as established under SB 32.

The project GHG emissions shown in Table 4.7-5 include reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the CAFE standards, and other early action measures as necessary to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32. In addition, new buildings are required to comply with the current Building Energy Efficiency Standards and CALGreen. The 2019 Title 24 Standards take effect on January 1, 2020, and it is anticipated that the proposed structures would conform to this latest standard. Additionally, the proposed project includes an experimental forest component that would increase carbon sequestration on-site. The proposed project would comply with these GHG emissions reduction measures since they are statewide strategies. Therefore, the project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32 was adopted. Therefore, impacts would be *less than significant*.

ABAG/MTC Plan Bay Area

To achieve ABAG's/MTC's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan concentrates the majority of new population and employment growth in PDAs. While the proposed project is not within a PDA,[34] one of the key principles of the proposed project is to encourage the efficient use of land through sustainable development patterns, a mixture of uses, and development intensities that support transit and walking. The City of Concord's Area Plan provides a vision for a world-class development with integrated mass transit; residential and commercial uses; and a diversity of parks, greenways, and open spaces. The future Regional Park was envisioned as a key piece within the green space network of the development, and as complementing the more active park spaces within the community. The future Regional Park would emphasize resource preservation and enhancement, balancing and adding value to the planned adjacent development. As the designated Conservation Area for the Reuse Area, the future Regional Park would also provide partial mitigation for impacts of the City's development within the Reuse Area. Therefore, the proposed project would not conflict with the land use concept plan in Plan Bay Area and impacts are considered *less than significant*.

[33] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

[34] Plan Bay Area, 2018, Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/, accessed on May 10, 2018.

Concord Reuse Project Area Climate Action Plan

Area Plan's CAP includes strategies to reduce the climate impacts from the Area Plan, which includes the project site.

The future Regional Park is envisioned as a model regional park that exemplifies sustainable park development and management within a rich historic and ecological landscape. The future Regional Park would fit into the mixed-use development pattern of the Area Plan as designated green space, and would include pedestrian and bicycle facilities to promote multimodal transportation (consistent with Area Plan CAP Policy T-2.1). Additionally, buildings constructed under the proposed project would minimize energy use in order to meet the performance standards for green building and energy efficiency established in Sitewide Standard CA-3 (consistent with Book One Standard CF-17) and CAP Principle Energy E-1. Specific strategies employed to meet the performance standards may evolve over time to reflect applicability, cost, and efficacy of available technologies and methods. Likewise, during construction the proposed project would manage and, to the extent feasible, reuse or recycle the debris generated by the demolition of storage bunkers, roads, railroad revetments, and buildings in accordance with Waste Policy 1.4 in the Area Plan's CAP. On-site water consumption will be minimized through fixture efficiency (consistent with Policy WR-1.1), water-efficient landscaping, and low-water irrigation strategies (consistent with Policy WR-1.2).

The program is designed to achieve the target expressed in Climate Action Objective 2: annual per capita GHG emissions below 4.6 MT CO_2e by 2020 and 2.8 MT CO_2e by 2030, consistent with both California's Global Warming Solutions Act of 2006 (AB 32) and Executive Order S-3-05.[35] As shown in Table 4.7-5, GHG emissions associated with the proposed project would be below annual per capita emissions thresholds both at the opening year (2023) and buildout year (2050). Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.7.4 CUMULATIVE IMPACTS

GHG-3	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to GHG emissions.**

As described above, GHG emissions related to the proposed project are not confined to a particular air basin but are dispersed worldwide. Therefore, the analysis of impacts in Section 4.7.3, Impact Discussion, also addresses cumulative impacts. Thus, if the proposed project exceeds the BAAQMD's significance criteria in the context of emissions from all other development (e.g., Concord Reuse Project) projected within the entire SFBAAB, it would cumulatively contribute to impacts. As identified under Impact GHG-1,

[35] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Climate Action Plan, January 12, https://mtc.ca.gov/sites/default/files/Concord%20Naval%20Weapons%20Station%20Reuse%20Plan%202012%20Book%203.pdf, accessed on May 10, 2018.

GREENHOUSE GAS EMISSIONS

Table 4.7-5 shows that implementation of the proposed project would not exceed BAAQMDs bright-line threshold or efficiency metric; therefore, GHG emissions would result in a less than significant impact. Consequently, cumulative GHG emissions impacts of the proposed project would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.8 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the regulatory framework and existing conditions on the project site related to hazards, hazardous waste and hazardous materials, and the potential impacts of conditions associated with the project site, project construction and project operations. Wildfire hazards are discussed in Chapter 4.16 of this Draft EIR. The analysis in this section is based, in part, upon the following sources:

- City of Concord, 2008. Concord Community Reuse Plan, Draft Environmental Impact Report.
- City of Concord, 2010. Concord Community Reuse Plan, Final EIR.
- City of Concord. 2012. Final EIR Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.
- U.S. Department of the Navy, Naval Facilities Engineering Command Headquarters, 2014. Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- U.S. Department of the Navy, Naval Facilities Engineering Command Headquarters, 2017. Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- TriEco-Tt, A Joint Venture of Tri Eco LLC and Tetra Tech, 2017. Final Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

Beginning in 1941, the Concord Naval Weapons Station was used for ammunition storage and logistical support to other Navy installations. On-site structures included administrative buildings, residential areas, military barracks, storage magazines (i.e., the Magazine Area or “Bunker City”), and maintenance facilities, many of which have been since demolished. Within the project area there were areas used for munitions storage, target practice, support buildings, rocket practice area, and disposal sites.

The Inland Area of U.S. Naval Magazine Port Chicago (NMPC) included 75 high-explosives magazines located in the hills, a group of 93 gun-ammunition magazines on the flat land, and 30 barricaded railroad sidings. The facility was described by the Bureau of Ordnance as “the principal ammunition loading port and storage point for ammunition and high explosives on the Pacific Coast.” From 1945 to 1963, NMPC continued to serve as a weapons storage facility, while providing support to the U.S. naval fleet. In 1963, it was re-designated as the US Naval Weapons Station Concord (CNWS).

The CNWS was the principal site for transshipment of ordnance and other supplies to US troops in all branches of the military during the Vietnam War. The Inland area of the CNWS was mothballed in 1999 due to changes in military operations, and the Base Closure and Realignment Commission (BRAC) officially approved the Inland area for closure in November of 2005.

The project site has been assessed for hazardous materials contamination through various site investigations and remediation (clean up) efforts that have been conducted between 1983 and 2017. Site work related to the remediation of remaining areas that need additional assessment and remediation will be completed prior to the Navy conveyance of the remaining areas of the Regional Park to the District. Remediation activities have been evaluated in the Environmental Impact Statement for the Disposal and

Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord.[1] The Draft EIS was released in October 2014 and the Final EIS was released in August 2017.[2] The Navy completed a Finding of Suitability to Transfer (FOST) in 2017. The FOST determined that the project site is suitable to be transferred following an environmental review of the site based on site history, environmental site assessment, and remediation at some locations.[3] It is anticipated that this acreage will be transferred and conveyed to the Park District in 2019 under a Public Benefit Conveyance authority. Areas that are not environmentally suitable for transfer that may still be going through assessment and will require additional remediation prior to transfer and conveyance were excluded from the FOST and are not included in the project site.

Within the 2,543-acre Regional Park, only 86 acres (3.4 percent) of the overall park space have been planned for recreational uses and park facilities (including 35 acres within Recreation/Staging Units). Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, will be concentrated in previously disturbed areas to limit impacts to natural ecosystems.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

Federal Regulations

Installation Restoration Program

The CNWS is participating in the Installation Restoration Program (IRP), a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and remediate contamination from hazardous substances, pollutants, and contaminants at active or operating military and other DoD facilities. There is a Federal Facilities Site Remediation Agreement (FFSRA) between the Navy, the State of California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). The purposes of the FFSRA are to establish roles and responsibilities of the parties; establish an enforceable schedule for environmental investigations and cleanup actions; and ensure that the Navy obtains the necessary funding for the environmental investigations and actions.

Comprehensive Environmental Response, Compensation, and Liability Act

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), known as Superfund, on December 11, 1980. CERCLA establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for

[1] U.S. Department of the Navy Naval Facilities Engineering Command, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California.

[2] U.S. Department of the Navy Naval Facilities Engineering Command, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California.

[3] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party could be identified.

The Navy has been performing environmental restoration activities at the former CNWS under CERCLA since 1982, when it performed an Initial Assessment Study (IAS) to identify sites where contamination was suspected to pose a threat to human health or the environment.[4] For suspected contamination, analytical sampling was recommended to confirm or deny contamination. Thirty-two Installation Restoration (IR) sites were investigated facility-wide during the IAS. The IAS was followed by a Site Investigation (SI) study of the Inland Area (known as the Inland Area SI) that was completed in 1993.[5]

The former CNWS was placed on the CERCLA National Priorities List (NPL) on December 16, 1994, under United States Environmental Protection Agency (US EPA) ID CA7170024528. The NPL does not describe releases in precise geographical terms, which is consistent with the limited purpose of the NPL as a mere identification of releases. Therefore, listing on the NPL, especially for large sites like the CNWS, does not mean that the entire property has known or threatened releases of hazardous substances.

On June 12, 2001, the Navy entered into a Federal Facility Agreement (FFA) with US EPA Region 9 and the State of California Environmental Protection Agency (CalEPA) under CERCLA Section 120.[6] The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former CNWS in accordance with CERCLA Section 120; specific sections of the Resource Conservation and Recovery Act (RCRA); Executive Order (EO) 12580, entitled Superfund Implementation; the Defense Environmental Restoration Program (DERP); and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The FFA listed the areas and sites considered to be areas of contamination, established goals and responsibilities among the Navy and the regulatory agencies, and set enforceable cleanup schedules for the sites. A Restoration Advisory Board, which first met in 2001, consists of Navy and community representatives and state and federal regulators who advise the Navy on environmental cleanup issues and strategies. The FFA superseded the FFSRA and defines the Navy's corrective action and response obligations under RCRA and CERCLA for the CERCLA sites that have been identified at former CNWS.

The Navy is complying with CERCLA by conducting the Navy Environmental Restoration Program to address releases of hazardous substances at the former CNWS and ensure adequate protection of human health and the environment. Potential environmental effects of CERCLA response actions (such as soil excavation, soil transport, and operation of treatment systems) are evaluated by the Navy and regulatory agencies during the CERCLA process. The Navy and the regulatory agencies consider future redevelopment and reuse of the site during the CERCLA decision-making process.

With regard to the federal real property disposal process to non-federal entities, CERCLA requires the federal government to:

[4] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[5] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[6] U.S. Environmental Protection Agency, 2001, Federal Facility Agreement under CERCLA Section 120, Naval Weapons Seal Beach Detachment Concord, Concord, California.

- Give notice of hazardous substance activity to the grantee (120[h][3][A][i]);
- Include a covenant in the deed that "all remedial action necessary to the protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer" (120[h][3][A][ii][I]);
- Include a covenant in the deed that the United States will return and perform any additional remedial action that may be required in the future (120[h][3][A][ii][II[); and
- Retain a perpetual right of access necessary to perform such additional response actions (120[h][3][A][iii]).

A decision that no further action is required in order to protect human health and the environment, made by the Navy or an environmental regulator under the laws and regulations listed above, also supports a Navy determination under Section 120(h) of CERCLA that all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken.

Current information regarding the BRAC process programs is maintained as part of the Navy's administrative record and can be found in the local information repository at the Concord Public Library or on the CNWS webpages of the Navy BRAC PMO website at: http://www.bracpmo.navy.mil. The Navy continues work under its environmental program to make the property environmentally suitable for transfer.[7]

Resource Conservation and Recovery Act

RCRA enacts a regulatory system that provides for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The DTSC is responsible for implementing the RCRA program, as well as California's own hazardous waste laws, under California's Hazardous Waste Control Law, Calif. Health & Safety Code section 25100 *et seq.*

RCRA sites were evaluated and addressed under the Navy's CERCLA and Defense Environmental Restoration Program (DERP) authority as well as sites addressed under the corrective action requirements of RCRA Subtitle C (for solid waste management units [SWMUs]), RCRA Subtitle I (for underground storage tanks [UST]), and associated state laws and regulations administered by the US EPA, the State of California, and Contra Costa County. These corrective action authorities are similar to CERCLA in that they require response and corrective action where necessary to ensure adequate protection of human health and the environment (Section 121(d) of CERCLA, Health and Safety Code (HSC) Section 25296.10(b), Title 23 California Code of Regulations (CCR) Sections 2720 (definition of "corrective action") and 2725(c), and Title 22 CCR Section 66264.101(a).

[7] U.S. Department of the Navy, 2018, Naval Facilities Engineering Command, Former Naval Weapons Station Seal Beach Detachment Concord BRAC, https://www.bracpmo.navy.mil/brac_bases/california/nws_seal_beach_concord/documents.html, accessed on April 19, 2018.

Finding of Suitability to Transfer

Before transfer of the property, the Navy and regulatory agencies must ensure that all applicable statutory and regulatory requirements have been satisfied. The Navy prepares a Finding of Suitability to Transfer (FOST) for the transfer of title to real property by deed to non-federal entities. A FOST summarizes how the applicable requirements and notifications for the disposal and remediation of hazardous materials, petroleum products, and other regulated materials (such as asbestos containing materials and lead–based paint) have been satisfied and that the property is environmentally suitable for transfer. A FOST also addresses any restrictions, notifications, or deed covenants related to hazardous materials at the surplus property. Any long-term remedies, including land use covenants (LUCs) and institutional controls (ICs), and responsibilities for maintenance and reporting are discussed in a FOST. A FOST is forwarded to the US EPA and State agencies for review and comment.[8]

Pursuant to CERCLA and Title 40 of the Code of Federal Regulations (CFR) Part 373, the deeds for the FOST Parcel will contain, to the extent such information is available on the basis of a complete search of agency files, a notification of hazardous substances stored for one (1) year or more, or known to be released, or disposed of within the FOST Parcel, consisting of a notice of the time at which such storage, release, or disposal took place.

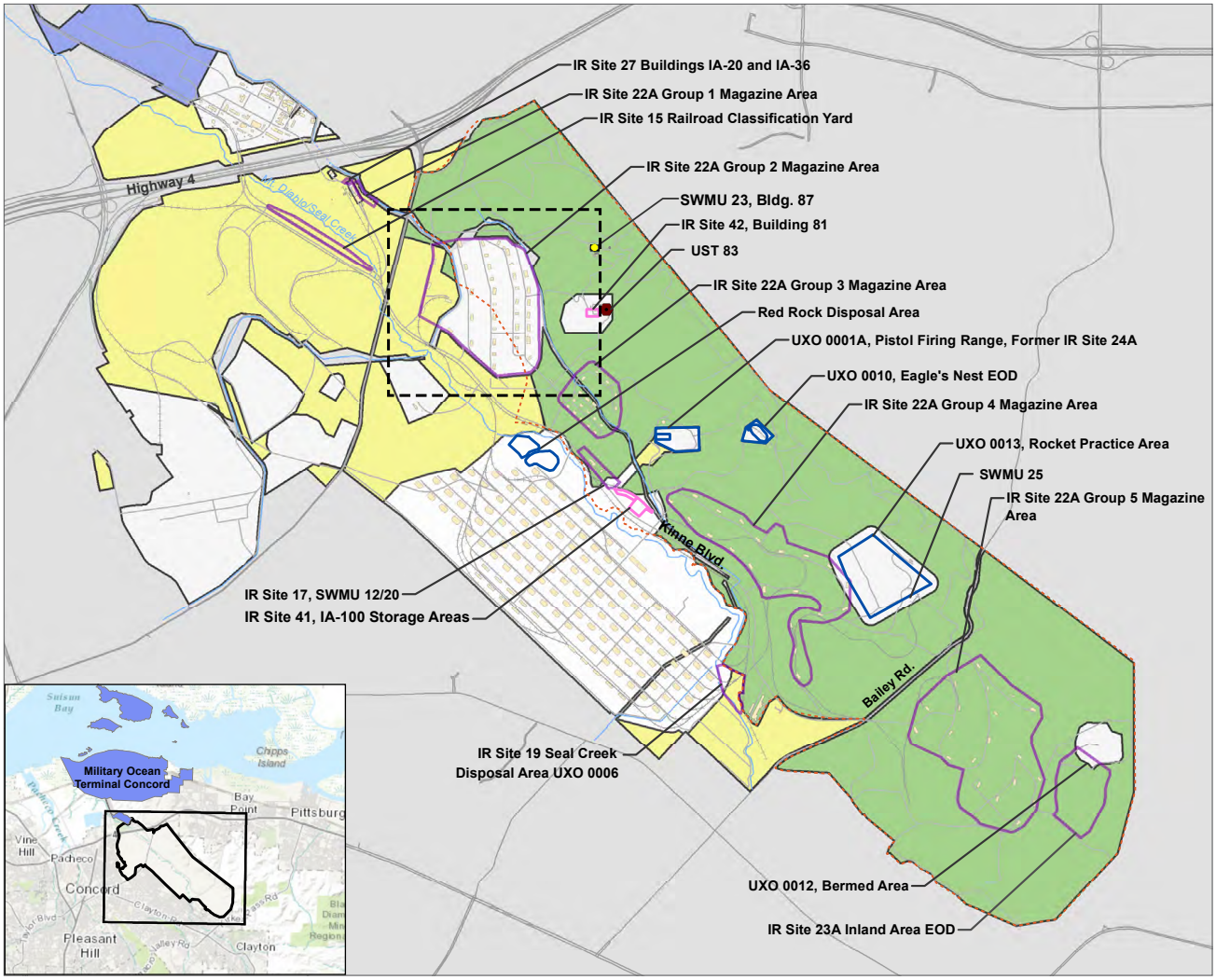
The FOST includes a discussion of the environmental conditions and actions taken on the FOST Parcel, identification of notification requirements related to CERCLA including munitions response and radiological sites, RCRA petroleum corrective action, and information regarding ACM, LBP, pesticides, and polychlorinated biphenyls (PCB).

In August 2017 the former CNWS was found suitable to transfer, as set forth in the final FOST.[9] The FOST provides documentation that the real property made available through closure of former CNWS is environmentally suitable for transfer by deed. Sites or areas not suitable for transfer have been excluded from the footprint of the FOST Parcel. Figure 4.8-1 shows the project site and the areas that were not included as part of the 2017 FOST. These areas are not included due to ongoing investigations within the site boundaries. These areas are within the boundaries of the proposed Plan in order to plan comprehensively for the future of the Regional Park site. However, these areas would not be conveyed to the District until or unless the Navy determines they are environmentally suitable for transfer.

The FOST include 1,235 acres of land in the Economic Development Conveyance (EDC) and 2,288 acres in the Public Benefit Conveyance (PBC). The project site is located within the PBC portion of the transferred land.

[8] U.S. Department of the Navy, 2006, Final Environmental Condition of the Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[9] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.



Source: United State Department of the Navy, 2017.

Figure 4.8-1
Project Site and Areas Excluded from FOST

State Regulations

California Department of Toxic Substances Control

The CNWS also previously operated under a DTSC permit as a hazardous waste facility. The DTSC regulates the generation, transport, treatment, storage, and disposal of hazardous waste under RCRA and the California Hazardous Waste Control Law. In 2003, DTSC closed the permitted hazardous waste facilities at the site and certified them as requiring no further action.[10]

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the US EPA and OSHA, regulate the removal, abatement, and transport procedures for asbestos-containing materials (ACM). Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, federal, State, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

California Fire Code

The California Fire Code (CFC) is Part 9 of Title 24 of the California Code of Regulations. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, fire hydrant locations and distribution, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal (OSFM) supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. OSFM provides for fire prevention by enforcing fire-related laws in state-owned or operated buildings; investigating arson fires in California; licensing those who inspect and service fire protection systems; approving fireworks for use in California; regulating the use of chemical flame retardants; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and state government emergency response agencies. The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention and aims to reduce firefighting costs and property losses, increase firefighter

[10] Department of Toxic Substances Control (DTSC), 2003, Letter regarding Approval of Closure Report and Certification for Concord Naval Weapons Station, Concord California (EPA ID No. CA7170024528). From Mohinder S. Sandhu, Chief, Standard Permits and Corrective Action Branch, DTSC to Randy Cate, Engineer in Charge, Department of the Navy, Engineering Field Activity West.

safety, and contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CAL FIRE.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, and policies and goals related to hazards, in the Key Elements of the Planning Process and Natural Resource Management sections:

- KEP4: The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards and plan for appropriate urban growth boundaries….
- NRM6: The District will evaluate exotic eucalyptus, Monterey pine and cypress plantations, shrubland or woodland area occurring along the wildland/urban interface on a case-by-case basis for thinning, removal and/or conservation to a less fire-prone condition, following the methods laid out in the Fuels Management Plan. The District will minimize the widespread encroachment of exotic and/or invasive species such as coyote brush, poison oak and broom, etc. on parkland and work to preserve native plants where feasible.

Ordinance 38

Portions of District Ordinance 38, Sections 403 to 900 pertain to hazards and hazardous materials.

- Section 404: Fires. No person shall build, light or maintain any open outdoor fire on park property except in those facilities or areas provided and so designated for that purpose. Exceptions to this requirement must be obtained in writing from the District Fire Chief. No person shall leave a fire unattended on District parklands.
- Section 404.2: Restriction. Fires. No person shall smoke or build fires of any kind in areas where prohibited and posted during declared fire season. Extreme conditions may cause the elimination of all open flames for any purpose, or the evacuation or closure of a park.
- Section 900.3: Household or Industrial Materials. No person, firm, or business shall bring household or industrial garbage, trash or waste materials into any lands owned or operated by the District for the purpose of placing such materials into any trash can, dumpster, or receptacle provided by the District.

East Bay Regional Park District General Conditions

The District's General Conditions contain the following rules for contractors, regarding hazards and hazardous materials:

- Article 24 Hazardous Materials.
  (a) Definition. As used herein, hazardous materials shall include all items listed in any statute, ordinance or publication defining hazardous materials including, but not limited to, common

household items containing substances now or subsequently listed as a hazardous material or substance, chemicals, drugs, any materials used for laboratory analysis, nuclear and/or radioactive materials, toxic substances, hazardous substances, hazardous wastes, contaminated or polluting substances, materials or waste toxic, caustic, corrosive, gaseous or flammable substances that may cause injury, illness or death to living organisms.

(b) Approval. The Contractor shall not use any hazardous material in connection with this project without the prior written approval of the District Representative. Ten (10) working days prior to using a hazardous material, the Contractor shall submit to the District Representative complete Material Safety Data Sheet (MSDS) information, product specifications, and a document stating the application rate and method and including the name of the manufacturer's local representative and emergency telephone numbers. All materials shall be properly labeled in accordance with applicable laws. The District Representative's response to the Contractor's request for approval of hazardous materials use shall not affect the Contractor's obligation to comply with the provisions of this section.

(c) Application. In using hazardous materials, the Contractor shall:

1. Notify the District Inspector of the application schedule at least five (5) working days in advance.
2. Comply with all applicable federal, state, and local laws, regulations, and ordinances relating to the use and disposal of hazardous materials and containers, environmental protection, industrial hygiene, worker and public safety.
3. Supply protective clothing or equipment as required by applicable federal or state law for all persons handling hazardous materials, and for the District Inspector as required for inspection of the work.
4. Be responsible for the notification of all concerned parties adjacent to or affected by said hazardous material and as directed by the District Inspector.

(d) Special Situations. In the event the Contractor encounters material on the site reasonably believed to be asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance, the Contractor shall immediately stop work in the areas affected and report the condition to the District Representative. If in fact the material is asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance which has not been rendered harmless, the work in the affected area shall not be resumed except by written agreement between the District Representative and the Contractor. The work in the affected area otherwise shall only be resumed when asbestos, polychlorinated biphenyl (PCB) and other hazardous or toxic substances have been removed or rendered harmless.

- Article 25. Safety and Public Convenience.

(a) Responsibility for Safety. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs. All work shall conform to the requirements of the California Administrative Code, Title 8, Industrial Relations, Division of Industrial Safety. The Contractor alone shall be responsible for responding to and for the final satisfaction of any and all claims of personal injury or property damage.

(b) Safety Equipment and Workers. The Contractor shall take all reasonable measures as required by existing conditions and performance of the Contract to protect the public and their property. The Contractor shall provide adequate barricades, fences, signs, warning lights, watchpersons, flag persons, etc., to protect the public and their property. Safety devices and workers shall comply with the current State of California "Manual for Warning Signs, Lights and Devices for Use in Performing Work Upon Highways," as a minimum standard. All lighting shall be electric powered and left on from sunset to sunrise.

(c) Trench and Excavation Safety. As required by the California Labor Code §6705, whenever any portion of the work involves excavating or trenching five feet or deeper, the Contractor shall submit for acceptance by the District, a detailed plan showing the design of shoring, bracing, sloping, etc., to protect the Contractor's workers, District personnel, and the public at large. If the plan varies from standard shoring systems established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor. All costs for trenching, excavation safety, including engineering, shall be included within the Contract Bid.

(d) Unauthorized Vehicles. When required by this Contract or the District Inspector, the Contractor shall take measures to prevent unauthorized vehicular traffic.

(e) Material and Equipment Transportation. Trucks hauling material or equipment shall not exceed vehicle or posted load and speed limits.

(f) Public Convenience. The Contractor shall conduct the work so as to ensure the least possible obstruction to traffic or inconvenience to the general public.

(g) Failure to Provide for Safety. If in the opinion of the District Inspector, the Contractor fails to adequately provide for safety, the District Inspector may:

1. Suspend construction within the area.

2. Order and/or place any additional warning devices, barriers, or protective equipment deemed necessary.

- Article 26 Fire Hazards and Preventions.

(a) The Contractor will be held responsible for fire ignited by the Contractor's employees, subcontractors, or equipment. Employees shall not be allowed to start fires. No open flames shall be permitted.

(b) The Contractor shall take necessary precautions to guard against and eliminate fire hazards that may cause damage to construction work, building materials, equipment, public, and private property, including grassland, brush, and trees.

(c) Flammable materials shall not be poured into drain lines, but shall be disposed of in a legal manner.

(d) Fire hydrants shall be kept accessible to fire-fighting equipment at all times.

(e) Contractors shall comply with state law requirements for burning and use of combustion engines including but not limited to Public Resources Code sections 4427, 4431, 4435, and 4442.

East Bay Regional Park District Wildfire Hazard Reduction and Resource Management Plan (2009)

The District's Wildfire Hazard Reduction and Resource Management Plan (Wildfire Hazard Plan) provides long-term strategies for reducing fuel loads and managing vegetation within District lands. The plan identifies and describes the vegetation types and their associated fuel characteristics and identifies potential fuel treatment methods. Specific recommendations and guidelines for reducing fuel loads and managing vegetation at recommended treatment areas are also provided. Recommendations include types and frequency of fuel treatment actions, considerations for selecting treatments, suggested end-state vegetation types, and concerns regarding plant and animal species and other site-specific features that could potentially be affected by fuel treatment activities. Because the project site was not yet transferred to the District at the time that the Wildfire Hazard Plan was written, the Wildfire Hazard Plan does not include site-specific vegetation treatment goals, treatment actions, or best management practices (BMP) for the project site. However, the District would apply the general fuel treatment methods, vegetation management practices, and monitoring activities of its Wildfire Hazard Plan to the project site.

Local Regulations

Certified Unified Program Agency

In California, a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) is implemented at the local level by a Certified Unified Program Agency (CUPA). The CUPA has responsibility in its jurisdiction for the six elements of the Unified Program: hazardous waste generator and on-site hazardous waste treatment; underground storage tanks (USTs); aboveground storage tanks (ASTs); hazardous materials release response plans and inventories; accidental release prevention; and Uniform Fire Code hazardous materials management plans and inventories. The CUPA for Contra Costa County is Contra Costa Health Services (CCHS).

Contra Costa County Hazardous Materials Area Plan

The Contra Costa County Hazardous Materials Area Plan (HMAP) describes the overall hazardous materials emergency response organization within Contra Costa County designed to protect human health and the environment. The HMAP includes the identification of hazardous materials incident planning, operations, organization and responsibilities for handling a hazardous waste incident and provides support for hazardous materials management including data management, business plans and facility inspections.[11]

Contra Costa County/Local Hazard Mitigation Plan (with City of Concord Annex)

Contra Costa County updated its Local Hazard Mitigation Plan in 2018, with the participation of the City of Concord, whose specific policies are included as an "annex".[12] The project site lies within the planning

[11] Contra Costa County (CCC), 2016, Contra Costa County Hazardous Materials Area Plan.

[12] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan Volume 1 –Planning Area-Wide Elements, Draft Final January 2018; and Volume 2, Planning Partner Annexes

area for the Local Hazard Mitigation Plan. The plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under Federal Emergency Management Agency (FEMA) grant programs. The Disaster Mitigation Act (DMA; Public Law 106-390), passed in 2000, shifted the federal emphasis toward planning for disasters before they occur. The DMA requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. Regulations developed to fulfill the DMA's requirements are included in Title 44 of the Code of Federal Regulations. The current update meets federal requirements for updating hazard mitigation plans on a five-year cycle. Risk assessment models were used in order to rank hazards and gauge potential impacts of each hazard of concern. Earthquake hazard was ranked as high followed by landslides, severe weather, wildfire, dam and levee failure, flood, sea level rise, tsunami, and drought.

The hazard mitigation plan outlines activities designed to reduce or eliminate losses resulting from natural hazards. Contra Costa County Office of Emergency Services opened the planning process for the hazard mitigation plan to all eligible local governments within the planning area. Planning partners included the City of Concord, as well as local police departments, fire departments, city planning directors, public works departments, school districts, and water and sanitation districts.

National, State, and county databases were reviewed to locate available spatially based data relevant to the Hazard Mitigation Plan. Maps were produced using geographic information system (GIS) software to show the spatial extent and location of hazards when such datasets were available.

Contra Costa County Fire Protection District

The Contra Costa County Fire Protection District (CCCFPD) provides fire and emergency medical services (EMS) to nine cities, including Concord, and the adjacent unincorporated areas within Contra Costa County. In addition to services provided by CCCFPD personnel, the District also maintains automatic mutual aid agreements with all fire agencies in Contra Costa County including the East Contra Costa Fire Protection District, the East Bay Regional Parks District, CAL FIRE, and private industrial companies located within its jurisdiction. These agreements provide the CCCFPD with emergency response assistance on an as-needed basis.[13] Proposed development would be subject to review by the CCCFPD for compliance with adopted emergency response plans. CCCFPD requires adequate access roads and building markings to facilitate emergency response.

Airports

Airport authorities and other agencies regulate aircraft activity. The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for airport land use compatibility planning and requires that nearly every county create an Airport Land Use Commission (ALUC) or other alternative. Contra Costa County opted for an ALUC.[14] The Contra Costa County ALUC plan primarily deals with land uses near the two public-use airports in the county: Buchanan Field Airport and Byron Airport. The influence area for each of the airports extends approximately 2 to 3 miles from the airport runways. Both Buchanan Field Airport and Byron Airport are located outside the project area. Buchanan Field Airport is

[13] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.
[14] Contra Costa County, 2000, Contra Costa County Airport Land Use Compatibility Plan.

located over 3 miles to the west of the project site and Byron Airport is located over 19 miles to the southeast.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan includes a Safety and Noise Element, the purpose of which is to "identify the natural and man-made hazards that exist within the City, and to mitigate their potential impacts through both preventive and responsive measures."[15] Specific policies related to hazards at the project site are:

- Policy S-5.1.4: Prior to reuse of former commercial, industrial, and military sites, require clean-up to a level consistent with State and federal regulatory agency standards.
- Policy S-5.1.5: Implement hazardous materials remediation plans for the former Concord Naval Weapons Station (Inland Area) to facilitate the reuse of the site for development and conservation.

  The Area Plan for the Concord Reuse Project 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."
- Policy S-7.2.3: Ensure that sufficient access for fire protection services is available in all new development.
- Policy S-8.1.1: Maintain an ongoing program for disaster response, including participation in all aspects of emerging, new high-technology solutions.
- Policy S-8.1.2: Coordinate disaster response planning with surrounding cities, agencies, and Contra Costa County.
- Policy S-8.1.4: Implement the City's Local Hazard Mitigation Plan, consistent with the guidelines of the Federal Emergency Management Agency (FEMA) and the Disaster Act of 2000, and seek funding under FEMA's Hazard Mitigation Grant Program.

The LHMP is incorporated by reference into the Concord General Plan.

4.8.1.2 EXISTING CONDITIONS

This section presents an overview of the existing conditions of the site relative to soil and groundwater contamination and hazardous building materials, including a description of prior and current hazardous substances usage at the site. Not all environmental sites within the Inland Area boundary were found suitable for transfer at this time, and some investigative areas remain open in the project area. These open sites or areas are not included in the FOST and are planned to be transferred later upon completion

[15] City of Concord, 2030 General Plan, 2007, page 7-1.

of ongoing environmental investigations or remediation. The potential for these adjacent sites or areas to impact the FOST Parcel is discussed below.

Investigation and cleanup of contamination from past practices at the Inland Area have been conducted in accordance with the Department of Defense's IRP. Past activities included activities such as using open burn pits to dispose of live ordnance (Site 13 – Burn Area), burning fuel oil for firefighter training (Site 13 – Burn Area), using oils and hydraulic fluids to test the structural integrity of munitions casings (Site 27 – Building IA-20), and surface applications of herbicides (Site 22 – Magazine Area). These and similar activities occurring at the site have contributed to the existing conditions of the on-site soils and groundwater today.[16] Site 22, the Magazine Area, is contaminated with arsenic. In 1945, 91 magazines were built in this area to store ammunition and explosives. In 1953, an additional 53 magazines were built around the perimeter. Site 22 was in use until 2000. While in use, herbicides containing arsenic were applied to the surface soils to control weeds and reduce fire hazards. Elevated arsenic levels have since been discovered in the surface soils of Site 22. Soils near the perimeter double fence line and the water in Mount Diablo/Seal Creek were tested. Arsenic concentrations were below background in Mount Diablo/Seal Creek and were generally below background levels along the perimeter double fence line. The distribution of arsenic in soil indicates that the areas with elevated concentrations are the Magazines Area and associated buildings constructed in the 1940s. The elevated levels are primarily in the upper 1/2 foot of soil.[17]

Hazardous Materials

CERCLA Program Sites

In 1983, the Navy initiated an Installation Restoration Program (IRP) in order to evaluate the effects of past operations resulting in contamination that could pose a risk to human health and the environment. The Navy completed an Initial Assessment Study in 1983.[18] When contamination was suspected, analytical sampling was recommended to confirm or deny contamination. Thirty-two Installation Restoration (IR) sites were investigated facility-wide during the IAS.

A Site Investigation (SI) Study in 1993 identified 19 locations that could pose a potential hazard to human health or the environment as a result of past operations within the Inland Area of the former CNWS.[19] The Inland Area SI and subsequent investigations identified 19 IR sites in the Inland Area. Six out of the 19 sites are located wholly or partially within the FOST Parcel and include IR Sites 15, 17, 19, 22A, 23A, and 27 and four of those IR sites are located partially or completely in the project site as shown below in Table 4.8-1.

[16] U.S. Department of the Navy, 2006. Final Environmental Condition of the Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[17] Tetra Tech, 2007, Draft Final Remedial Investigation Report for Installation Restoration Site 22, Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Prepared for Base Realignment and Closure Program Management Office West, Contract Number N62467-04-D-0055.

[18] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[19] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

TABLE 4.8-1 INSTALLATION RESTORATION SITES LOCATED IN FOST PARCEL

Identification	Site Name	Status	Closure Action	All or Part Located Within Project Site?
IR Site 15	Railroad Classification Yard	Closed	NFA	No
IR Site 17.	Building IA-24 and Surrounding Area, SWMU 12/20	Closed	NFA	Yes
IR Site 19	Disposal Area/Seal Creek, UXO 0006	Moved to MMRP program Closed	NFA	Yes
IR Site 22A	Magazine Groups 1-5	Groups 1,2 and 4 Closed; Groups 3 and 5: Remedy in Place	No action for GW; No action for soil at Groups 1, 2 and 4; NFA soils at Groups 3 and 5 with LUC for no residential use.	Yes
IR Site 23A	Inland Area EOD	Moved to MMRP program, closed	NFA	Yes
IR Site 27	Buildings IA-20 and IA-36, SWMU 8	Closed	No action for groundwater; soil removal action for PCBs and metals.	No

Note: GW = groundwater; IR = Installation Restoration; LUC = Land Use Control; MMRP = Military Munitions Response Program; NFA = No Further Action; PCB = polychlorinated biphenyls; SWMU = Solid Water Management Unit
Source: U.S. Department of the Navy, 2017.

The sites listed in Table 4.8-1 were determined to be suitable for transfer. Either a no action or No Further Action (NFA) designation were based on the findings of evaluations or cleanup actions that the parcels are suitable for transfer as long as the applicable notifications and restrictions outlined in the FOST have been implemented. NFA designations include parcels that have received NFA designations either because no response action was required to provide adequate protection of human health and the environment, or because the required remedial action has been completed and has received regulatory agency concurrence on the remedial action. Each of the sites is described in detail below.

Ordnance has been stored and used at former CNWS throughout its history as a military installation. Ordnance storage included ship and aircraft weapons systems, combat force weapons, special weapons, and small arms and ammunition used by base security personnel. The Navy has removed all stored ordnance from former CNWS.[20]

Under the Military Munitions Response Program (MMRP), the Navy conducted a search to address munitions and explosives of concern (MEC) and munitions constituents (MC) used or released at sites from past on-site activities. A Preliminary Assessment was done in 2007 for areas previously identified as having MEC or MC.[21] A Final Supplemental Assessment in the Inland Area was implemented in 2009 for

[20] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[21] Malcolm Pirnie, Inc., 2007, Final Preliminary Assessment Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

military munitions.[22] The three MMRP sites identified within the FOST Parcel have received regulatory agency closure and are shown in Table 4.8-2.

TABLE 4.8-2 MMRP SITES LOCATED IN FOST PARCEL

Identification	Site Name	Status	Closure Action	Located Within Project Site?
UXO 0005 (IRP Site 13)	Burn Area Near HE-5	Closed	NFA	Yes
UXO 0006 (IRP Site 19, Seal Creek)	Seal Creek Disposal Area	Closed	NFA	Yes
IRP Site 23A	Inland Area EOD	Closed	NFA	Yes

Notes: EOD = Explosive ordinance disposal; IRP = Installation Restoration Program; LUC = Land Use Control; NFA = No further action; UXO = Unexploded ordinance.
Source: U.S. Department of the Navy, 2017.

Other locations of concern investigated without association to an IR or MMRP site that are part of the FOST include pipelines, disposal sites, railroad area are presented Table 4.8-3.

TABLE 4.8-3 OTHER AREAS OF CONCERN LOCATED IN FOST PARCEL

Site Name	Status	Closure Action	Located Within Project Site?
Northern Railroad Excavation A	Closed	NFA	No
Northern Railroad Excavation B	Closed	NFA	No
Northern Railroad Excavation C	Closed	NFA	No
Southern Railroad Excavation T10, T11, and T12	Closed	NFA	No
Unocal Pipeline Area	Closed	NFA	No
Phillips 66 Concord Line 200 Release Site P66CL200	Active	Open and ongoing corrective action	No
C-3 Disposal Area	Closed	NA	No
Nitens Plantation	Closed	NA	Yes
Seal Creek Disposal Area	Closed	NFA	Yes

Notes: NA = No Action; NFA = No Further Action
Source: U.S. Department of the Navy, 2017.

The IR, MMRP, and other areas of concern sites listed in the three tables above that are located within the project area are summarized in the following sections.

[22] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

IR Site 17

IR Site 17 is located about 3 miles east of the main gate along the eastern side of Kinne Boulevard, and is partially contained within the FOST Parcel in the central portion of the Inland Area of former CNWS and is partially located within the project area. IR Site 17 was formerly used for forklift maintenance and battery service and includes Buildings IA-24, IA-55, and surrounding areas. An asphalt-paved parking area for forklift storage and steam cleaning was located near the southeastern wall of Building IA-24. The steam cleaning area historically discharged condensate, oil, and grease through a pipeline from the southwestern side of Building IA-24 and into Seal Creek.

The IAS identified IR Site 17 for additional investigation based on historical use and the SI completed in 1993 recommended the site for a remedial investigation (RI).[23,24] At the conclusion of the Inland Area RI, no chemicals of concern (COC) were found to be elevated in soil, sediment, or the groundwater samples collected.[25] The IR Site 17 Record of Decision (ROD) documented that the site qualifies for a NFA determination and the site is closed.[26] No CERCLA notices or restrictions are required for IR Site 17.[27]

IR Site 19 Seal Creek Disposal Area, UXO 0006

IR Site is approximately 1.5 acres along Seal Creek, northwest of Building 93, and is partially contained within the FOST Parcel and the project site. IR Site 19 was used as a dumping ground, containing construction debris, asphalt, tree cuttings, rubble, wood, drums, and other miscellaneous inert solid waste. IR Site 19 was included in the 1982 IAS because of evidence of waste disposal.[28] The site was investigated during the 1993 SI. Most debris was found to be comprised of inert material during a visual reconnaissance of the creek bed and debris encountered was field-screened with a photoionization detector; no vapors were reportedly detected. Three drums were found on site and the SI report recommended collection of sediment samples followed by proper removal and disposal of the debris and drums accumulated in the creek bed.[29] The Navy collected samples from two drums and the drums and their contents were characterized as nonhazardous and were disposed of at a Class III landfill.[30] The Navy, in October 21, 1994, sent a letter to the regulatory agencies and recommended the site for NFA.

IR Site 19 (UXO 0006) was entered into the MMRP in 2005. UXO 0006 was included in the MMRP PA based on old fire department logs suggesting older waste disposal areas may have been used for ordnance

[23] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[24] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[25] PRC Environmental Management, Inc., 1997, Final RCRA Facility Assessment Confirmation Study, Naval Weapons Station Concord, California.

[26] U.S. Department of the Navy, 2005, Final Record of Decision, Inland Area Site 17, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[27] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[28] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[29] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[30] PRC Environmental Management, Inc., 1997, Final RCRA Facility Assessment Confirmation Study, Naval Weapons Station Concord, California.

disposal. IR Site 19 was never identified in fire logs as a munitions waste disposal area, but was included in the MMRP PA based on its history as a waste disposal area. No evidence was found indicating that the site had been used for ordnance disposal, and no MEC was observed during the visual survey conducted on March 15, 2005. The 2007 final MMRP PA report recommended NFA for IR Site 19.[31]

Trenching, soil sampling and soil gas sampling was implemented in the area because of the unknown nature of the debris. The investigation concluded that only inert construction materials were present at the site, no unacceptable risks to human health or the environment were discovered, and NFA was recommended. The Preliminary Assessment Reverification Investigation Report recommended closure for the MMRP Site UXO 0006.[32] Concurrence for NFA was received from the agencies in 2017.[33,34]

No CERCLA notices or restrictions are required for IR Site 19/UXO 0006.[35]

IR Site 22A Magazine Groups 1 – 5

IR Site 22A encompasses 504 acres divided into five subareas, known as Groups 1 through 5 Magazine Areas, each of which is wholly or partially contained within the FOST Parcel. IR Site 22A includes 103 munitions storage magazines connected by roads and railroad spurs and surrounding open grassland. The magazines were constructed during the mid-1940s in order to store munitions and explosives.

- Group 1: 2.4 acres, 6 magazines (not located in the project area).
- Group 2: 154 acres, 39 magazines (partially located in the FOST Parcel and project area).
- Group 3: 39 acres, 18 magazines (located in the FOST Parcel and project area).
- Group 4: 124 acres, 20 magazines (partially located in the FOST Parcel and project area).
- Group 5: 185 acres, 20 magazines (located in the FOST Parcel and project area).

Each magazine was inspected and certified for closure between February 2000 and March 2001. The certification for closure included verification that magazines were visually free of all ammunition storage and explosive residue. In 2007, all Inland Area buildings and storage magazines were further inspected by Naval Surface Warfare Center personnel to evaluate whether any of the buildings contained explosive hazards from previous use. Quantitative samples were collected from a subset of buildings and magazines. No munitions constituents were detected in any of the IR Site 22A magazines at concentrations above hazard threshold limits.

[31] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[32] TriEco LLC and Tetra Tech, Inc., 2013, Final Site Investigation Report Building 93, IA-100 Storage Areas, Unocal Pipeline Site, Northern Railroad Excavation C, and Guam Way, Areas of Potential Interest, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[33] U.S. Environmental Protection Agency, 2017, Letter regarding Final Preliminary Assessment/Reverification Investigation, Former Naval Weapons Station Seal Beach Detachment Concord, California, Dated June 30, 2016. From Yvonne Fong, Remedial Project Manager to Marc Smits, BRAC Environmental Coordinator.

[34] Department of Toxic Substances Control, 2017, Letter Regarding Concurrence with Final Preliminary Assessment/Re-verification Investigation for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, California. From Jim Pinasco, Project Manager, Cleanup Program to Marc Smits, BRAC Environmental Coordinator.

[35] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

Environmental investigations at the five magazine areas within IR Site 22A occurred in 2005 with a SI that included surface soil sampling for analysis of arsenic. The results of the SI showed a distribution of arsenic above background concentrations at IR Site 22A consistent with application of an herbicide around structures. Arsenic was found elevated only in surface soils within 90 feet of some for the Group 1 Magazine Area because arsenic concentrations were below the background level. No further action for Magazines 1,2, and 4.[36]

Arsenic is the only chemical of concern at IR Site 22A and no action was selected. No further action was selected as well for Magazine Groups 2 and 4 because arsenic exposure point concentrations in surface soil (upper 6 inches of soil) were below the remedial goal of 22 mg/kg. However, at Magazine Groups 3 and 5, estimated arsenic exposure point concentrations in surface soil exceeded the remedial goal and, therefore, Institutional Controls to restrict residential use were selected to protect public health.[37]

Radiological clearance for the 35 magazines located in Group 2 which are radiologically impacted is being addressed separately from the arsenic in surface soil that is addressed in the Site 22A ROD. Because the radiological investigations at these magazines are not final, the portion of the Group 2 magazine area that contains the 35 magazines has been excluded from the FOST Parcel.

At IR Site 22A a Final Record of Decision (ROD) was completed in 2015, which selected no action for Magazine Groups 1, 2, and 4. Magazine Groups 3 and 5 require institutional controls (IC) restricting residential reuse.[38] The FOST indicates that no CERCLA notices or restrictions are required for IR Site 22A Magazine Groups 1, 2, and 4. Institutional Controls restricting residential use are required for IR Site 22A Magazine Groups 3 and 5.[39]

IR Site 23A Inland Area Explosive Ordnance Disposal (EOD)

The IR 23A site is an approximately 41-acre area located within the southern portion of the FOST property and project area on a hillside. The site was identified in the IAS based on reports that the EOD team conducted controlled explosions starting in the late 1940s until approximately 1959.[40] Soil sample analysis did not contain detectable levels of explosives.[41] IR Site 23A was transferred to the MMRP and included in the MMRP PA where it is referred to as the "Inland Area EOD." No evidence was found suggesting the site had been used for ordnance disposal, and no munitions or explosives were observed during the visual

[36] U.S. Department of the Navy, 2012, Final Proposed Plan for Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Installation Restoration Site 22A, Concord, California.

[37] U.S. Department of the Navy, 2015, Final Record of Decision, Inland Area Site 22A, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[38] U.S. Department of the Navy, 2015, Final Record of Decision, Inland Area Site 22A, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[39] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[40] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[41] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

survey conducted. A supplemental PA for the Inland EOD confirmed through geophysical surveys that there was no evidence of explosives.[42]

No CERCLA notices or restrictions are required for IR Site 23A.[43]

UXO 0005 – Burn Area Near High Explosives (HE) Group 5

UXO 0005, the Burn Area near HE Group 5, is approximately 92 acres and lies between the Group 5 high explosives magazines and the southeastern boundary of the Inland Area. No visual indications of ordnance disposal or burning were observed during site inspections. Confirmation sampling was implemented to verify that munitions were not present. All samples collected were analyzed for explosive- and propellant-related compounds and metals. No explosives, propellants or metals were detected in the soil samples at concentrations that would indicate that the site was used for munitions or explosive disposal, other munitions activities, or general chemical disposal. The SI report documented the investigation (Tetra Tech 2010).[44] The US EPA and DTSC concurred that a NFA was warranted for closure of MMRP Site UXO 0005/Burn Area near HE-5.[45]

The FOST indicates that there are no CERCLA notices or restrictions required for UXO 0005/Burn Area near HE-5.[46]

Nitens Plantation

The approximately 2-acre Nitens Plantation site was identified as a potential disposal site for waste construction materials. The site was recommended for a NFA based on a geophysical survey in 2003 and was further evaluated during the final Preliminary Assessment/Re-verification Investigation.[47] Scrap metal was found in near surface soil. No other debris and no munitions were encountered in trenches and no further assessment was recommended. The regulatory agencies concurred with the recommendation for NFA in the Preliminary Assessment/Re-verification Investigation Report.[48,49]

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[42] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[43] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[44] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[45] U.S. Environmental Protection Agency, 2010, Letter Regarding Concurrence of No Further Action for Black Pit at Red Rock and Burn Area Near 5AT, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. From Melinda Garvey, Remedial Project Manager to Kathryn Stewart, BRAC Environmental Coordinator.

[46] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[47] TriEco-Tt, 2016, Final Preliminary Assessment/Re-verification Investigation Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[48] U.S. Environmental Protection Agency, 2017, Letter Regarding Final Preliminary Assessment/Reverification Investigation, Former Naval Weapons Station Seal Beach Detachment Concord, California, June 30, 2016. From Yvonne Fong, Remedial Project Manager to Marc Smits, BRAC Environmental Coordinator.

[49] Department of Toxic Substances Control, 2017, Letter Regarding Concurrence with Final Preliminary Assessment/Re-verification Investigation for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, California. From Jim Pinasco, Project Manager, Cleanup Program to Marc Smits, BRAC Environmental Coordinator.

RCRA Program Sites

The 1992 DTSC RCRA Corrective Action Plan identified 49 Solid Waste Management Units (SWMU) within the Inland Area. In 1993, DTSC issued a RCRA Hazardous Waste Facility Permit (Part B Permit) for former CNWS identifying five permitted hazardous waste treatment and storage units in the Inland Area. None of the five permitted treatment and storage units are located within the FOST Parcel and all the permitted units have been closed.[50]

The permit also identified the 24 SWMUs referenced in the RCRA facility assessment as sites that would require a RCRA facility investigation or equivalent investigation. Nine of the SWMU sites identified on the RCRA permit are located in the FOST Parcel (SWMUs 12, 14, 17, 20, 24, 29, 30, 32, and 54). Table 4.8-4 lists the SWMUs within the FOST Parcel and if they are located within the project site.

TABLE 4.8-4 SWMUS IN FOST PARCEL

Identification	Site Name	Status	Closure Action	Located Within Project Site?
SWMU 12/20	Building IA-24 & Building IA-55 IR Site 17	Closed	NFA	Yes
SWMU 14	Building IA-27 Carpenter Shop	Closed	NFA	No
SWMU 17	Buildings IA-50 Rail Truck Transfer Depot	Closed	NFA	No
SWMU 24	Building 93 Guided Missile Division	Closed	NFA	Yes
SWMU 29	Building 429 Hazardous Waste Accumulation Shed	Closed	NFA	Yes
SWMU 30	Unocal Pipeline Spill Site	Closed	NFA	No
SWMU 32	UST SAT	Closed	NFA	Yes
SWMU 54	Building 79	Closed	NFA	Yes

Note: IA = Inland Area; SWMU = Solid Waste Management Unit; IR = Installation Restoration; NFA = No Further Action; UST = underground storage tank.
Source: U.S. Department of the Navy, 2017.

Five SWMUs are located within the project site and all have received regulatory agency closure. No notices or restrictions are required for any of the former SWMUs.[51]

Petroleum Products, Tanks, and Derivatives

Sites with petroleum products at CNWS have included individual or collections of underground storage tanks (USTs) and aboveground storage tanks (ASTs) and a pipeline release.

[50] Department of Toxic Substances Control (DTSC), 1993, Hazardous Waste Facility Permit.

[51] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

The following USTs and ASTs were identified as having been located within the project site:

- AST 87
- UST 87
- UST79
- UST IA-24
- AST IA-24A
- UST IA-55
- AST IA-55
- AST 96
- UST 96
- UST 5AT

All of the petroleum sites located within the FOST Parcel containing residual petroleum or its derivatives have been closed with a NFA concurrence from the applicable regulatory agencies. There are no notices or restrictions are required for any of the former SWMUs.[52]

Asbestos-Containing Materials

The United States Department of Defense manages ACM in a manner protective of human health and the environment to comply with all applicable federal, state, and local laws and regulations governing ACM hazards.[53] Unless it is determined by a competent authority that ACM on the property poses a threat to human health at the time of transfer, all property containing ACM will be conveyed, leased, or otherwise disposed of as is through the BRAC process.

Four basewide ACM surveys conducted for the entire former CNWS were conducted in 1988, 1989, 1999, and 2000 to evaluate ACM. A basewide asbestos reevaluation survey was conducted in 2016.[54] An environmental condition of property report was implemented which provides the asbestos evaluation results for the 70 buildings and facilities remaining, some of which were located within the FOST Parcel (not demolished). ACM was found in 40 of the 49 buildings that were surveyed for asbestos. ACM was found in materials such as pipe insulation, sealants, mastic, floor tiles, sheet flooring, grout, cinder blocks and mortar, fire-door insulation, transite panels, drywall, gaskets, and roofing. Both friable and non-friable asbestos were reported. Utilities within the FOST Parcel were not investigated; therefore utilities within the FOST Parcel may contain ACM.[55]

[52] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[53] Department of Defense, 1994, Department of Defense Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer for Property Where Release or Disposal Has Occurred.

[54] TriEco-Tt, 2016, Final Asbestos Reevaluation Investigation Survey Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[55] U.S. Department of the Navy, 2006, Final Environmental Condition of Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

A restriction is required in the deed to provide for appropriate restrictions related to ACM present on the property.[56]

Polychlorinated Biphenyls

The Department of Defense's policy for polychlorinated biphenyls (PCBs) is based on the Toxic Substances Control Act (TSCA) regulations located in Title 40 CFR Part 761. PCBs are also regulated in California by DTSC under Title 22 CCR Section 66261.24. The Navy conducted a records search and visual inspection of all remaining oil-filled electrical equipment to confirm and update the bases oil-filled electrical equipment inventory database. The inspection and inventory update included oil-filled equipment associated with electrical power distribution including transformers and oil-filled switches. The inventory did not include miscellaneous equipment, such as fluorescent lighting ballasts and capacitors.

The inventory also describes response actions performed by the Navy to remove PCB-containing electrical equipment that contain PCBs at concentrations greater than or equal to 5 ppm that were disposed of as a non-RCRA California hazardous waste and to address PCB equipment that had been vandalized.

In January 2015, the Navy sampled the PCB content of oil at all remaining transformers in the Inland Area where PCB analysis documentation was not found in the Navy's records. Additional off-line, pad-mounted (ground level) transformers and other oil-filled equipment (switches) that are no longer needed were drained to prevent potential spills from vandalism. Drained equipment was left in place (marked "drained."). Oil drained from the equipment was collected and transported off site for proper disposal. There is currently no equipment in the Inland Area that contains PCBs at concentration greater than 50 milligrams per kilogram (mg/kg) PCB in oil, which is the limit for equipment classified as non-PCB equipment under the Toxic Substances Control Act.[57]

Fluorescent light ballasts and capacitors in fixtures made before 1979 may contain sealed PCB-containing components. A comprehensive survey at former CNWS for PCB-containing fluorescent light ballasts or capacitors has not been conducted; however, it is assumed that buildings, structures, and facilities constructed before 1979 have PCBs in the ballasts and capacitors of older light fixtures. The deed will contain a notice as to the potential presence of PCB-containing ballasts and capacitors in light fixtures present in the remaining buildings within the FOST Parcel.[58]

Pesticides

According to the Initial Assessment Study, the facility maintenance group operated a pesticide shop, which was responsible for insect and rodent control at the facility, as well as vegetation control along streets, sidewalks, and buildings.[59] Subcontractors were used for large-scale vegetation control along

[56] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[57] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[58] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[59] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

roadsides and pastureland. When the Initial Assessment Study was written in 1983, the following pesticides were used: Krovar 1 (weed control), Roundup (roadside weed control), Dursban and Ficam (insect control), methyl bromide (poison bait for ground squirrels) and aminotiazole and 4-(2,4-dichlorophenoxy)butyric acid to control broadleaf vegetation.

In 1997, the Navy developed a pest management plan for the former CNWS.[60] The pest management plan used an integrated pest management program that emphasized the use of cultural, biological, physical, educational, and mechanical methods of pest control and limited the use of chemical pesticides. The Navy used several different insecticides, rodenticides, and herbicides to control pest populations in areas and times where pesticide use was necessary.

There are no records that would indicate that waste materials containing pesticides have been disposed on lands contained in the FOST parcel. If pesticides are determined to be associated with Navy activities and require further evaluation, the CERCLA Covenant as described in Section 7.0 of the FOST is applicable to protect human health and the environment. The transfer documents provide notification that registered pesticides have been applied to the property, may continue to be present there, and that where a pesticide was applied, the pesticide was applied in accordance with its intended purpose and consistent with applicable laws and regulations.[61]

Munitions and Explosives of Concern

There are no restrictions or conditions imposed for the FOST parcel related to munitions and explosives. The FOST indicates that there is a remote possibility of finding incidental munitions based on the installation's past use as a Naval Weapons Station. A general notification will be placed in the deed to notify future landowners about the installation's prior operational history as a Naval Weapons Station and what to do in the event that munitions are found.[62]

Adjacent Properties to the FOST Parcel and Project Site

The project site either completely surrounds or shares a border with eight areas that have not received regulatory agency closure in all programs and have ongoing assessments or response actions. Sites that are surrounded by project area or are on the border and have ongoing response actions associated with other environmental concerns such as the munitions response program include:

- SWMU 23/Building 87
- SWMU 25
- UST 83
- IR Site 22A, Group 2 Magazine Area

[60] U.S. Department of the Navy, 1997, Draft Pest Management Plan, Naval Weapons Station Concord.

[61] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[62] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

These sites are not expected to affect the project site since the lateral and vertical extents of contamination have been defined.

Sites that are surrounded by project area or are on the border and have ongoing response actions include:

- IR Site 42, Building 81
- UXO 0010, Eagle's Nest
- UXO 0001A, Pistol Firing Range (Former IR Site 24A)
- Red Rock Disposal Area
- UXO 0013, Rocket Practice Area
- UXO 0012, Bermed Area
- IR Site 41, IA-100 Storage Area
- Radiological Sites 2AT5 through 2AT20, 2AC62 through 2AC71, and 2AT72-2AT78

ASTs 131 and 132 were used as water storage tanks that are being retained for future reuse and are not within the FOST parcel.

The FOST indicates that the above listed sites are not likely to impact the project site because the boundaries have been conservatively established with regulatory oversight and concurrence. These boundaries were established to ensure contamination is confined within each area and has a sufficient buffer to ensure any possible migration of contamination is contained within the site boundaries. The Navy has retained the right to impose temporary explosive safety distances on the FOST parcel if needed.[63]

Nearby Sites

DTSC's EnviroStor and the RWQCB's Geotracker environmental database web sites were reviewed to evaluate whether adjacent sites could affect the FOST Parcel. The only EnviroStor or Geotracker site that has not received a NFA or is not closed is Redding Petroleum located at 2560 Bates Avenue, almost a mile northwest of the project site to the west of Port Chicago. The site is a commercial refueling station with above-ground storage tank dispenser islands, and six underground storage tanks that contain diesel or gasoline. The site is currently undergoing assessment and groundwater monitoring. Based on information provided in Geotracker, the direction of groundwater flow at the site is to the northwest, away from the project site. Based on the distance and groundwater flow direction, this facility is not expected to have impacted the project site.[64]

Airports

The project study area is located outside of the influence area of the two public use airports in the county: Buchanan Field Airport and Byron Airport. The influence area for each of the airports extends

[63] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[64] Regional Water Quality Control Board, Geotracker Online Database, http://geotracker.waterboards.ca.gov/case_summary?global_id=T0601300232, accessed on April 17, 2018.

approximately 2 to 3 miles from the airport runways. Buchanan Field Airport is located over 3 miles to the west of the project site and Byron Airport is located over 19 miles to the southeast.

Wildland Fire Hazards

Various entities evaluate potential wildfire risks and publish data and maps showing wildfire risks for locations within California. The California Department of Forestry and Fire Protection (CAL FIRE) publishes maps recommending fire hazard severity zones for every California county. The maps identify lands in California as falling within one of the following management areas: Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). The CAL FIRE map for the SRA in Contra Costa County identifies the project site as within the FRA. The CAL FIRE map for the LRA in Contra Costa County identifies the project site as not being within the Very High Fire Hazard Severity Zone. The project site is adjacent to lands to the east and north that are within the SRA and designated as being within the Moderate and High Fire Hazard Severity Zone. Please see the subsection "Hazard Zone Mapping" in Chapter 4.16, Wildfire, of this Draft EIR for more detailed information.

4.8.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to hazards and hazardous materials if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.8.3 IMPACT DISCUSSION

HAZ-1 The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The proposed project could substantially affect the environment if future building or site preparation activities on the project site involves the routine use, transport, or disposal of hazardous materials. Hazardous materials are regularly used, transported, and handled during development activities such as grading, demolition, and construction.

The proposed Regional Park would have park uses concentrated along the lower elevations, limited road and trail development in the hills and along the ridge, and trail connections that connect the Regional Park to the surrounding open spaces and communities. Within the 2,543-acre Regional Park, 86 acres (including 35 acres within Recreation/Staging Units) of the overall park space have been planned for recreational uses and park facilities. Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, would be concentrated in previously disturbed areas.

Site preparation would be necessary for the development of most recreational facilities. Both paved and unpaved parking lots would require site grading and site preparation to ensure adequate drainage and compaction for vehicular staging. Similarly, grading and site preparation would be necessary at all picnic areas with parking. Minimal site grading would also be need for picnic areas without parking to ensure adequate access from adjacent trails and flat space for picnic facilities.

The demolition of Buildings IA-55, 97, and 87 and their replacement with the new multipurpose room, Diablo Center, and Caretaker's Residence, respectively, would require grading and site preparation for the new facilities and construction staging. The construction of the new archive building, the amphitheater, and the plaza near the Visitor Center would require similar treatment. It is not anticipated that new grading will be necessary for building renovations, including Buildings IA-24, 420, 93, and 94; however, there would likely be a need for site preparation for the construction staging areas and fine grading around the existing structures.

Substantial site grading may be required within the Corp Yard area to fulfill District's maintenance needs. It is anticipated that grading would likely occur within the entire area, including the native plant nursery.

Almost 80 percent of the roads and trails within the Regional Park would follow existing roads, trails, or rail lines, but some new alignments would be necessary. New segments of roads and trails would require site grading and compaction. Existing roads and areas that are proposed to be removed would require ripping, and reseeding, as well as fine grading to match the surrounding grades.

Project-related construction activities would not require or involve extensive or ongoing use of acutely hazardous materials or substances. There will be limited grading and construction requiring the transport, storage use, or disposal of some hazardous materials, such as on-site fueling or servicing of construction

equipment. These activities would be short term and subject to federal, State, and local health and safety requirements.

The types of hazardous materials associated with project operation would generally be limited to maintenance, janitorial, and repair activities, such as commercial cleansers, lubricants, paints, etc. All hazardous materials used at the Regional Park would be stored, handled, and disposed of in compliance with all federal, State, and local regulations. Any demolition and construction contractors would be required under contract to segregate, collect, and properly dispose of hazardous waste in accordance with Contra Costa County, State, and federal requirements.

Overall, existing regulations with respect to hazardous materials transportation, management, and disposal are designed to be protective of human health. Compliance with federal, State, and local regulations, and policies in the Area Plan, would minimize potential hazardous material impacts.

However, four previous base-wide ACM surveys have found ACM in the majority of buildings that were surveyed for asbestos. ACM was found in materials such as pipe insulation, sealants, mastic, floor tiles, sheet flooring, grout, cinder blocks and mortar, fire-door insulation, transite panels, drywall, gaskets, and roofing. Both friable and non-friable asbestos were reported. Utilities within the FOST Parcel were not investigated; therefore utilities within the FOST Parcel may contain ACM. Demolition of existing buildings and magazines that are not anticipated for reuse in the Regional Park would require removal of all existing materials, ripping, and reseeding, as well as grading to match the surrounding grades.

A restriction is being required in the deed that prohibits occupancy and use of buildings, structures, or utilities, or portions thereof, containing known asbestos hazards before abatement of such hazards. The restriction indicates that, in connection with its use and occupancy of the FOST Parcel – including, but not limited to, demolition of buildings, structures, or utilities containing asbestos or ACM – the District will comply with all applicable federal, State, and local laws relating to asbestos and ACM.

An additional deed restriction presumes that LBP is present in all non-residential buildings, structures, facilities and in surrounding soil within the FOST Parcel that were built prior to 1978. The District may be required by DTSC or other regulatory agency to evaluate the soil adjacent to these buildings, structures, or facilities for soil-lead hazards resulting from LBP, and to abate any such hazards that may be present, after demolition and prior to construction on any building, structures, or facilities. The FOST also includes required deed notices related to PCBs, pesticides, and Munitions and Explosives of Concern. With these deed restrictions in place, this impact is considered to be *less than significant*.

Significance without Mitigation: *Less than significant.*

HAZ-2	**The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

Construction and site preparation activities associated with implementation of the proposed Plan could increase hazardous materials use and the associated risk of accident conditions involving the release of

hazardous materials within the project area. The FOST outlines notices and restrictions that are designed to ensure that post-transfer use of the project site will be consistent with the protection of human health. Restrictions include the handling of ACM, electrical equipment, lead-based paint, pesticides, petroleum, and munitions and explosives.[65]

In addition, construction activities would not involve a significant amount of hazardous materials, and the use of hazardous materials would be temporary. Therefore, there is not a reasonably foreseeable risk of upset or accidents that would release hazardous materials once the Regional Park is in operation. This impact would be *less than significant*.

Significance without Mitigation: *Less than significant*.

HAZ-3 The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.

Redevelopment activities such as site grading and remediation activities could generate wind-blown fugitive dust containing hazardous substances. Ayers Elementary School, located at 5120 Myrtle Drive in Concord, is located to the west of the project site and is the only school within ¼-mile of the project site.

Construction activities would require the use of heavy equipment and would result in greater emissions than project operation. However, as detailed in Chapter 4.2, Air Quality, construction activities associated with the proposed project would not expose off-site sensitive receptors to substantial concentrations of air pollutants. Therefore, this impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HAZ-4 The project would not result in a significant impact associated with location on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

The entire former CNWS site, which includes the project site, was added to the NPL in 1994. The NPL does not describe releases in precise geographical terms, which is consistent with the limited purpose of the NPL as a mere identification of releases. Therefore, listing on the NPL, especially for large sites like the former CNWS, does not mean that the entire property has known or threatened releases of hazardous substances.

The FOST determined that the project site is suitable to transfer under the Public Benefit Conveyance and is environmentally suitable for transfer by deed. Sites or areas not suitable for transfer have been excluded from the footprint of the FOST Parcel. These excluded areas are within the boundaries of the

[65] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

proposed Plan in order to plan comprehensively for the future of the Regional Park site. However, these areas would not be conveyed to the District until or unless the Navy determines they are environmentally suitable for transfer.

The site has restrictions as part of the conveyances to ensure that post-transfer use of the FOST Parcel is consistent with protection of human health and the environment. Required deed notices are discussed under Impacts HAZ-1 and HAZ-2 above and are associated with the transfer related to ACM, lead-based paint, PCBs, pesticides and Munitions and Explosives of Concern.[66] The US EPA, DTSC, and Water Board have all concurred that the site is suitable for transfer under the Public Benefit Conveyance. Therefore, although the project site is listed as a hazardous materials site, hazards to the public or the environment would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HAZ-5	**The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport and therefore would not result in a safety hazard or excessive noise for people residing or working in the project area.**

The site is located over 3 miles from the closest airport outside of the safety zones for the airfield. Project development would not cause hazards related to aircraft safety hazards or noise. Therefore, there would be *no impact*.

Significance without Mitigation: *No impact.*

HAZ-6	**The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The development of the project is designed and would be implemented so as not to interfere with or impair the implementation of an adopted emergency response or evacuation plan. Emergency response issues are addressed by the Contra Costa County Fire Protection District (CCCFPD), which requires adequate access roads and building markings to facilitate emergency response.[67]

Approximately 5 miles of existing roads would be converted to maintenance roads for operations, maintenance, and emergency services. These roads would provide vehicular access to higher elevations within the Regional Park. The approximately 5 miles of roads would be constructed to accommodate emergency response vehicles. In addition to having dedicated space within the Corporation Yard for park patrol and wildfire response teams, the Regional Park would ensure adequate access and support

[66] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[67] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

infrastructure for emergency response teams. Emergency responders with four-wheel drive capacity would be able to utilize the roads and trails in the Regional Park. Additionally, the overlooks are located in flat areas that could accommodate emergency landing of helicopters if needed. These points are spaced along the ridge, providing emergency responders access to much of the higher elevations of the park within a short distance. Therefore, there would be a *less-than-significant* impact to emergency response or evacuation.

Significance without Mitigation: *Less than significant.*

HAZ-7	**The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.**

The proposed Plan would maintain the project site as an open space and recreational facility and would not add urban or residential development to a wildland area. Future structures built as part of the proposed Regional Park would be required to comply with the City of Concord's Fire Code (CMC Chapter 15.65) and Building Code (CMC Chapter 15.10), including installation of sprinklers, proper protection systems such as fire extinguishing systems and alarms, fire hydrants, water fire flow requirements, and access points to accommodate fire equipment. Compliance with the CMC would also be required to ensure that CCCFPD standards provide the minimum access and water supplies would be met for any future development on the project site.

Grazing is currently used at the project site to control vegetation in the grassland areas and to reduce fire hazards. The proposed Plan anticipates that grazing would continue after opening Concord Hills Regional Park for vegetation management and as a fire prevention strategy.

The proposed Regional Plan would not include any campfires. Cooking grills would be provided at small picnic areas, and gas stoves would be allowed in designated day-use picnic areas and campgrounds. Based on the District's existing fire danger restrictions, cooking grills would not be permitted to be used during periods of "Extreme" fire danger.

The proposed project would also include several provisions for wildland fire prevention and response. Management Prescription ACCESS 19 states that the District would "Provide an adequate level of fire and visitor safety protection." Management Prescription ACCESS 21 calls for the District to "Reduce the risk of wildfire by implementing fuels modification projects to mitigate hazards to nearby exposures, following best management practices and procedures outlined in EBRPD's Fire Danger Operating Plan and Procedures (2012) and Wildfire Hazard Reduction and Resource Management Plan (2010)." In addition, the proposed project would maintain the existing water storage tanks on the site for use for fire suppression in the event of wildfire. These tanks would be retained and upgraded as needed to meet or exceed minimum fire department recommendations. Finally, the Corporation Yard would include dedicated space for park patrol and wildfire response teams.

Additionally, Policy SHN-3.1 within the Concord Reuse Project Area Plan requires 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. Therefore, impacts would be *less than significant*.[68]

Significance without Mitigation: *Less than significant.*

4.8.4 CUMULATIVE IMPACTS

HAZ-8 The project would not contribute to significant cumulative hazards and hazardous materials impacts.

The assessment of potential cumulative impacts with regard to hazards and hazardous materials refers to the potential for on-site and off-site hazardous materials to have a cumulative effect on the health and well-being of project occupants. The City's Final EIR Addendum assessed impact differences between the Final EIR and Concord Reuse Project Area Plan.[69] The hazardous materials study area considered for cumulative impacts consists of the area that could be affected by project activities, and the areas affected by other off-site projects where activities could directly or indirectly affect the presence or dispersion of hazardous materials onto the project site. In general, only projects occurring adjacent or very close to the project site are considered to potentially have a cumulative impact.

A number of the areas adjacent to the project site have been remediated and released for redevelopment by the Department of the Navy in concurrence with the US EPA, DTSC and Water Board. The BRAC closure process has addressed and remediated the potential instances between the site and adjacent areas where possible impacts were identified. In addition, the contribution of hazardous materials use and hazardous waste disposal with implementation of the project is minimal.

Although the project site is listed as a hazardous materials site, the FOST determined that the project site is suitable to transfer under the Public Benefit Conveyance and is environmentally suitable for transfer by deed. Compliance with existing regulations and deed restrictions would ensure that the proposed project would not contribute to cumulative impacts. Therefore, this impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

[68] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

[69] City of Concord, 2012, Final Environmental Impact Report Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.

4.9 HYDROLOGY AND WATER QUALITY

This chapter describes the regulatory framework and existing conditions on the project site related to hydrology and water quality, and the potential impacts of the project on hydrology and water quality.

The Contra Costa County Flood Control and Water Conservation District, in a letter to the Park District dated August 2, 2017, sent in response to the Notice of Preparation of this Draft EIR, expresses concerns about potential impacts to Mt. Diablo Creek, flooding and new impervious surface areas which might result from buildout of the Plan. The Impact Discussion, below, addresses the comments.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

Under the Clean Water Act (CWA) of 1977, the United States Environmental Protection Agency (US EPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters by implementing water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating sources that discharge pollutants into waters of the United States. The US EPA has delegated authority for issuing NPDES permits in California to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in the project area.

Executive Order 11988 and National Flood Insurance Program

Under Executive Order 11988, the Federal Emergency Management Agency (FEMA) is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year. Also, FEMA administers the National Flood Insurance Program, which requires that local governments covered by federal flood insurance enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood zone (1 percent chance of occurring in a given year). FEMA prepares Flood Insurance Rate Maps (FIRMs) that indicate areas prone to flooding. The City of Concord is responsible for issuing permits within designated flood zones in the project area.

State Regulations

Porter-Cologne Water Quality Control Act

The passage of the Porter-Cologne Water Quality Control Act in 1969, with later amendments (collectively referred to here as Porter-Cologne), implemented California's requirements under the federal CWA and designated the SWRCB to have the ultimate authority over California water rights and water quality policy.

Porter-Cologne also established nine RWQCBs, which are responsible for planning, permitting, and enforcement of water rights and water quality standards. The Porter-Cologne Act was incorporated into California Statutes as California Water Code Sections 13300 to 13999 and Title 23 of the California Administrative Code. Porter-Cologne provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. The Porter-Cologne Act allows the California SWRCB to adopt statewide water quality control plans or "Basin Plans," which serve as the legal, technical, and programmatic basis of water quality regulation for a region. The Act also authorizes the NPDES program under the CWA, which establishes effluent limitations and water quality requirements for discharges to waters of the state.

Anti-Degradation Policy

The SWRCB Anti-Degradation Policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Water in California (SWRCB Resolution No. 68-16), restricts degradation of surface and ground waters. In particular, this policy protects water bodies where existing quality is higher than necessary for the protection of beneficial uses.

Under the Anti-Degradation Policy, any actions that can adversely affect water quality in all surface and ground waters must: (1) be consistent with maximum benefit to the people of California; (2) not unreasonably affect present and anticipated beneficial use of the water; and (3) not result in water quality less than that prescribed in water quality plans and policies. Furthermore, any actions that can adversely affect surface waters are also subject to the federal Anti-Degradation Policy (Code of Federal Regulations Title 40 Section 131.12) developed under the CWA. Discharges from the proposed project that could affect surface water quality would be required to comply with the Anti-Degradation Policy, which is included as part of the NPDES permit requirements for point discharges.

NPDES Construction General Permit

Construction associated with the proposed project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the United States The proposed project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002) (Construction General Permit).[1] The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters

[1] California State Water Resources Control Board (SWRCB), 2009, NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002).

risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards.
- Good site management "housekeeping."
- Non-stormwater management.
- Erosion and sediment controls.
- Run-on and runoff controls.
- Inspection, maintenance, and repair.
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

In addition to stormwater discharges, the Construction General Permit also authorizes other non-stormwater discharges including irrigation of vegetative erosion control measures, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by the Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

- The discharge does not cause or contribute to a violation of any water quality standard.
- The discharge does not violate any other provision of the General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific BMPs required by the General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable Numeric Action Levels (NALs).[2]
- The discharger reports the sampling information in the Annual Report.

[2] Numeric Action Levels describe the values of certain water quality parameters (such as pH and turbidity) at which specific actions must be taken by a water discharger to protect water quality. NALs are identified in the Construction General Permit.

NPDES Municipal Regional Stormwater Permit

In 2009, to control pollution from urban runoff, the RWQCB issued Municipal Regional Stormwater NPDES Permit (MRP; NPDES Permit Order R2-2015-0049, NPDES Permit No. CAS612008, as revised). The MRP governs stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. The MRP prohibits the discharge of non-stormwater (materials other than stormwater) into storm drain systems and watercourses. Stormwater discharges are also restricted to those that would not adversely affect state waters or contribute to a violation of water quality standards for receiving waters (such as the San Francisco Bay). Some provisions require regional action and collaboration, but others relate to specific municipal activities over which the municipalities have individual responsibility and control. The MRP includes provisions applicable to new development and redevelopment (Provision C.3), which require permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects.

MRP Provision C.3 mandates the use of Low Impact Development (LID) for stormwater treatment, with narrow exceptions. LID aims to mimic a site's pre-development hydrology by minimizing imperviousness and then by detaining, infiltrating, and filtering runoff in landscape-based features—principally bioretention facilities. The City of Concord adopted a Stormwater Management and Discharge Control Ordinance to comply with the requirements of this permit, discussed further below.

Contra Costa County developed guidance for implementing the MRP requirements in its *Contra Costa Clean Water Program Stormwater C.3 Guidebook.* The guidance states that for a project that would alter more than 50 percent of the impervious surface of a previously developed site, and the existing development was not subject to stormwater treatment measures, then the entire project must be addressed by stormwater treatment measures. However, if the project would result in alteration of less than 50 percent of the impervious surface of a previously developed site, and the existing development was not subject to stormwater treatment measures, then only the new or replaced impervious surface must be addressed by stormwater treatment measures. The selected treatment measures must be included in a Stormwater Control Plan developed for the project. The Stormwater Control Plan must also describe anticipated maintenance requirements of all stormwater facilities constructed.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals protecting water quality and hydrology resources in the Natural and Resources Management section.

- NRM11: Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative efforts to plan comprehensive watershed management and will adopt "best management practice" guidelines for

District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.

- NRM12: The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss or degradation of habitat. The District will participate in the preservation, restoration and management of riparian and wetland areas of regional significance, and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public access, the Bay Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.
- NRM12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

Local Regulations

City of Concord General Plan

Although not applicable to the District's use and management of its project site, the City of Concord's General Plan[3] includes the following goals, principles, and policies regarding surface water, groundwater, water quality, and flooding:

- Goal POS-3: Well-Planned Natural Resource Conservation.
- Principle POS-3.1: Preserve and Protect Water Quality.
  - Policy POS-3.1.1: Enhance and maintain the natural values of creeks and major drainage ways.
  - Policy POS-3.1.3: Requires adequate building setbacks for development adjacent to creek banks and major drainage ways to protect neighboring properties from erosion and flooding.
  - Policy POS-3.1.6: To the extent practical, preserve creeks in a natural condition while providing for the need to convey storm water.
- Goal S-4: Flood Risk Reduction.
- Principle S-4.1: Protect the community from risks to lives and property posed by flooding and stormwater runoff.
  - Policy S-4.1.1: Manage development to ensure compliance with the City's Flood Management Ordinance and the City's Stormwater Management and Discharge Control Ordinance.
  - Policy: S-4.1.2: Establish engineering design standards for constructing a storm drainage system to protect against loss of life and property and minimize risks of flooding. This system should include

[3] City of Concord, 2007, Concord 2030 General Plan, updated July 2012, http://www.cityofconcord.org/page.asp?pid=6100, accessed on May 4, 2015.

a combination of constructed facilities and natural creeks which are managed to reduce flood hazards.

- Policy S-4.1.3: Coordinate storm drainage management with appropriate agencies, including the County Flood Control and Water Conservation District, Regional Water Quality Control Board, Army Corps of Engineers, Department of Fish & Game and with the Contra Costa Water District, in the vicinity of the Contra Costa Canal.
- Principle S-4.1.4: Design storm drainage facilities to meet the Contra Costa County Flood Control and Water Conservation District standards and ensure adequate and safe flow to minimize flooding.

- Goal PF-1: Availability of Adequate Public Utilities.
- Principles PF-3.1: Protect the Community from Adverse Impacts of Water Runoff.
  - Policy PF-1.3.1: Require new development to provide any needed storm drains that are not part of the City's master storm drain system and to incorporate features into site improvement plans to minimize surface runoff.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan,[4] which is incorporated by reference in the City of Concord General Plan, includes the following principles and policies regarding surface water, groundwater, water quality, and flooding.

- Principle C-2: Protect Ridgelines and visible hillsides in the CRP [Concord Reuse Project] area.
  - 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.
  - Policy C-2.3: Enhancing Natural Drainage Patterns. Preserve natural drainage patterns and watersheds on the site, and enhance the beneficial uses associated with Mount Diablo Creek and other drainage features.
  - 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.
- Principles C-3: Preserve, protect, and enhance hydrologic features in the CRP area.
  - 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

[4] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Technical Chapters, http://www.concordreuseproject.org/pdf/CRPAreaPlan_book3.pdf, accessed on March 16, 2015.

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 Mount 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 Mount 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 Mount 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 Mount 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 Mount 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 [Concord Community Reuse Plan Final EIR] (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.

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

City of Concord Municipal Code

Chapter 18 – Development Code

The City of Concord Municipal Code Chapter 18 (also called the Development Code) includes ordinances designed to protect surface water quality. Chapter 18.305, Creek and Riparian Habitat Protection, provides standards for the protection, maintenance, enhancement, and restoration of creeks, streams, and waterways in a manner that preserves their ecological integrity, function, and value. Under the code—unless the City Engineer waives it due to a determination that there would be no significant impact on a waterway or that sufficient information about the waterway already exists—a site-specific hydrologic study is required for improvements or proposed development on any site crossed by a watercourse as defined by the City or the United States Geological Survey (USGS).

Chapter 16 – Stormwater Management and Discharge Control

The intent of this chapter of the City's Municipal Code is to protect and enhance the water quality in the city's watercourses pursuant to, and consistent with, the Porter-Cologne Water Quality Control Act and the federal CWA. Chapter 16 achieves this intent by minimizing non-stormwater discharges, minimizing increases in nonpoint source pollution caused by stormwater runoff, and reducing stormwater run-off rates and volumes and nonpoint source pollution whenever possible through stormwater management controls.

Every application for a development project – including, but not limited to, a rezoning, tentative map, parcel map, conditional use permit, variance, site development permit, design review, or building permit – that is subject to the development runoff requirements in the City's NPDES Municipal Regional permit shall be accompanied by a Stormwater Control Plan that meets the criteria in the most recent version of

the *Contra Costa Clean Water Program Stormwater C. 3. Guidebook*. New development and redevelopment projects include appropriate source control, site design, and stormwater treatment measures to address stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of LID techniques.

4.9.1.2 EXISTING CONDITIONS

Climate and Topography

The project site is located in eastern Concord, along the Los Medanos Hills. Elevations at the site range from about 100 feet above sea level in the northwestern portion of the site to 1,000 feet above sea level in the Los Medanos Hills. The site experiences a Mediterranean climate, characterized by warm dry summers and mild wet winters. Temperatures rarely drop below freezing and on average approximately 86 percent of the rainfall occurs between November and April.[5] On average, the project vicinity receives approximately 17 inches of precipitation per year.[6]

Regional and Site Surface Hydrology

The primary hydrologic features on the project site include the Clayton Canal, Rattlesnake Creek, a short portion of the Contra Costa Canal, and various small ponds. Surface water that does not infiltrate the site soils drains to Mount Diablo Creek, which is located west of the project site and generally parallels the western border of the project site from the intersection with Bailey Road in the south to the former N Street in the north. An overview of hydrologic features in the project vicinity is presented in Figure 4.9-1.

Watershed Setting

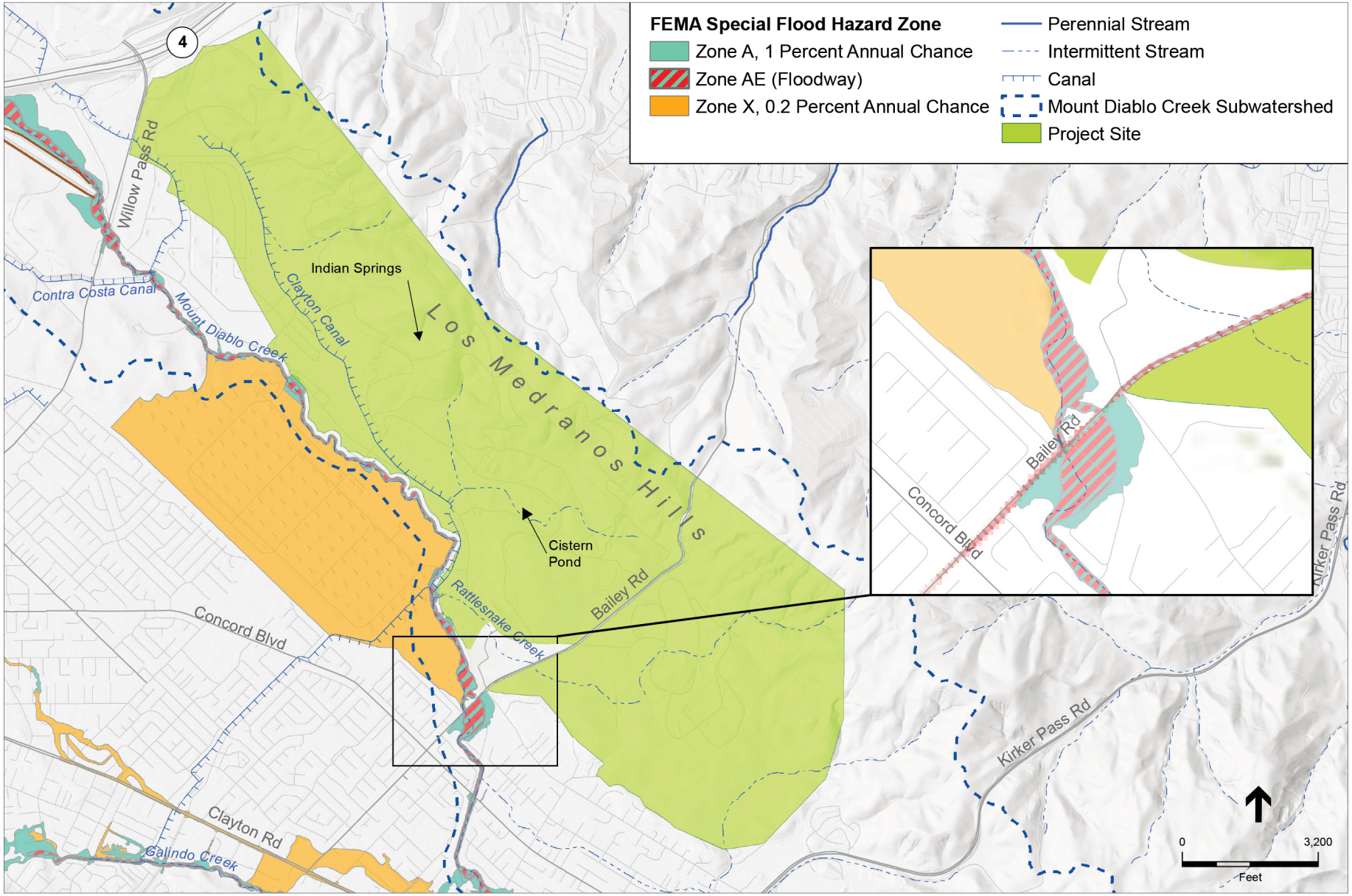
The project site is within the 23,800-acre Mount Diablo Creek Watershed.[7] The headwaters of Mount Diablo Creek watershed are located on the northern face of Mount Diablo, and from there and the hills northeast of Mount Diablo water flows north-northwest through the watershed to wetlands on the south border of Suisun Bay. The watershed includes unincorporated areas of Contra Costa County, Clayton, and portions of Concord.[8] Primary creeks within the watershed include Mount Diablo Creek, Mitchell Creek, and Donner Creek. The project site is crossed by tributaries to Mount Diablo Creek, although the site itself does not contain any of the three primary creeks. Over half of the watershed area (54 percent), mostly located upstream of the project site, is land managed as open space or agriculture. Non-agricultural conserved lands make up 22 percent of the watershed area, and 21 percent of the area is developed

[5] Western Regional Climate Center, 2015, 1971-2000 Monthly Climate Summary for Port Chicago Naval D, California (047070), http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7070, accessed on March 10, 2015.

[6] Western Regional Climate Center, 2015, 1971-2000 Monthly Climate Summary for Port Chicago Naval D, California (047070), http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7070, accessed on March 10, 2015.

[7] Contra Costa Resource Conservation District, 2006, Mount Diablo Creek Watershed Assessment.

[8] Natural Heritage Institute, 2006, Mount Diablo Creek Watershed Inventory Final Report.



Source: ESA, 2018.

Figure 4.9-1
Watershed Features in Project Vicinity

land.[9] The remaining areas of the watershed are golf courses or parks. Stream flows throughout the watershed generally mirror the local precipitation patterns and most stream reaches in the watershed are ephemeral.[10]

Historic Hydromodification of Mount Diablo Creek

While Mount Diablo Creek does not cross the project site, the creek is the nearest source of potential flooding, and historic modifications to the creek have affected surface hydrology of the project site. The primary Mount Diablo Creek channel was rerouted from a larger westerly channel to the existing channel in the late 19th century.[11] As the area developed, the altered land cover in the watershed reduced the amount of precipitation infiltrating the landscape while also limiting the amount of sediment entering the stream. Consequentially, higher volumes of runoff reached Mount Diablo Creek channel more rapidly, initiating a cycle of erosion and channel entrenchment. As the channel has eroded deeper into the landscape, progressively larger flood flows are confined to the channel instead of spilling out onto the surrounding floodplain. This process leads to further erosion, deepening the channel relative to the surrounding topography and undermining the channel banks.[12] In addition to erosion of the channel bed, the incision has driven development of steep, unstable banks that are actively eroding in many locations along the reach of Mount Diablo Creek adjacent to the project site.[13] As a result, Mount Diablo Creek is deeply incised, in places as much as 25 feet below the surrounding topography.[14] Development of the environs surrounding the project site has also introduced culverted road crossings, channelization, bank revetments, and other direct alterations to the creek channel.[15]

Stream Channels

Eastern Tributaries to Mount Diablo Creek

Several ephemeral tributaries drain the Los Medanos Hills along the eastern portion of the project site. Except for Rattlesnake Creek, all of these small steep tributaries are unnamed. All of the tributaries only flow during and shortly after storms.[16] Due to a combination of site geology and the resulting sediment load from the Los Medanos Hills, the water from these tributaries generally does not reach the channel of Mount Diablo Creek, instead flowing into the subsurface through coarse alluvial deposits at the base of

[9] Contra Costa Resource Conservation District, 2006, Mount Diablo Creek Watershed Assessment.

[10] Natural Heritage Institute, 2006, Mount Diablo Creek Watershed Inventory Final Report.

[11] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[12] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[13] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[14] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[15] City of Concord, 2009. Concord Community Reuse Project Draft Revised Environmental Impact Report.

[16] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

the Los Medanos Hills.[17,18] Grading performed by the United States Department of the Navy (Navy) at the site also disconnected local runoff from the Mount Diablo Creek channel by altering the natural topography of the project site.[19]

Willow Creek Drainage

A small portion of the eastern boundary of the site drains east to the Willow Creek watershed, towards the City of Pittsburg. There are no channels in this portion of the project site along the northeastern face of Los Medanos Hills, and drainage is limited to sheet flow only during high-intensity storms.[20]

Canals

The two canals that cross the project site, the Clayton Canal and the Contra Costa Canal, are owned by the United States Bureau of Reclamation. The Clayton Canal was built in 1949 and was used until approximately 20 years ago. The Contra Costa Canal was completed in 1948 and operates spring through fall. Neither of the canals receives significant runoff from the project site.[21]

Other Surface Water Features

Several stock ponds, watering holes, and seepage ponds are located in the uphill areas of the project site, including upper and lower Birdbath Springs, Willow Springs Pond, Indian Pestle Pond, several hilltop ponds, and other unnamed ponds.[22] Water levels in these ponds vary seasonally and are generally high in winter as a result of seasonal precipitation before gradually drying out during the summer.[23] Cistern Pond and Indian Springs are the only perennial ponds at the site.[24]

Groundwater

Groundwater is water that occurs underneath the earth's surface, in the pores and fractures in sediments and rocks. When water completely fills the void space of sediment pores or rock fractures, the pores or fractures are said to be saturated. Water that completely saturates the pore or fracture space available is typically called groundwater. The top of the zone filled with groundwater is known as the water table. Groundwater moves through the subsurface from higher elevations to lower elevations and from locations of higher pressure (called hydraulic head) to locations of lower pressure. The rate at which groundwater moves is also influenced by the physical properties of the earth materials present, such as

[17] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[18] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.
[19] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[20] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[21] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[22] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.
[23] U.S. Department of the Navy, 2006. Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.
[24] U.S. Department of the Navy, 2006. Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

the size and connectivity of pore or fracture spaces. Water generally enters the groundwater system as precipitation that slowly infiltrates soil and rock, although human activities such as irrigation and groundwater injection also deliver water to the groundwater system. Groundwater exits the subsurface by flowing into open water bodies (such as streams, lakes, and oceans), flowing onto the ground surface as springs or seeps, and via human-developed water wells.

The properties of the rocks and soil in an area affect the infiltration of surface water and the movement of groundwater. The bedrock ridge underlying the Los Medanos Hills is composed of sandstone, siltstone, mudstone, and conglomerate rock units, as well as unconsolidated sediments. The rocks of the Los Medanos Hills give way to thick unconsolidated alluvial deposits in the western portion of the project site, where surface water enters the subsurface through coarse alluvial deposits at the base of the hills.[25] Groundwater is generally found at depths of 30 to 50 feet below ground surface in the unconsolidated alluvium, under semi-confined to confined conditions.[26] Groundwater underlying the project site is east of and adjacent to the Clayton Valley groundwater basin, except between Clayton and Contra Costa Canals where a portion of the project site is within the Clayton Valley groundwater basin.[27] The water bearing alluvium in the Clayton Valley groundwater basin is over 700 feet thick.[28] Groundwater levels in the basin have demonstrated a slight gradual decline over the past 50 years.[29] Limited data exist regarding the occurrence and movement of groundwater in the basin.[30] Mount Diablo Creek marks the division between project site groundwater and the Clayton Valley groundwater basin. While the groundwater under the majority of the project site is not part of a mapped groundwater basin, it has been encountered in other studies of the site. Groundwater from the Clayton Valley basin supplies wells used to water livestock and to irrigate a nearby golf course.[31]

Water Quality

Surface Water

Beneficial Uses

As part of the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, the San Francisco Bay RWQCB, is charged with identifying and protecting beneficial uses of the Bay Area's surface waters. The Basin Plan is the guiding document for the RWQCB to identify water quality objectives and develop

[25] City of Concord, 2009. Concord Community Reuse Project Draft Revised Environmental Impact Report.

[26] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[27] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[28] California Department of Water Resources, 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[29] California Department of Water Resources (DWR), 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[30] California Department of Water Resources (DWR), 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[31] U.S. Department of the Navy (Navy), 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

enforcement actions to protect water quality and to carry out the objectives of the Federal Clean Water Act. Accordingly, the RWQCB has identified the following existing beneficial uses for Mount Diablo Creek: cold freshwater habitat, fish migration, preservation of rare and endangered species, fish spawning, warm freshwater habitat, wildlife habitat, water contact recreation, and noncontact water recreation. Beneficial uses of Rattlesnake Creek and other smaller tributary ephemeral streams are not specifically identified in the Basin Plan; however, the Basin Plan states that the beneficial uses of any specifically identified water body generally apply to all its tributaries. Beneficial uses of streams that have ephemeral flows must be protected throughout the year and are designated as "existing."[32] By extension, the beneficial uses of Mount Diablo Creek therefore also apply to other ephemeral flows on the project site.

Surface Water Ambient Monitoring Program

The Surface Water Ambient Monitoring Program is designed to assess the conditions of surface waters throughout California.[33] A Surface Water Ambient Monitoring Program was implemented in 2003 at 11 locations in the Mount Diablo Creek watershed.[34] Water quality indicators used in this monitoring program included the health of insects, water temperature, dissolved oxygen, presence of nutrients (nitrogen, phosphorus) and metals in water or sediments, and water toxicity. Except for reaches downstream of Mount Diablo State Park, the benthic macroinvertebrate assemblages present in sampling locations indicated poor watershed health conditions including in areas sampled near the project site.[35] At the monitoring station nearest to, but upstream of, the project site, water quality benchmarks were exceeded for water temperature, dissolved oxygen, and nutrient levels.[36] Mercury and nickel were also found in the creek sediments at the monitoring station near the project site.

Impaired Water Bodies

Section 303(d) of the CWA directs the RWQCB to identify water bodies that do not meet State or federal standards for pollutants. Water bodies that exceed RWQCB criteria for water quality are considered "impaired," and are added to the State's impaired water body list, also referred to as the 303(d) list. The RWQCB prioritizes water bodies on this list based upon potential impacts to beneficial uses. Inclusion of a water body on the Section 303(d) List of Impaired Water Bodies triggers development of a Total Maximum Daily Load (TMDL) for that water body and a plan to control the associated pollutant/stressor on the list. Typically, a TMDL is the sum of the allowable loads of a single pollutant from all contributing point and

[32] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[33] California State Water Resources Control Board (SWRCB), 2015, Water Quality, http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/water_quality.shtml, accessed on March 10, 2015.

[34] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[35] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[36] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

nonpoint sources. Mount Diablo Creek is on the impaired water body list for diazinon and toxicity. Diazinon is a synthetic orthophosphate that was used for pest control before it was outlawed for residential use in the United States in 2004. It is still approved for agricultural uses. Toxicity was determined by taking samples from locations along Mount Diablo Creek and evaluating how well the water samples supported three common organisms. One sample from upstream of the project site and one sample from downstream of the project site exceeded water quality benchmarks for toxicity.[37]

Groundwater Quality

The San Francisco Bay RWQCB is also charged with identifying and protecting beneficial uses of the Bay Area's ground waters, and has done so for Clayton Valley groundwater basin.[38] Existing and proposed beneficial uses of Clayton Valley groundwater include municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.[39] The groundwater quality at the site has been characterized as fair, with relatively high total dissolved solids, chlorides, hardness, and iron concentrations.[40]

Flooding

Project Site

During large flood events, most natural streams overtop the banks of the low-flow channel and inundate adjacent low-lying areas. This overflow area is referred to as the floodplain of the stream. Flooding in Contra Costa County is predominantly confined within traditional riverine valleys. However, channel incision on Mount Diablo Creek has resulted in a deep channel with over-steepened banks that is not hydraulically connected to the adjacent floodplain through much of the area. The sources of flooding along Mount Diablo Creek are primarily attributed to inadequate bridge crossings and, as such, frequent flooding has been observed downstream of Willow Pass Road, just outside of the project site.[41] Overbank flooding occurs between Bailey Road and Concord Boulevard due to inadequate channel capacity.

FEMA maps flood-prone areas to establish flood risk zones as part of the National Flood Insurance Program. FEMA's flood hazard maps typically delineate the 100-year floodplain (the area inundated by a flood event that occurs, on average, once in every 100 years), and are also used by states and communities for emergency management and for land use and water resource planning. Mount Diablo Creek has been studied using detailed methods. Standard hydrologic and hydraulic study methods were

[37] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[38] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[39] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[40] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California, April 28.

[41] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

used to determine the flood hazard data. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (corresponding to events that have a 10 percent, 2 percent, 1 percent, and 0.2 percent chance of exceedance in a given year, respectively) have been selected as having special significance for floodplain management. Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for flooding sources studied in detail, including Mount Diablo Creek.[42] Peak discharge is the water flow that occurs when the maximum flood stage or depth is reached in a stream as a result of a storm event. FEMA has developed estimates of peak discharge in Mount Diablo Creek at the locations shown in Table 4.9-1.

TABLE 4.9-1 PEAK DISCHARGE DATA FOR MOUNT DIABLO CREEK

Location	Drainage Area (Square Miles)	10-Percent Annual Chance (cfs)	2-Percent Annual Chance (cfs)	1-Percent Annual Chance (cfs)	0.2-Percent Annual Chance (cfs)
Downstream of Bailey Road	21.83	3,670	5,670	6,350	7,760
Downstream of Bailey Road (Downstream of Naval Base Breakout)	N/A	1,547	1,547	1,560	1,654
Approximately 3,000 feet downstream of Bailey Road	N/A	2,172	2,572	2,777	3,270
Approximately 3,300 feet downstream of Bailey Road	N/A	2,207	2,647	2,791	3,138
Approximately 1.1 miles downstream of Bailey Road	N/A	2,893	3,789	4,046	4,602

Note: cfs = cubic feet per second
Source: Federal Emergency Management Agency, 2017a. Flood Insurance Study Contra Costa County, California and Incorporated Areas, Volume 1 of 5. Revised March 21, 2017.

The current FEMA Flood Insurance Rate Map shows flooding occurs along Mount Diablo Creek in multiple locations downstream of Bailey Road. However, the areas of flooding are generally not on the project site. The boundaries of the project site are 300 feet from Mount Diablo Creek, and the mapped areas of flooding are generally within 300 feet of Mount Diablo Creek on the northern side along the project site. Thus, during the 100-year storm event, fluvial flooding is not expected to occur on the project site with the exception of the corner of the site immediately north of Bailey Road and east of Mount Diablo Creek.[43]

Downstream Areas

Downstream of the project site, FEMA has mapped the area through the Diablo Creek Golf Course and West of Port Chicago Highway as inside the 100-year floodplain. The mapped floodplain includes the majority of the Diablo Creek Golf Course and Port Chicago Highway.[44]

[42] Federal Emergency Management Agency, 2017, Flood Insurance Study Contra Costa County, California and Incorporated Areas, Volume 1 of 5. Revised March 21, 2017.

[43] Federal Emergency Management Agency, 2017, National Flood Hazard Layer.

[44] Federal Emergency Management Agency, 2017, National Flood Hazard Layer.

4.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: 1) result in substantial erosion or siltation on- or off-site; 2) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 3) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

4.9.3 IMPACT DISCUSSION

HYD-1	**The project could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater.**

Construction

Construction activities associated with implementation of the proposed Plan would include earthwork activities that could affect water quality. Impacts would be most likely to occur during grading associated with the construction of the new or renovated park buildings, roads, and trails. Construction could cause erosion and runoff by temporarily increasing the amount of unvegetated or otherwise unprotected soils on the project site. In addition to impacts from erosion and runoff, contamination from fuels or other hazardous materials used during construction could also adversely affect water quality. In the absence of appropriate stormwater runoff controls during construction, uncontrolled construction-related runoff could result in a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-1.1: In the absence of appropriate stormwater runoff controls, Plan construction would result in non-point source pollution that could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.

Mitigation Measure HYD-1.1: Prior to construction, the District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the statewide NPDES Construction General Permit. The SWPPP shall be designed, without limitation, to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a Regional Water Quality Control Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization best management practices (BMPs) are installed to reduce or eliminate pollutants after construction are completed. The SWPPP shall be prepared by a qualified SWPPP developer and included as part of construction specifications. The SWPPP shall include the minimum BMPs required for the identified Risk Level in accordance with NPDES Construction General Permit requirements. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual.

Significance after Mitigation: *Less than significant.* All construction activities would be required to adhere to NPDES Construction General Permit requirements, including implementation of BMPs identified in a SWPPP for the project. The BMPs would be selected based on characteristics of the project site and aimed at avoiding impacts, as discussed in Section 4.9.1.1. The SWPPP would also meet the requirements of Policy C-4.3 of the Concord Reuse Project Area Plan, including development of erosion control strategies and measures to minimize and control potential pollution sources. Implementation of the BMPs, as required by Mitigation Measure HYD-1.1 and outlined in the SWPPP, would minimize potential adverse effects to water quality during construction, and reduce the potential construction phase water quality effects to less-than-significant.

Operation

While precise building plans have not yet been developed, it is estimated that development of the proposed Regional Park would install approximately 16.5 acres of new development, most of which would be impervious area, and replace 40.5 acres of existing impervious area in certain areas of the site, including buildings (such as the Visitor Center and Native Plant Nursery structures) and paved roads and trails. In other areas, impervious surfaces (such as roads) would be removed.[45] Overall the project would reduce the total impervious area on the site by approximately 41 acres or 33 percent.[46] However,

[45] Existing developed areas includes approximately 125 acres of roadways, parking lots, and asphalt aprons surrounding buildings. Also included are a wide variety of structures, including buildings and magazines. This relatively broad category is collectively used to describe any land surface on site that consists primarily of steel, asphalt, or concrete. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. During construction by the Navy, the tops of the magazines on the site were covered with soil, and a plant community similar in structure and composition to the adjacent grasslands has developed over the years. Accordingly, the top of the magazine structures has been included in the California annual grassland vegetation community and are not included in this number.

[46] Based on preliminary site plan estimates, the project site would contain approximately 84 acres of developed park uses once complete. This includes the following existing infrastructure areas that would not be converted to restoration areas: paved

depending on location and building site characteristics, new and replaced impervious areas have the potential to provide new sources of non-point source pollution to receiving waters such as Mount Diablo Creek and Rattlesnake Creek. In the absence of appropriate stormwater runoff controls during operations, non-point source pollution from the project would present a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-1.2: In the absence of appropriate stormwater runoff controls, Plan operations would result in non-point source pollution that could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.

Mitigation Measure HYD-1.2: Prior to issuance of building permits for proposed improvements, the City shall verify that the District has included post-construction stormwater controls in the site design in accordance with the requirements of Chapter 16 of the City's Municipal Code 16 and the regional NPDES MS4 Permit. The City shall review the final Stormwater Control Plan (SCP) and any necessary changes by the City shall be incorporated into project design plans to ensure the required controls are in place and adhere to the requirements of the NPDES MS4 Permit including all applicable C.3 stormwater control requirements. At a minimum, the SCP shall demonstrate how the following measures would be incorporated into the Project:

- Low impact development (LID) site design principles (e.g., preserving natural drainage channels, treating stormwater runoff at its source rather than in downstream centralized controls)
- Source control BMPs in the form of design standards and structural features for all proposed areas of development.
- Source control BMPs for landscaped areas shall be documented in the form of a Landscape Management Plan that relies on Integrated Pest Management and also includes pesticide and fertilizer application guidelines designed to minimize any off-site discharges.
- Treatment control measures (e.g., bioretention, porous pavement, vegetated swales) targeting any potential pollutants such as sediment, pathogens, metals, nutrients (nitrogen and phosphorus compounds), oxygen-demanding substances, organic compounds (e.g., PCBs, pesticides), oil and grease, and trash and debris. The SCP shall demonstrate that the project has the land area available to support the proposed BMP facilities sized per the required water quality design storm.

Significance after Mitigation: *Less than significant.* Because this project would replace over 10,000 square feet of impervious area and add over 10,000 square feet of new impervious area, it is subject to the requirements of the NPDES Municipal Regional Permit (MRP; described in Section 4.9.1.1). With implementation of Mitigation Measure HYD-1.2, stormwater would be managed on-site in

roads, rail, unpaved roads, and magazines/building sites. This number also includes 16.5 acres of new development. This is a conservative (worst-case) scenario as it includes unpaved roads, which could be considered as permeable areas, and it does not account for the earthen/grassy portions of magazines. Excluding the unpaved roads, the developed park uses would be 70.2 acres.

compliance with the Chapter 16 of Concord's Municipal Code and the NPDES MRP. Pursuant to these regulations, the project would be required to incorporate LID features and facilities for hydromodification management (flow-control) as well as stormwater treatment for the new impervious areas. To comply with these requirements, the District would prepare and submit to the City of Concord for review and approval a Stormwater Control Plan, which would draw upon the LID Design Guide from the Contra Costa Clean Water Program Stormwater C.3 Guidebook. The guidebook includes sizing factors and criteria for "treatment and flow control" to ensure that stormwater is managed in a manner that protects water quality and manages flow quantities. Most projects use a combination of site design measures (self-treating and self-retaining areas) and bioretention facilities to meet runoff treatment and flow-control requirements. Pursuant to the City of Concord's Municipal Code, the Stormwater Control Plan must include an exhibit and calculations showing the site drainage and proposed treatment and flow-control facilities meet the NPDES C.3 criteria.

Outside of the changes in drainage patterns, the proposed project would not include any other discharges that could adversely affect surface water or groundwater. Therefore, implementation of stormwater design features specified in the Stormwater Control Plan as required by Mitigation Measure HYD-1.2 would reduce this impact to less than significant.

HYD-2	**The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Construction

Groundwater generally occurs at depths ranging between 30 to 50 feet below ground surface across most of the project site, but is closer to the ground surface in areas near creeks and streams. Accordingly, while most construction activities associated with implementation of the proposed Plan would not be expected to encounter groundwater, it may emerge in excavations for project components near surface drainages, such as the Visitor Center near Mount Diablo Creek. Dewatering of open excavations, when necessary, would involve pumping water out of the excavated area and discharging it in compliance with the NPDES Construction General Permit (discussed under Impact HYD-1). The affected groundwater for excavations would be from the shallow groundwater, which is not used as a source of municipal drinking water. Such dewatering activities would be limited to as-needed pumping, would be temporary in nature, would be localized in its effect, would only affect unconfined groundwater, and thus would not substantially affect local groundwater levels. Groundwater levels would return to pre-project conditions once construction is completed. Therefore, construction activities would not substantially decrease groundwater supplies or interfere with groundwater recharge, and impacts would be *less than significant*.

Operation

Once construction is complete, most of the project site's existing open space would remain undeveloped, and the existing natural, pervious surfaces would allow for continued infiltration of surface water. While the project would install new impervious features, it would also remove existing impervious features so the total amount of impervious surface on the site would decrease by approximately 41 acres. In addition,

groundwater extraction would not occur as part of project operations. For these reasons, groundwater supplies would not be decreased by the project. Impacts of project operation on groundwater levels and groundwater recharge would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HYD-3	**The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.**

The project would generally preserve the existing drainage patterns of the site by limiting grading (pursuant to Area Plan Policy C-2.5), reusing existing paved areas for new facilities, and not placing new structures in watercourses. Many existing roads would be removed and trails would be removed from use; once completed, removal of these facilities would allow revegetation of currently unvegetated areas. A new paved path at the northern end of the site would be installed across an existing bridge that spans the Contra Costa Canal. At the southern end of the project site, a new unpaved path would cross an ephemeral drainage. These two paths would not place new structures or fill within the watercourses and so would not substantially alter the watercourses. New roads and trails generally contour the topography or are in areas of low relief. However, if not designed appropriately, project elements whose locations and designs have yet to be finalized, could cause substantial erosion or siltation of Mount Diablo Creek. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-3: If not designed appropriately, Project elements whose locations and designs have yet to be finalized, could cause substantial erosion or siltation of Mount Diablo Creek. This would be a potentially significant impact.

Mitigation Measure HYD-3: Implement Mitigation Measures HYD-1.1 and HYD-1.2.

Significance after Mitigation: *Less than significant.* As discussed in Impact HYD-1, the project would also be required to incorporate LID features and facilities for hydromodification management (flow-control) as well as stormwater treatment applicable across the site, and the District would prepare and submit to the City of Concord for review and approval a Stormwater Control Plan as required by Mitigation Measure HYD-3, which would draw upon the LID Design Guide from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook*. The guidebook includes sizing factors and criteria for "treatment and flow control" to ensure that stormwater flow quantities are managed across the project site, reducing the potential for new impervious surfaces or other drainage alterations to cause new erosion or siltation. The SWPPP to be prepared pursuant to Mitigation Measure HYD-1a and Policy C-4.3 of the Area Plan would include erosion control strategies. For these reasons, the project would have a less-than-significant effect related to erosion, sedimentation, or flooding resulting from altered drainage patterns with implementation of Mitigation Measure HYD-3.

HYD-4 **The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.**

As discussed under Impacts HYD-1 and HYD-3, the project would not substantially alter watercourses, and it would result in an overall reduction in total impervious area on the site. By removing impervious area, the project would reduce the volumes of runoff generated across the site during smaller storms as well as during flood events. Thus, the project overall would thus decrease the amount of surface runoff that could contribute to off-site flooding. Nevertheless, given the project would involve some areas of new impervious surface area, without appropriate design, project elements whose locations and designs have yet to be finalized, could inadvertently cause localized flooding on-site. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-4: Without appropriate design, Project elements whose locations and designs have yet to be finalized, could inadvertently cause localized flooding on-site. The impact would be potentially significant.

Mitigation Measure HYD-4: Implement Mitigation Measures HYD-1.2

Significance after Mitigation: *Less than significant.* For the new and redeveloped impervious areas, as required by Mitigation Measure HYD-4 and pursuant to the City of Concord Municipal Code and the MRP, the project would be required to develop and implement a Stormwater Control Plan that meets the criteria of the most recent version of the *Contra Costa Clean Water Program Stormwater C.3 Guidebook*. Because the project would create or replace more than 10,000 square feet of impervious surfaces, the District would be required to address runoff reduction and baseline hydromodification management through stormwater flow control features. The Stormwater Control Plan must also describe how stormwater control features would be maintained during operation of the project. Since the project would reduce overall impervious area at the site, and Stormwater Control Plan measures would be required for compliance with the MRP and City of Concord Municipal Code, the project would not substantially increase the rate or amount of surface runoff in a manner which could result in flooding on- or off-site. The impact would be less than significant with mitigation.

HYD-5 **The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.**

As discussed under Impact HYD-1, the project would reduce overall impervious area, and stormwater runoff from project facilities would be managed on-site using swales and other stormwater retention

features. Overall, the project would reduce the total impervious area on the site by approximately 41 acres or 33 percent. Nevertheless, given the project would involve some areas of new impervious surface area, without appropriate consideration for existing drainage patterns, Project elements whose locations and designs have yet to be finalized, could inadvertently result in substantial additional sources of polluted runoff. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-5: Without appropriate consideration for existing drainage patterns, Project elements whose locations and designs have yet to be finalized, could inadvertently result in substantial additional sources of polluted runoff. This would be a potentially significant impact.

Mitigation Measure HYD-5: Implement Mitigation Measure HYD-1.2.

Significance after Mitigation: *Less than significant.* As required by Mitigation Measure HYD-5 and pursuant to the MRP Provision C.3 requirements, as described in the *Stormwater C.3 Guidebook*, the swales and other stormwater retention features that would be required as part of project design to capture runoff from the new and redeveloped impervious areas. The stormwater detention feature designs, along with operations and maintenance information combined into the project's Stormwater Control Plan, as required by Mitigation Measure HYD-5, must be approved by the City of Concord prior to construction. Implementation and maintenance of the stormwater facilities pursuant to the Stormwater Control Plan would ensure that the project would not create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the impact would *be less than significant with mitigation*.

HYD-6 The project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As discussed above for Impact HYD-2, temporary dewatering of work areas would be required during construction and groundwater extraction would not occur as part of project operations. In addition, the project would decrease the overall amount of impervious surface area such that groundwater infiltration would likely increase with the project. As a result, there would be no conflict with or obstruction of any sustainable groundwater management plan. Therefore, the project would have a less-than-significant impact related to conflicts with sustainable groundwater management plans.

With respect to potential conflicts with a water quality control plan, for the reasons set forth in Impact HYD-1, in the absence of appropriate stormwater runoff controls during construction and operation, uncontrolled stormwater runoff could result in a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-6: In the absence of appropriate stormwater runoff controls, Plan construction and operation would result in non-point source pollution that could conflict with a water quality control plan. This would be a potentially significant impact.

Mitigation Measure HYD-6: Implement Mitigation Measures HYD-1a and HYD-1b.

Significance after Mitigation: *Less than significant.* As discussed for Impact HYD-1, the project would be required to adhere to all applicable NPDES Construction General Permit requirements during construction and include drainage control features pursuant to the MRP Provision C.3 requirements, as described in the *Stormwater C.3 Guidebook*, in accordance with Mitigation Measure HYD-6 (Mitigation Measure HYD-1a and HYD-1b). These requirements would be sufficient to meet water quality objectives of the San Francisco Bay Region Water Quality Control Plan (Basin Plan).

HYD-7 The project would not be in a flood hazard, tsunami, or seiche zones with risk of release of pollutants due to project inundation.

As discussed in Section 4.9.1, 100-year flood hazards have been mapped by FEMA near the Visitor Center, and at the edge of the project site north of Bailey Road near the proposed Corps Yard and Native Plant Nursery. However, implementation of the project would not install new structures in either mapped FEMA flood hazard area. Therefore, the project would not place structures that would impede or redirect flood flows in areas mapped as part of the 100-year (or 500-year) floodplain area. In addition, pursuant to Concord General Plan Policy POS-3.1.3 and Area Plan Policy C-3.1, project components would be set back from the creek banks and major drainage ways and would be built outside any buffer established by regulatory agencies. For these reasons, the project would have a *less-than-significant* impact related to impeding or redirecting flood flows.

The project would also not directly or indirectly be subject to inundation by tsunami or seiche. Tsunamis are ocean waves caused by an underwater earthquake, landslide, or volcanic eruption. The project site is located in an inland area over 20 miles from the ocean and so would not affect patterns of tsunami inundation. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. The project site is not near and the project would not create a large enclosed water body that could produce seiches. The project site is not near and the project would not construct dams or other structures that could release large volumes of water that may generate mudflows. Therefore, *no impact* would occur.

Significance without Mitigation: *Less than significant.*

4.9.4 CUMULATIVE IMPACTS

HYD-8 The project would not contribute to significant cumulative hydrology and water quality impacts.

Hydrology and water quality impacts are related to changes in water quality, groundwater storage, and flooding. The geographic scope of groundwater cumulative impacts is the Clayton Valley groundwater basin. The geographic scope of surface water hydrology cumulative impacts is the Mount Diablo Creek watershed. The geographic scope of water quality impacts includes both the groundwater basin and the watershed.

As discussed above, the project would have no impact related to the following: the placement of housing with flood hazard areas; exposure to risks as a result of the failure of a levee or dam; inundation by seiche, tsunami, or mudflow; or other substantial degradation of water quality. Therefore, there would be no significant cumulative impact on these resources to which the project would contribute, and they are not discussed further.

As discussed under impact discussions HYD-1, HYD-3, and HYD-6, project construction and operation would include activities that could affect water quality in Mount Diablo Creek and its tributaries. With implementation of Mitigation Measures HYD-1.1, HYD-3, and HYD-6, including BMPs identified in a SWPPP prepared pursuant to the NPDES Construction General Permit, the project would not adversely affect water quality during construction. Similarly, implementation of stormwater treatment and flow control measures pursuant to these measures, including the MRP and City of Concord Municipal Code, would reduce the project's impacts on water quality during operations. Other projects that could have similar effects in the Mount Diablo Creek watershed include the Concord Reuse Project Specific Plan development area and the other cumulative development projects in Concord that are listed in Chapter 4.0. These projects would also be subject to the same regulations as the proposed project, which would serve to reduce their effects on water quality. Therefore, the cumulative impact on water quality would be less than significant.

As described under impact discussion HYD-2, the project could involve limited dewatering from the shallow groundwater zone during construction. No dewatering would be required during operation. Other projects overlying the Clayton Valley groundwater basin may also result in temporary dewatering from shallow groundwater; however, the effects would be temporary and limited to the near vicinity of the dewatering activity, and none of the cumulative projects are adjacent to areas within the project site where excavation would occur. As a result, there would be no significant cumulative impact on groundwater levels or groundwater recharge.

As discussed under impact discussions HYD-4, a portion of the project site is in the 100-year FEMA floodplain. However, implementation of Mitigation Measure HYD-4 would require appropriate stormwater drainage control requirements to minimize peak flows off-site. In addition, as explained above in impact discussions for HYD-5 and HYD-7, the project would not result in on- or off-site flooding or expose structures to risk associated with flooding because no structures would be built in these areas, and total impervious area on the site would decrease by approximately 33 percent with project implementation.

Past, present, and probable future development within the Mount Diablo Creek watershed could cumulatively exacerbate flooding conditions if the development were to increase the frequency or severity of flooding or cause flooding in areas where it would not have otherwise occurred. The only other project in the cumulative scenario whose effects could combine with those of the project to cumulatively increase the frequency or severity of flooding or cause new flooding is the development area of the Concord Reuse Project Area Plan.

As part of planning for the Concord Reuse Project Area Plan, the City of Concord has developed conceptual plans for potential projects or design concepts applicable to Mount Diablo Creek to accommodate both existing flood flows and flood flows attributable to redevelopment as described in the Concord Reuse

Project Area Plan.[47] These concepts focus on appropriately managing flood hazards while restoring existing aquatic, riparian, and wetland habitats. These projects and concepts would help to manage and direct increased flows caused by development. The conceptual plans are in progress and have included concepts for managing flood hazards through a combination of improved flow conveyance with channel restoration and the design and installation of detention facilities to divert and detain creek flows into suitably low gradient sites large enough to provide adequate flood storage. Earlier iterations of the conceptual plans included installing a detention basin on the project site;[48] however, current conceptual plans would not install a detention basin anywhere on the project site, instead using suitable areas within other parts of the Concord Reuse Project area for this purpose. No development would occur on the Concord Reuse Project development area until the City of Concord has received a Conditional Letter of Map Revision from FEMA for the area; FEMA will only issue a Conditional Letter of Map Revision if an application has been submitted to FEMA that includes, among other items, certification that no structures are located in areas which would be affected by an increased base flood elevation (unless they have been purchased for relocation or demolition).

Given that the project would decrease the overall impervious area on the site, include stormwater runoff control measures for new and redeveloped impervious areas in its design, and would not affect conceptual plans for flood hazard management along Mount Diablo Creek, the cumulative flooding impact of the project and other projects in the cumulative scenario would be *less than significant*.

Significance without Mitigation: *Less than significant.*

[47] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[48] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

4.10 LAND USE AND PLANNING

This chapter describes the regulatory framework for the East Bay Regional Park District's (District) planning and existing conditions on the project site related to land use in the vicinity of the project site, and the potential land use and policy consistency impacts that could result from development of the proposed project.

Although the CEQA analysis may identify some areas of general inconsistency, the inconsistency itself does not necessarily equate with a physical impact on the environment. The physical impacts associated with the proposed project are evaluated in the other sections of Chapter 4 in this Draft EIR.

The City of Concord, in a letter to the Park District dated July 27, 2017, sent in response to the Notice of Preparation of this Draft EIR, notes that the proposed Concord Hills Regional Park is a land use "strongly supported by the City's planning and CEQA work and reflects the Concord community's vision as developed through extensive outreach efforts." The City expresses concerns with park use areas and facilities, among other concerns, which are addressed in the Aesthetics, Biological Resources, and Transportation chapters of this Draft EIR.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, District, and local regulations and policies pertaining to land use and planning that are applicable to the proposed project.

Federal Regulations

Land Transfer

Beginning in 1941, the Concord Naval Weapons Station (CNWS)was used for ammunition storage and logistical support to other Navy installations. The CNWS was the principal site for transshipment of ordnance and other supplies to US troops in all branches of the military during the Vietnam War. The Inland area of the CNWS was mothballed in 1999 due to changes in military operations, and the Base Closure and Realignment Commission (BRAC) officially approved the Inland area for closure in November of 2005. In 2007, the Navy declared approximately 5,000 acres of property at the former CNWS to be surplus to the needs of the federal government; also in 2007, the District submitted a letter of interest to the City of Concord as the Local Reuse Authority, expressing interest in a Public Benefit Conveyance (PBC) of a portion of the former CNWS. The City adopted its Community Reuse Plan for the former CNWS in 2010, and its Reuse Area Plan in 2012, which designated 2,537 acres as conservation open space for the establishment of a new regional park, to be conveyed to the District through a PBC through the Federal Lands to Parks program. Between the years 2012 and 2019, various plans, agreements, findings and opinions were approved by the City, the District, the regulatory agencies, the US Navy, and the National Park Service. Most recently, on July 2, 2019, the District's Board of Directors authorized the acceptance from the National Park Service of 2,216 acres of the former Weapons Station. The total size of the former CNWS conveyed or leased to the District is 2,543 acres.

Fish and Wildlife Service Biological Opinion

The United States Department of the Interior's Fish and Wildlife Service submitted a Biological Opinion to the Department of the Navy on May 30, 2017, which identified critical habitat on the project site, and to outline permits needed prior to site disturbance. Actions as outlined in the Biological Opinion are regulations by which the proposed project must comply to ensure consistency with goals and policies of the Department of Fish and Wildlife.

State Regulations

California Public Resources Code § 5440 and Article 3, 5500 series are the primary State regulations for assessing land use and planning in the Land Use Plan area. These programs are summarized below.

Special District

The Park District is an independent special district under the State Public Resources Code. Under the California Public Resources Code (Article 3, 5500 series), the District has the power to:

> "...acquire land...to plan...develop...and operate a system of public parks, playgrounds, golf courses, beaches, trails, natural areas, ecological and open space preserves, parkways, scenic drives, boulevards and other facilities for public recreation, for the use and enjoyment of all the inhabitants of the District...to conduct programs and classes in outdoor science education and conservation education...to employ a police force...prevent and suppress fires...and to do all other things necessary or convenient to carry out the purposes of the District.".

As such, Park District parklands, including the project area, are consistent with local general plan designations, but are otherwise independently managed.

Public Resources Code Section 5540

Under Public Resources Code Section 5540, the Park District is authorized to dedicate land or property rights for public park land and recreation use in perpetuity. This is a specific process through which the Park District Board of Directors, by formal resolution of dedications, specifies that certain described and mapped lands are set aside permanently as public parklands or trails. Section 5540.5 of the Public Resources Code provides that the Board may, by unanimous vote, exchange up to ten acres per year of dedicated land under specified circumstances. The Park District, with the participation of the citizen-based Park Advisory Committee (PAC), annually reviews its undedicated land holdings to determine which may be suitable for dedication in perpetuity. Based on this annual review, staff prepares a resolution recommending suitable land for dedication and presents it to the Board for adoption.

Regional Regulations

Plan Bay Area, Strategy for a Sustainable Region

The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG) *Plan Bay Area 2040* is the San Francisco Bay Area's Regional Transportation Plan (RTP)/ Sustainable

Community Strategy (SCS). The Final Plan Bay Area was adopted on July 26, 2017. *Plan Bay Area 2040* was prepared by MTC in partnership with ABAG, the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board (CARB). Plan Bay Area's core strategy is "focused growth" in existing communities along the existing transportation network, through designating Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs).

District Regulations

East Bay Regional Park District Master Plan 2013

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for stewardship and development of parks within the jurisdiction of the District. The Master Plan is organized into six chapters that describe the purpose and role of the District, challenges and priorities. The Master Plan also includes a vision, mission, parkland classifications, and standards, as well as policies related to land use within District properties, such as resource management, public access, interpretation and recreation services, park planning, and acquisition.

Regional Park

Concord Hills Land Use Plan creates a new "Regional Park" under the District's Master Plan; use of the parkland parcels would adhere to the Master Plan definition of a Regional Park:

> A Regional Park is a spacious land area with outstanding natural features including rare species of flora and fauna. A Regional Park also has sufficient land area to support many outdoor recreation opportunities for the enjoyment and education of the public…. A future Regional Park is Concord Hills.[1]

The Master Plan includes a number of policies related to land use and planning for parks that are applicable to Concord Hills Land Use Plan, particularly in the category of "Planning for Regional Parks and Trails." These policies are:

- PRPT1: The District will classify existing and potential parklands in the Master Plan. All District parks are categorized into one of the following five classifications: a. Regional Park; b. Regional Preserve; c. Regional Recreation Area; d. Regional Shoreline; and e. Regional Trail. At the time that the District prepares a Land Use Plan for a park, it will review the classification of the park and reclassify the park, if appropriate.
- PRPT2: A Regional Park must be 500 acres or more, including land and water. It must have scenic or natural resources in at least 70 percent of its area. A Regional Park must have the capacity to accommodate a variety of recreational activities; however, these activities, in a designated Recreation/Staging Unit, may not take place in more than 30 percent of its area.

[1] East Bay Regional Park District, 2013, Master Plan, page 89.

- PRPT10: The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- PRPT11: Regional trails may be part of a national, state, or Bay Area regional trail system. The District will cooperate with other agencies and organizations to implement these multijurisdictional efforts.
- PRPT12: To protect park resources while providing for regional recreational use and access, the District will prepare plans (Land Use Plans or System-wide Plans) that describe:
  - The various levels of resource protection and recreational intensity in the parks
  - Development projects and land management strategies for trails and parks.
  - Planning efforts will include consideration of proposals from the public.

  The District will strive to create and maintain up-to-date information about each of its parks. Significant changes or amendments to adopted plans will require further public comment and Board action.
- PRPT13: Land Use Plans will identify future resource management strategies and recreational use for entire parks and establish appropriate Land Use Designations. The District will continue to prepare Land Use Plans for new parks and will amend existing Land Use Plans as needed to accommodate growth and change.
- PRPT18: The District will coordinate with other agencies and organizations involved in planning for jointly managed regional trails or trails that extend beyond the District's jurisdiction. When applicable, the District will use planning and environmental studies done by or in cooperation with other agencies for trail planning and development.
- PRPT19: The District will establish unit designations (Natural Units, Recreation/Staging Units) and Special Features (Special Protection Features and Special Management Features) in a LUP or a System-wide Plan and will identify these units in appropriate planning documents.
- PRPT20: Natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails) will be designated as Natural Units. Natural Units will generally comprise the majority of parkland acreage, except in Regional Recreation Areas. Parklands will be designated as Natural Units to maintain open space and significant features in a cohesive area. A Natural Unit may contain Special Protection Features and Special Management Features.
- PRPT21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.
- PRPT24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.

- PRPT27: The District will fully comply with the requirements of the California Environmental Quality Act (CEQA) for the development of new facilities. Evidence of CEQA compliance will be provided in the planning document or separately as a project-specific CEQA document. The District will also comply, when appropriate, with National Environmental Policy Act (NEPA).

Other Master Plan policies are applicable from the "Balanced Parkland Distribution" and "Key Elements of the Planning Process" sections:

- BPD1: The District will continue to acquire, develop and operate areas and facilities and to provide programs and services with the primary goal of achieving a long-term balance throughout the park system. The District will continue to allocate resources based on the populations from the most current census data for the West Metropolitan, South Metropolitan and Diablo sectors. To make most efficient use of public funds, the District will evaluate and seek to support and enhance the parks, programs and services of other agencies.
- KEP5: The District will work actively with cities, counties, districts and other governmental agencies to assure that they understand and consider District interests. The District will protect its interests when other jurisdictions plan or approve projects that affect the District and will work with them to develop and articulate mutual goals that are consistent with the District's standards. The District will seek to understand the perspectives of other governmental agencies and to resolve conflicts in mutually satisfactory ways.
- KEP6: The District will work with local governments and other agencies to develop funding agreements that offset the cost of maintaining and operating open space, parklands and trails accepted by the District in a manner consistent with the District's standards.

Local Regulations

The proposed project site is within the City of Concord City limits and adjacent to Contra Costa County and City of Pittsburg land, and is therefore heavily regulated by various plans. The project site is included in the Contra Costa County the City of Concord General Plan, City of Concord Area Plan, and the Concord Reuse Project Specific Plan. Other regulatory documents include the Long Term Management Plan and the Biological Opinion Document. Figure 3-4, General Plan Land Use Designations, in Chapter 3, Project Description, shows the General Plan land use designations in each of the three local jurisdictions discussed below, and Figure 3-5, Zoning, shows zoning designations.

This section describes the existing land use designations and zoning districts located within the project site. A General Plan land use designation refers to broad categories of different types of land uses, such as Single-Family Residential or Retail/Commercial, which are included and mapped within the General Plan. Each category establishes the general types of uses that are allowed by policy on a parcel with that designation. Each designation allows a range of possible intensities and the zoning district implements the land use designations.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan, adopted October 2, 2007, provides the community's long-range policy direction intended to guide future growth, development, and conservation of resources. The

General Plan is organized into eight elements: Economic Vitality; Land Use; Growth Management; Transportation and Circulation; Parks, Open Space and Conservation; Safety and Noise; Public Facilities and Utilities; and Housing. Goals, principles, and policies within each element provide policy guidance for future growth. The General Plan Land Use Diagram applies land use designations to all parcels located within the City. While not controlling for the Districts' use and management of its Reuse Area, the Land Use and Growth Management Elements provide goals and policies applicable to the proposed project site which are evaluated for consistency with the proposed project in Section 4.10.3.

The project site currently has a General Plan land use designation of Concord Reuse Project Open Space (CRP-OS). The CRP-OS designation intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the site through development of a regional park. Required park features are to be determined based upon natural resource permits; additional appropriate features include trails, shaded seating and picnic tables, and interpretive center site as natural resources permit.[2]

Most of the land immediately adjacent to the project site to the west, north of Bailey Road, is designated by the City of Concord General Plan for Concord Reuse Project (CRP) Village Neighborhood District, surrounded by and interlaced with the CRP Greenways, Citywide Parks, and Tournament Facilities designation. The CRP Village Neighborhood District is planned as areas within the Concord Reuse Project area intended for residential development at densities ranging from 6 to 45 units per net acre. The CRP Greenways, Citywide Parks, and Tournament Facilities designation is intended to provide a frame of linear parks and open space around future neighborhoods, as well as large areas planned for active recreational uses. A small area of land adjacent to the northwest corner of the project site is designated for CRP Commercial Flex, and is planned to accommodate light industrial, research and development, retail, hospitality, and office uses.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station (CNWS) to civilian use. Adopted by City Council in 2012, the Area Plan adapted goals and concepts developed in the Reuse Plan, adopted in 2010, that articulated the community's preferred vision for the area. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Area Plan provides goals and policies applicable to the project site which are evaluated for consistency with the proposed project in Section 4.10.3.

Under the Area Plan, the project is designated as Conservation Open Space, and is consistent with the Concord General Plan.

[2] Concord Reuse Project Area Plan, Book 1 Chapter 3 Community Framework, Table 3-15: Open Space Standards.

Concord Reuse Project Specific Plan (2018-2020)

On November 20, 2018, the City of Concord released a Notice of Preparation for the environmental review of the Concord Reuse Project Specific Plan. The Specific Plan, when released in 2020, will be the land use regulation for the 2,327-acre section of the former Naval Weapons Station which is being conveyed to the City by the United States Navy.[3] The notice states: The City of Concord (City) will prepare an environmental impact report (EIR) pursuant to the California Environmental Quality Act (CEQA) to evaluate the potential physical environmental effects of development to be defined under a multi-phased Concord Reuse Project Specific Plan, including the Tournament Sports Park. Lennar Concord LLC (Lennar) has been selected as the Master Developer for Phase 1 of the Specific Plan Area, and is working with the City to prepare a proposed Specific Plan for the entire Specific Plan Area. The City anticipates that the proposed Concord Reuse Project Specific Plan would be built out in five phases: Concord Reuse Project Phases 1, 2 and 3; the BART Station property (BART Phase); and the Coast Guard property (Coast Guard Phase.)

The Concord Reuse Project Specific Plan would implement, refine, and augment the community vision expressed in the City's 2012 Concord Reuse Project Area Plan, adopted by the City Council in January 2012 as an amendment to the Concord 2030 General Plan. The Specific Plan Area would be developed according to the specific parameters for development as the Concord Reuse Project areas become available for transfer from the U.S. Navy to the City as a Local Reuse Authority, and as the BART Phase and Coast Guard Phase become available for development.

As the Concord Reuse Project Specific Plan boundary covers property outside, but adjacent to the boundary of the Concord Hills Land Use Plan, the regulations of the Specific Plan are not binding on the Park District, and are included in this section for reference. The City and the Park District are coordinating the two planning efforts closely.

Concord Municipal Code

The Concord Municipal Code (CMC), organized by Title, Chapter, and Section, includes all the ordinances for the City. Title 18, Development Code, includes regulations relevant to land use and planning policy. Specifically, the Title includes the Zoning Districts and Zoning Map for the city, general development standards, provisions for landscaping, parking and open space, as well as permit review procedures for new development applications.

The project site is zoned Study (S), which provides an interim zoning district for the CRP designation.

Land to the west of the project site south of Bailey Road, land is zoned rural residential (RR) and residential single-family (RS). The RR district is intended for residential development at densities of up to 2.5 units per net acre, and implements the rural residential (RR) designation of the General Plan. The RS district is intended for residential development at densities of between 2.5 and 10 units per net acre, and implements the low density residential (LDR) land use designation of the General Plan.

[3] This boundary does not extend north beyond Highway 4 and is different than the earlier Concord Reuse Project Area Plan boundary, which did extend beyond Highway 4 and did not include the Coast Guard base.

Concord Community Design Guidelines

The City's Design Guidelines, adopted August 1987, are the recommended desirable design principles for projects in the City. The Guidelines cover topics that include area context, site plan, amenities, building design, landscape design, parking, signage and utilities, and are utilized in the development review process to ensure new development is consistent with the existing character of the city.

Contra Costa County General Plan and Zoning

Although the Contra Costa County General Plan does not apply to the project site, it is relevant for development in unincorporated areas of the county that are immediately adjacent to the project site. Land south of Bailey Road adjacent to the project site to the west lies within County jurisdiction, as well as land adjacent to the project site to the east, southeast, and north. The Contra Costa County General Plan, adopted in 2000, provides goals, policies, and implementation measures that guide County decision-making processes regarding future growth within its Sphere of Influence (SOI) through the year 2020. The General Plan Land Use Map provides land use designations for all incorporated and unincorporated lands within the County's Urban Limit Line. All development in the County must conform to the land use designations outlined in the General Plan. Goals and policies contained in the Land Use Element of the General Plan provide guidance on how land use designations should be developed to contribute to the overall character of the County.

The County General Plan designates pockets of unincorporated land surrounding the project site for Single Family Residential – Low (SL), Single Family Residential – High (SH), Agricultural Lands (AL), Public/Semi-Public (PS) and Landfill (LF). The SL designation allows a population density of 2 to 7.5 persons per acre, and a range of between 1 and 2.9 units per net acre. The SH designation allows a population density of 12.5 to 22 persons per acre, and between 5 and 7.2 units per net acre. The AL designation allows agricultural, open space, and non-urban uses, and a maximum allowable density of 1 dwelling unit per 5 acres. The PS designation allows government-owned properties and public transportation corridors. The LF designation is for public or private landfills and related uses. Uses in any buffer area within this designation are limited to landfill-related uses, open space uses, and agricultural uses.

However, the Agricultural Preserve (A-4) zone does not permit parks and playgrounds, or publicly-owned buildings and structures.

Contra Costa County Urban Limit Line

Established in the late 1980s and continued with the adoption of Measure C in 1988, the Urban Limit Line (ULL) sets a ratio of land designated for urban and open space. Through the County General Plan horizon year, a maximum of 35 percent of land in the County is available for urban development. The ULL is coterminous with the Concord city limit; the City adopted the ULL in November 2007. The proposed project site is within the ULL.

City of Pittsburg General Plan and Zoning

Lands adjacent to the project site and to the east lie within the Pittsburg SOI. The Pittsburg 2020 General Plan, adopted December 2001, provides Land Use designations and seven State-mandated Elements, as

well as the following optional Elements: Growth Management, Urban Design, Downtown, Economic Development, and Public Facilities. Each Element of the Plan is organized by a description of existing conditions, goals, and policies. The City General Plan designates the land adjacent to the project site for Open Space and Hillside Low Density Residential uses. Lands adjacent to the project site to the east within the Pittsburg SOI are zoned for Open Space (OS), Planned Development (PD), and Hillside Planned District (HPD) uses. The OS district is intended for large public or private sites permanently designated for park and open space. The PD district is intended to establish a procedure for development of large parcels that provides flexibility from otherwise rigid regulations of base districts. The HPD district is intended to ensure that future development within hillside areas of the city will be compatible with the sensitive terrain of these areas.

4.10.1.2 EXISTING CONDITIONS

This section describes the existing land use located within the project site. Existing land use refers to the use currently in place on a property, regardless of the general plan land use designation or zoning district.

As stated in Chapter 3, Project Description, the new development potential under the proposed project would only occur in the 2,543-acre Regional Park; further, only 86 acres (3.4 percent) of the overall park space have been planned for recreational uses (including 35 acres within Recreation/Staging). Therefore, the following describes the existing conditions for the Regional Park only. The Reuse area is 5,028 acres.

Existing Land Uses

The project site is located on the eastern portion of the 5,028-acre former CNWS site, owned by the U.S. Navy. Originally developed for agricultural use in the late 1800s, it was transferred to the Navy in 1944. As such, land within the flat area at elevations below the Los Medanos Hills has been previously disturbed by grading, construction, and military activities. The site also includes facilities to support the former naval operations on-site which consist of buildings, high-explosive magazines located in the lower elevations of the hills, gun-ammunition magazines on the flat land, barricaded railroad sidings, and a network of access roads and rail lines. In addition, inactive agriculture research areas dedicated to the cultivation of non-native trees, eucalyptus, and pine stand scattered throughout the site. The site is surrounded by perimeter fencing and a network of security and livestock fences run throughout the site. Approximately 90 percent of the site is currently in use by livestock grazing, including the lower elevations and the Los Medanos Hills.[4] An abandoned concrete airfield runway is located on the CNWS site, bordered by Willow Pass Road and Olivera Road, but is not included in the project site.

Surrounding Land Uses

As shown on Figure 3-1, Regional Location, in Chapter 3, Project Description, of this EIR, the project site is located along the border of the cities of Concord and Pittsburg, and is also adjacent to unincorporated areas of Contra Costa County. The site, along with undeveloped land along this border, forms a greenbelt along the ridge between the two municipalities. The project site is bounded on the north and west by the

[4] City of Concord, 2008, Concord Community Reuse Plan Draft EIR, Figure 3-2.

remainder of the Inland Area of the CNWS, on the southwest by existing residential neighborhoods within Concord, and on the south and east by undeveloped land within Pittsburg and unincorporated Contra Costa County. Primary uses adjacent to the project site include residential neighborhoods within Concord, residential and open space in the City of Pittsburg, and open space in unincorporated Contra Costa County. The eastern edge is predominately used for agricultural grazing. It is privately owned and located within the Pittsburg's SOI.

The Concord Pavilion, an amphitheater commonly used for concerts and local community events, is located to the south of the site. As shown in Figure 3-3, Local Context, in Chapter 3, Project Description, of this EIR, the project site is located west of the Keller Canyon Landfill, which extends to the northeast of the project site and has been in operation since 1992.

4.10.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to land use and planning if it would:

1. Physically divide an established community.
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.10.3 IMPACT DISCUSSION

LAND-1 The project would not physically divide an established community.

The proposed project would have a significant environmental impact if it were sufficiently large enough or otherwise configured in such a way as to create a physical barrier or other physical division within an established community. The physical division of an established community typically refers to the construction of a physical feature (such as a wall, interstate highway, or railroad tracks) or the removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. An example of a physical feature that would divide an existing community is an airport, roadway, or railroad track through an existing community that could constrain travel from one side of the community to another or impair travel to areas outside of the community.

As discussed under Section 4.10.1.2, Existing Conditions, above, approximately 90 percent of the site is currently in use by livestock grazing. In addition, abandoned defense-related facilities and agriculture research areas are scattered throughout the project site. The site does not contain residential uses or an established community. Since the 1940s, the site's use as a military facility has meant that access to and across the site was severely restricted. The proposed project would open the site to public access and provide a circulation network and visitor amenities to attract and encourage public access. In addition, because the proposed project is envisioned within the larger Area Plan, linkages to the planned adjacent development within the Concord Reuse Project area are anticipated.

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project includes park uses concentrated along the lower elevations, limited road and trail development in the hills and along the ridge, and trail connections that connect the Regional Park to the surrounding open spaces and communities. The heart of the park would be the Concord Hills Regional Park and Port Chicago Naval Magazine National Memorial Visitor Center (Visitor Center), which would serve as the primary gateway point for park activities. Many recreational and visitor-serving amenities would be located within the immediate area around the Visitor Center building, collectively referred to as the Visitor Center Complex. Staging areas would be located in the north and south areas of the Regional Park, and an approximately 28-mile trail network would be developed. The proposed trail network would utilize the existing road and rail network established by the Navy and serve as a means to connect recreational use areas within the Regional Park, as well as to regional trails and surrounding communities.

Components of the proposed project would include a trail network for connecting uses across the project site and to nearby areas (see Table 3-1). As the site does not contain residential uses, these improvements do not propose any new major roadways or other physical features through parcels designated for residential use or other communities that would create new barriers in the project site and would not physically divide any existing communities. Moreover, the proposed project would allow and encourage access and visitation to the property, which is currently closed. Therefore, there would be *no impact* related to the division of an existing community.

Significance without Mitigation: *No impact.*

LAND-2	**The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

This section discusses how the proposed project is consistent with other applicable regional and local land use plans, policies, and regulations that concentrate on land use and planning.

East Bay Regional Park District Master Plan

The District's 2013 Master Plan provides guidelines for parkland planning units, which consist of Natural Units, Recreation/Staging Units, and Special Protection Features. The following evaluates consistency with these guidelines.

Natural Units

Natural Units are intended to preserve and enhance natural habitat, and to provide continuous and cohesive open space to support large and robust ecosystems. Natural Units should "comprise the majority of parkland acreage" within Regional Parks. Appropriate uses should include "natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails)."

As described in Chapter 3, Project Description, Natural Units would comprise approximately 2,417 acres, or 95 percent, of the proposed Regional Park. Land uses would consist of terrestrial and aquatic habitat areas and open space on the majority of land located at upper elevations of the park, as well as on-trail

hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education or interpretation. Maintenance roads and trails would be accessible for fire prevention, police, and maintenance staff.

Recreation/Staging Units

The District defines Recreation/Staging Units as "suitable for more intensive public recreational use and are of sufficient size to support the necessary parking, utilities, and infrastructures needed for such use." These units should be dedicated to visitor use and are intended to be located near access roads, clustered together, near the edges of parks. They are primarily located on relatively flat land to avoid fragmentation within habitat areas and allow for continuous, uninterrupted Natural Units.

As described in Chapter 3, Project Description, and shown on Figure 3-7, Overview of the Proposed Regional Park, Recreation/Staging Units would comprise approximately 126 acres of the proposed Regional Park, including the 86 acres of the actual development footprint and a buffer from the conservation areas. Within these zones, there would be approximately 35 acres developed as recreation and operations facilities. These Units are clustered along the north, southeast, and west boundaries of the project site and are accessible from Kinne Boulevard, providing access from State Route 4. The Visitor Center Complex would be the main entry into the park, while the Mount Diablo Creek Trail would provide non-vehicular access.

Special Protection Features

The District defines Special Protection Features as "areas with unique or fragile natural, cultural, aesthetic or education features, such as biologic, hydrologic, archaeological, historic, or geologic features." Planning efforts and management strategies are utilized to preserve and enhance the unique features of these areas.

As described in Chapter 3, Project Description and depicted on Figure 3-7, 620 acres of the Park's Natural Units would be designated as Special Protection Features. Chapter 4, Operations and Management, of the proposed project includes measures to ensure future park operations are consistent with District Policy PRPT22, such as restricting public access.

Special Management Features

Areas with distinctive management within Regional Parkland are proposed to be set aside as Special Management Features, which direct staff to be aware of unique conditions within these areas and the need for a specialized management approach towards these areas. The proposed project includes one Special Management Feature, a community orchard that would be located in the footprint of a historic homestead and orchard. The community orchard would be planted with fruit trees and managed for productive harvest, community gathering, and education, and is designated as such, consistent with District Policy PRPT23.

City of Concord General Plan and Zoning

Land Use Designation Consistency

The General Plan and Zoning Ordinance are the primary land use planning documents for the City of Concord. As discussed in Chapter 3, Project Description, the proposed project seeks to ensure resource protection and to provide a range of recreational and educational opportunities for visitors. This is consistent with the proposed project site's current land use designation of CRP-OS, which intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the site. The project site is zoned Study (S) to allow for the open space uses to be more fully defined through the City and District planning processes. Therefore, the proposed project would be consistent with existing land use designations and zoning districts in the City of Concord.

Policy Consistency

The General Plan Guidelines published by the State Office of Planning and Research (OPR) defines consistency as follows; "An action, program, or project is consistent with the General Plan if, considering all its aspects, it will further the objectives and policies of the General Plan and not obstruct their attainment." Therefore, the standard for analysis used in this Draft EIR is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). A comparison of the project's characteristics with all applicable polices outlined in the General Plan as they relate to land use issues are presented in Table 4.10-1.

Concord Community Reuse Project Area Plan

The Area Plan provides policies and standards for land use within the project site. The following policies and standards (Table 4.10-2) in the proposed project would ensure consistency with the Area Plan.

The proposed project would introduce parks and recreation and open space uses adjacent to existing residential areas to the west of the site, including the Sun Terrace and Holbrook neighborhoods, and the Coast Guard Housing Complex.[5] The proposed new uses would be compatible with the residential areas, and the project includes a buffer of approximately two miles from the location of the proposed Visitor Center. Therefore, the proposed project would not impact the adjacent residential neighborhoods.

Other Land Use Plans

Plan Bay Area

The Economic Development Conveyance area of the Concord Reuse Project is designated as a PDA (Community Reuse Area/Los Medanos), with a future place type of Transit Neighborhood due to its proximity to North Concord BART, located adjacent to the western border of the project site. The vision

[5] City of Concord, 2008, Concord Community Reuse Plan Draft EIR, Figure 5-3.

TABLE 4.10-1 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD GENERAL PLAN

Number	Policy	Consistency Discussion
Chapter 3: Land Use (LU)		
LU-8.1.3	On the portions of the CRP [Concord Reuse Project] site that adjoin existing Concord neighborhoods, design open spaces and new buildings to be compatible in scale with adjacent established uses.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, and would be designed to screen areas from hillside views. The color, scale, and style and materials of recreational facilities would be selected to blend with the natural environment or reflect the existing structures from former site users.
LU-8.1.6	Design built features and the circulation system to respond to the CRP site's natural form. Where slopes of 30% of greater occur within planned development areas on the CRP site, they should generally be set aside as open space.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, on lower elevations. In addition, new trails would be constructed at a maximum of 8 to 12 percent grade. Land within the site with a slope greater than 30 percent would not be developed.
LU-8.1.9	Provide street and open space connections between the CRP site and established Concord neighborhoods at appropriate locations to improve accessibility and create a more cohesive and connected city.	**Consistent.** The project would include vehicular entrance points for the area north of Bailey Road, including the primary entrance near the Visitor Center along Kinne Road and two secondary entrances, one along Bailey Road and one along Delta Road. Trail connections to Black Diamond Mines and Mount Diablo would be provided at the southeastern portion of the site along Bailey Road, at the eastern portion of the site to Los Medanos Ridge Trail, and at the northern portion of the site to Delta de Anza Trail and Contra Costa Canal.
LU-8.2.1	Designate the most environmentally sensitive portions of the CRP site, including the Los Medanos Hills and the Mt Diablo Creek corridor, as permanent open space.	**Consistent.** The project would designate Natural Units and Special Protection Features within the site to preserve and manage natural resources. Public access within these areas will be limited, and the site as a whole will be preserved as permanent open space.
LU-11.1.10	Recognize the Los Medanos Hills between Concord and Pittsburg/ Bay Point as an essential part of the City's character and open space "frame", and take steps to preserve this area as permanent open space.	**Consistent.** The project would plan for the future transfer of the site to District ownership and the management of the site as open space. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.

Source: City of Concord General Plan, 2007; PlaceWorks, 2017.

for the site includes development of transit villages throughout the CNWS site, as well as significant parks and open space.[6]

As described in Chapter 3, Project Description, the proposed project objectives include protecting, enhancing, and restoring natural resources, and to complete gaps in the regional trail network, promoting multi-modal access within the project site. As such, the proposed project is consistent with the Plan's four primary land use objectives to promote a network of complete communities; increase the accessibility, affordability, and diversity of housing; job creation; and protect the region's unique natural environment. The proposed project is also consistent with the intent of the Regional Center PDA, which designates the

[6] Association of Bay Area Governments, Priority Development Areas, https://abag.ca.gov/priority/development/, accessed on April 12, 2018.

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
Chapter 3: Conservation and Open Space		
C-1.1	Encourage new development to preserve natural elements that contribute to the community's ecological value and aesthetic character.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, and would be designed to screen areas from hillside views. The color, scale, and style and materials of recreational facilities would be selected to blend with the natural environment or reflect the existing structures from former site users.
C-1.2	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.	**Consistent.** The City is leading a sitewide permitting approach for the former CNWS that started with working with the United States Fish and Wildlife Service on the Biological Opinion and will continue with the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. The City's planning for the entire Inland Area of the former CNWS determined where the highest-quality biological resources were and planned for those to be conservation areas (i.e., the proposed Regional Park). Please see Chapter 4.3, Biological Resources, for more detail.
C-2.1	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.	**Consistent.** The project would include vehicular entrance points for the area north of Bailey Road, including the primary entrance near the Visitor Center along Kinne Road and two secondary entrances, one along Bailey Road and one along Delta Road. Trail connections to Black Diamond Mines and Mount Diablo would be provided at the southeastern portion of the site along Bailey Road, at the eastern portion of the site to Los Medanos Ridge Trail, and at the northern portion of the site to Delta de Anza Trail and Contra Costa Canal.
C-2.2	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.	**Consistent.** The project would designate approximately 2,417 acres of land for conservation area and preserved for conservation and management of natural resources. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.
C-2.3	Preserve natural drainage patterns and watersheds on the site, and enhance the beneficial uses associated with Mt. Diablo Creek and other drainage features.	**Consistent.** The project would generally preserve the existing drainage patterns of the site by limiting grading, reusing existing paved areas for new facilities, and not placing new structures in watercourses. Because this project would replace over 10,000 square feet of impervious area and add over 10,000 square feet of new impervious area, it is subject to the requirements of the NPDES Municipal Regional Permit. Stormwater would be managed onsite in compliance with existing regulations. Pursuant to these regulations, the project would be required to incorporate Low-Impact Development features and facilities for hydromodification

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
		management as well as stormwater treatment for new impervious areas. Please see Chapter 4.9, Hydrology and Water Quality, for more detail.
C-2.4	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.	**Consistent.** The project would designate approximately 2,417 acres of land for conservation area and preserved for conservation and management of natural resources. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.
C-2.5	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.	**Consistent.** The project would require grading at paved and unpaved parking lots, picnic areas, demolition of Buildings IA-55, 97, and 87, archive building, amphitheater, plaza near the Visitor Center, within the Corp Yard area, and along proposed road and trail segments. These areas have been selected based on an analysis of existing site conditions and constraints, which lead to a site plan that clusters development of these facilities in 3.4 percent of the overall park space. In addition, all park elements would be concentrated in previously disturbed areas to limit impacts to natural ecosystems.
C-5.5	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.	**Consistent.** The proposed Regional Park is the designated conservation area for the Area Plan. As such, it provides compensatory mitigation for impacts on three federally- and State-listed species (i.e., the California red-legged frog, California tiger salamander, and Alameda whipsnake) resulting from development of the non-conservation areas of the Area Plan, and it is required to implement all applicable avoidance and minimization measures contained in the Biological Onion. The proposed Plan has also been prepared consistent with the Long-Term Management Plan, and includes management prescriptions to minimize impacts to sensitive habitat. Please see Chapter 4.3, Biological Resources, for more detail.
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.	**Consistent.** Pacific Gas & Electric (PG&E) has a 21-kilovolt overhead line running along the western edge of Concord Hills Regional Park, adjacent to Kinne Boulevard. PG&E also operates a 115-kilovolt transmission route along a utility corridor that runs parallel to Kirker Pass Road, south of the project site. Western Area Power Administration has an overhead transmission line along Kinne Boulevard. There are no transmission lines easements within the project site.
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	**Consistent.** A PG&E natural gas distribution line provides natural gas to the northern areas within the former CNWS. The line terminates near the existing entrance gate north of Highway 4. A 24-inch high-pressure gas main traverses the site north of Highway 4, and a 20-inch high-pressure gas main travels in the utility corridor parallel to Kirker Pass Road. The only oil or gas pipeline

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
	be required to reveal any additional information about pipelines or easements prior to development.	within the project site boundary is a Kinder Morgan pipeline that runs along the western boundary of the project site and crosses into the project site south of Bailey Road. Planned land uses in this area include trails, Orchard Camp Road, and the community orchard, all of which would be sited in previously-disturbed areas.

Source: City of Concord Reuse Project Area Plan, 2012; PlaceWorks, 2017.

project site as a place that fosters a vibrant and diverse community, economy, and environment and embraces the principles of smart growth, transit-oriented development (TOD), and sustainability.

Contra Costa County General Plan

The Contra Costa County General Plan governs unincorporated portions of land adjacent to the project site to the east, southeast, and north. The County General Plan designates pockets of unincorporated land surrounding the project site for Single Family Residential – Low (SL), Single Family Residential – High (SH), Agricultural Lands (AL), Public/Semi-Public (PS), and Landfill (LF). As described in Chapter 3, Project Description, the proposed project consists of park uses concentrated on lower elevations, limited road and trail development in the hills and along the ridge, and trail connections to the surrounding areas. Park elements include roads and trails, picnic areas, education and event spaces, and campsites. As such, the proposed project would not conflict with existing land use designations or zoning districts.

Pittsburg 2020 General Plan

The land use designations of the Pittsburg General Plan would be consistent with the proposed project, as the Los Medanos Hills would be preserved as open space.

Summary

As discussed above, the proposed project would not conflict with the applicable land use plans adopted for the purpose of avoiding or mitigating an environmental impact in the project site, and the proposed project would be compatible with adjacent existing land uses. Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.10.4 CUMULATIVE IMPACTS

LAND-3 The project would not contribute to significant cumulative land use and planning impacts.

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project, in combination with impacts from projected growth in the rest of

Contra Costa County and the surrounding region, as forecast by ABAG. The geographic context for the cumulative land use and planning effects, which occur from the proposed project combined with effects of development on lands adjacent to the cities of Concord and Pittsburg as well as Contra Costa County.

The land use analyses find that the proposed project would not divide an established community or conflict with established plans, policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project would also not create or exacerbate land use conflicts in or outside the City of Concord. The proposed project would be consistent with existing and proposed changes in other local and regional plans, and would not create substantial conflicts associated with land use regulations. Development is likely to occur in surrounding cities and in the Contra Costa County region as well. One such future development within Concord is the development of the Concord Reuse Project and Tournament Sports Complex. The Final EIR Addendum determined that the Concord Area Plan could introduce short- or long-term land use compatibility conflicts by placing higher-intensity uses and non-residential uses close to the existing lower-density residential uses in the surrounding areas. These impacts are less-than-significant with Mitigation Measures LU-1 and LU-2 included in the Area Plan Final EIR Addendum, which reduce the impacts the Concord Area Plan may have on land use and planning. Therefore, the Final EIR Addendum did not include additional Mitigation Measures for adoption of the Concord Area Plan. The proposed project would not contribute to these impacts as no urban uses are included on the proposed Regional Park.

Similar to the proposed project, projects within the project site vicinity would be required to be in conformance with applicable local General Plan policies, which require development to avoid impacting land use and planning policies. Cumulative development could potentially result in a greater impact to the region. However, such development in the vicinity of the project site is taking place in already urbanized areas and would not require significant land use changes that would create land use conflicts, nor would they divide communities. Therefore, cumulative impacts related to land use changes and impacts would be *less than significant.*

Significance without Mitigation: *Less than significant.*

4.11 NOISE

This chapter begins with a discussion of the fundamentals of sound and an examination of noise guidelines, policies, and standards. The remainder of the chapter provides an evaluation of the potential noise-related, environmental consequences that could occur by implementing the proposed Plan. Since the proposed Plan provides an overarching framework for future projects, but does not propose any specific projects, this evaluation focuses on the overall potential for implementation of the proposed Plan to result in noise impacts within the project site vicinity.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 BACKGROUND

Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

The following are brief definitions of terminology used in this section:

- Ambient Noise Level. The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
- Sound. A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- Noise. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- Decibel (dB). A unit-less measure of sound on a logarithmic scale.
- A-Weighted Decibel (dBA). An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level. The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- Statistical Sound Level (L_n). The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e. near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the

sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- Day-Night Sound Level (L_{dn} or DNL). The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- Community Noise Equivalent Level (CNEL). The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. Note that for general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice then, L_{dn} and CNEL values are considered to be equivalent/interchangeable and are treated as such in this assessment.
- Intrusive. Noise which intrudes over and above the existing ambient noise at a given location. Relative intrusiveness depends on amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.

Characteristics of Sounds

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves.

Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). Loudness or amplitude is measured in dB, frequency or pitch is measured in Hertz (Hz) or cycles per second, and duration or time variations is measured in seconds or minutes.

Frequency

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all, but are "felt" more as a vibration (predominantly, in a person's chest cavity). Similarly, though people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz.

When describing sound and its effect on a human population, A-weighted (dBA) sound levels are typically used to approximate the response of the human ear. The A-weighted noise level has been found to correlate well with people's judgments of the "noisiness" of different sounds and has been used for many years as a measure of community and industrial noise.

Amplitude

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 4.11-1 presents the subjective effect of changes in sound pressure levels. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Changes of 1 to 3 dBA are detectable under quiet, controlled conditions, and changes of less than 1 dBA

are usually not discernible (even under ideal conditions). A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernible to most people in an exterior environment, and a 10 dBA change is perceived as a doubling (or halving) of the sound.

TABLE 4.11-1 NOISE PERCEPTIBILITY

± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Bies, David A. and Colin H. Hansen, 2009, Engineering Noise Control: Theory and Practice. 4th Ed. New York: Spoon Press.

Duration

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These "n" values are typically used to demonstrate compliance for stationary noise sources with many cities' noise ordinances. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period, respectively.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment (or "penalty") of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or L_{dn} metrics are commonly applied to the assessment of roadway and airport-related noise sources.

Sound Propagation

Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single-point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level

would be 79 dBA, and at 200 feet it would be 73 dBA. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance over a reflective ("hard site") surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dBA for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, through generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level.
- General nature of the existing conditions (e.g., quiet rural or busy urban).
- Difference between the magnitude of the sound event level and the ambient condition.
- Duration of the sound event.
- Number of event occurrences and their repetitiveness.
- Time of day that the event occurs.

Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 4.11-2 shows typical noise levels from familiar sources.

Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves from its original static position. The instantaneous speed that a point on a surface moves is the velocity, and the rate of change of the speed is the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During project construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. These types of vibration are best measured and described in terms of velocity and acceleration.

TABLE 4.11-2 TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at 3 feet		
	90	
Diesel Truck at 50 feet, at 50 miles per hour		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area (daytime)		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban (daytime)	50	Dishwasher Next Room
Quiet Urban (nighttime)	40	Theater, Large Conference Room (background)
Quiet Suburban (nighttime)		
	30	Library
Quiet Rural (nighttime)		Bedroom (at night), Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 2013, Technical Noise Supplement, prepared by ICF International, http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf, accessed on May 14, 2018.

Peak particle velocity (PPV) expressed in inches per second (in/sec) is the maximum instantaneous peak of the vibration signal. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

As with airborne sound, annoyance from vibration is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons accustomed to elevated ambient vibration levels, such as in an urban environment, may tolerate higher vibration levels. Table 4.11-3 displays the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Construction operations generally include a wide range of activities that can generate groundborne vibration. In general, blasting and demolition of structures generate the highest vibrations. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet. Heavy trucks can also generate groundborne vibrations, which can vary, depending on

TABLE 4.11-3 HUMAN REACTION TO TYPICAL VIBRATION LEVELS

Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e. not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: California Department of Transportation, 2013, Transportation and Construction Vibration Guidance Manual, prepared by ICF International.

vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, and differential settlement of pavement all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement.[1] Trains generate substantial quantities of vibration due to wheel-rail interactions, steel wheels, heavy loads, and engine operations.[2]

4.11.1.2 REGULATORY FRAMEWORK

To limit people's exposure to physically and/or psychologically damaging as well as intrusive noise levels, agencies have established standards and ordinances to control noise. Potential noise and vibration impacts were evaluated based on the East Bay Regional Park District's (District) and City of Concord's noise standards to determine whether significant adverse noise and vibration impacts would result from construction and operation of the proposed Plan.

State Regulations

The California Green Building Standards Code (CALGreen) has requirements for insulation that affect exterior-interior noise transmission for non-residential structures. Pursuant to CALGreen Section 5.507.4.1, *Exterior Noise Transmission*, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite sound transmission class (STC) rating of at least 50 or a composite outdoor-indoor transmission class (OITC) rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 within a 65 dBA CNEL or L_{dn} noise contour of an airport. Where noise contours are not readily available, buildings exposed

[1] California Department of Transportation, 2013, Technical Noise Supplement, prepared by ICF International, http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf, accessed on May 14, 2018.

[2] Federal Transit Administration, 2018, Transit Noise and Vibration Impact Assessment, United States Department of Transportation.

to a noise level of 65 dBA L_{eq} during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum of STC 40 (or OITC 30).

District Regulations

Ordinance 38

The District's noise policy is set forth in Section 908, *Declaration of Noise Policy*, of the District's Ordinance 38, Rules and Regulations, revised April 2016. The District's noise ordinance regulates unnecessary, excessive, annoying noises within the park boundaries. All persons entering District parkland are required to abide by the rules and regulations of the District, the laws of the State of California, and local ordinances (e.g., City of Concord, City of Pittsburg, Contra Costa County).

The specific noise regulations in Ordinance 38 are:

- Section 908.2: Radio, Television Sets, and Similar Devices. It is unlawful for any person within the District to use or operate any radio receiving set, musical instruments, phonograph, television set, or other machine or device for producing or reproducing the sound in such a manner as to disturb the peace, quiet, and comfort of the District's users or any reasonable person of normal sensitivity in the area. The District considers noise from these sources to be a nuisance if it is audible at a distance in excess of 50 feet. Furthermore, use of sound amplifying equipment is prohibited at campgrounds between the hours of 10:00 p.m. and 7:00 a.m.
- Section 908.3: Amplified Music. It is unlawful to install use or operate within the District a loudspeaker or sound-amplifying equipment… for the purpose of transmitting music to any persons or assemblages of persons without filing a registration statement with and obtaining approval from the General Manager. Furthermore, such approval may be granted to operate such devices or equipment only within designated amphitheater areas maintained by the District for such purposes, or other such similar areas as the Board may from time to time so designate.
- Section 908.7: Regulations. The use of sound-amplifying equipment shall be subject to the following regulations: a) The operation of sound-amplifying equipment shall only occur between the hours of 10:00 a.m. and 8:00 p.m. each day, and b) the volume of sound shall be so controlled that it will not be unreasonably loud, raucous, jarring, disturbing or a nuisance to reasonable persons of normal sensitiveness within the area of audibility.
- Section 908.8: General Noise Regulations. It is unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary or unusual noise that disturbs the peace or quiet within any area within the District boundaries, or that causes discomfort or annoyance to any reasonable person of normal sensitiveness, utilizing any facility of the District. The District enforces these regulations within its regional parks to certain standards in Section 908.8. .

Local Regulations

Contra Costa County Code

The Contra County Code does not prescribe noise limits for general noise affecting noise-sensitive residential areas. However, there would be occasional events on District property to which noise sensitive areas in the unincorporated County could be exposed. For events held on District lands, the noise standards of the Contra Costa County Code for event noise are deemed applicable for the proposed Plan and are shown in Table 4.11-4.

TABLE 4.11-4 CONTRA COSTA COUNTY – EVENT NOISE LIMITATIONS

Cumulative Duration of Noise	Allowable Exterior Noise Levels Between 9 AM and 8 PM	Allowable Exterior Noise Levels Between 8 PM and 9 AM
30 minutes per hour (L_{50})	60 dBA	55 dBA
15 minutes per hour (L_{25})	65 dBA	60 dBA
5 minutes per hour (L_8)	70 dBA	65 dBA
1 minute per hour (L_2)	75 dBA	70 dBA
Level not to be exceeded at any time (L_{max})	80 dBA	75 dBA

Note: Amplified sound is prohibited after 8 PM Sundays through Thursdays and after 10 PM Fridays, Saturdays, and holidays. A temporary event permit shall not allow the use of amplified sound after these hours.
Source: Contra Costa County Code. Chapter 82-44 Temporary Events, Section 82-44.410, Conditions.

City of Concord Noise and Land Use Compatibility Standards

The proposed Plan area is within the City of Concord. The Safety and Noise Element of the General Plan contains Land Use Compatibility Guidelines for Community Noise.[3] These Land Use Compatibility Guidelines, which are similar to State guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable noise levels for various newly developed land uses. The City of Concords noise compatibility standards are shown in Table 4.11-5 below. Based on the City of Concord's noise compatibility standards, maximum noise levels of 60 dB are considered "normally acceptable" for unshielded residential development. Noise levels from 60 dB to 70 dB fall within the "conditionally acceptable" range, and those in the 70 dB to 75 dB range are considered "normally unacceptable."[4]

The City of Concord General Plan, Chapter 7, *Safety and Noise Element*, also sets forth the following applicable noise control goal, principles, and policies:

- Goal S-2: A Livable Noise Environment.
- Principle S-2.1: Encourage Land Use Compatibility for Community Noise Environments.

[3] City of Concord, 2007, Concord 2030 General Plan. Chapter 7, Safety and Noise.
[4] City of Concord, 2007, Concord 2030 General Plan. Chapter 7, Safety and Noise.

- Policy S-2.1.3: Consider an increase of four or more dBA to be "significant" if the resulting noise level would exceed that described as "normally acceptable" in [Table 4.11-5].

TABLE 4.11-5 CITY OF CONCORD NOISE AND LAND USE COMPATIBILITY STANDARDS

	dBA or CNEL						
	55	60	65	70	75	80	85
Residential – Low Density Single Family, Duplex, Mobile Homes							
Residential – Multifamily							
Mixed-Use and High Density Residential							
Transient Lodging - Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concerts, Halls, Amphitheaters							
Sports Area, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Businesses Commercial and Professional							
Industrial, manufacturing Utilities, Agriculture							

Normally Acceptable		Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable		New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable		New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable		New construction or development should generally not be undertaken.

Source: City of Concord, 2007, Concord 2030 General Plan. Chapter 7, Safety and Noise.

- Principle S-2.2: Mitigate Noise Sources.
  - Policy S-2.2.2: Reduce noise intrusion generated by miscellaneous noise sources through conditions of approval to control noise-generating activities.

- Policy S-2.2.4: Require new noise sources to use best available control technology (BACT) to minimize noise emissions.
- Policy S-2.2.5: Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

City of Concord Municipal Code

The City of Concord regulates noise within its Municipal Code under Section 18.150.130(O). Noise is required to comply with the noise standards in the Safety and Noise Element of the Concord General Plan. An acoustic study is required for any use that could create noise levels greater than the level deemed normally acceptable in the General Plan. Site preparation and construction activities are permissible between the hours of 7:30 a.m. to 6:00 p.m. weekdays (except on holidays), unless approved by the City of Concord as part of a planning permit.

Section 18.150.130(F) prohibits land uses from generating ground vibrations that are perceptible without instruments by a reasonable person at the property line of the subject site. Vibrations caused by temporary activities such as construction, demolition, and truck traffic are exempt from this standard but are subject to all conditions of any approved permit.

City of Pittsburg Municipal Code

The northeast and the southeast portions of the proposed Plan area abut Pittsburg. However, no noise sensitive land uses within the vicinity are proximate to the park (the nearest residence is 2,350 feet from the project site boundary and even farther from the planned active areas). Therefore, the noise limits of the City of Pittsburg Municipal Code would not be directly applicable to activities within the project site.

Construction Noise

Neither the Contra Costa County nor the City of Concord establish a quantified construction noise threshold. Therefore, this analysis uses the Federal Transit Authority recommendation of 80 dBA $L_{eq\ (8\ hr)}$ criterion[5] as measured at the nearest residential property line to analyze construction noise impacts.

4.11.1.3 EXISTING CONDITIONS

Existing Noise environment

The project site is almost entirely vacant, except for remaining former Concord Naval Weapons Station (CNWS) structures that are no longer in use. The ambient noise environment is characterized mainly by traffic noise on State Route (SR) 4, Bailey Road (which traverses the south-central part of the site), and Willow Pass Road and Avila Road (which pass next to the northwest site boundary). Kirker Pass Road passes about 850 feet southeast of the site boundary, but is separated from the site by small hills and thus

[5] Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual*.

is not expected to generate substantial noise audible onsite. Rail noise from the Bay Area Rapid Transit (BART) line also contributes to the ambient noise environment in the northern portions of the site.

Other noise sources that contribute, to a lesser extent, to the ambient noise environment include residential noise from residences in Concord and unincorporated Contra Costa County to the south; noise from commercial areas on the northeast and northwest (e.g., BART parking lots, Concord Police Association); playground/sports field noise from the schools; and earthmoving equipment and trash trucks at Keller Canyon Landfill east of Bailey Road on the east slopes of the Los Medanos Hills.[6] Additionally, stationary noise from occasional events at the Concord Pavilion amphitheater near the southeast site boundary may be audible within the project site during events.

Buchanan Field Airport

Buchanan Field Airport, owned and operated by Contra Costa County, is 3.1 miles east-southeast of the project site. The project site is not within the noise contours for the Airport.[7]

Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration, including residential land uses and schools, where quiet environments are necessary for enjoyment, public health, and safety. These uses are regarded as sensitive because they are where citizens most frequently engage in activities which are likely to be disturbed by noise, such as reading, studying, sleeping, resting, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not considered noise- and vibration-sensitive uses for the purposes of this analysis since noise- and vibration-sensitive activities are less likely to be undertaken in these areas, and because these uses themselves often generate noise in excess of what they receive from other uses. Sensitive receptors in Concord and unincorporated Contra Costa County are proximate to the southwestern boundary of the project site. Noise-sensitive areas north of the project site in Pittsburg and unincorporated Contra Costa County are farther (i.e., over 2,350 feet) from the planned active use areas of the proposed Regional Park. Future planned and approved development as part of the EDC would also include sensitive receptors.

4.11.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant noise impact if it would:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Generation of excessive groundborne vibration or groundborne noise levels.

[6] The Concord Pavilion, which has capacity of 12,500 seats, hosts mostly musical performances with some spoken-word (e.g., comedy) performances. See Concord Pavilion, 2018, Upcoming Shows, https://www.livenation.com/venues/14806/concord-pavilion, accessed on April 30, 2018.

[7] Barnard Dunkelberg, 2008, Buchanan Field Airport Master Planning Program,http://www.co.contra-costa.ca.us/DocumentCenter/View/29151, accessed on April 23, 2018.

3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

4.11.3 IMPACT DISCUSSION

NOI-1	**The project would not cause a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

Traffic Noise

With respect to projected-related traffic increases, noise impacts can be broken down into three categories. The first is "audible" impacts, which refer to increases in noise level that are perceptible to humans. Audible increases in general community noise levels generally refer to a change of 3 dBA or more since this level has been found to be the threshold of perceptibility in exterior environments. The second category, "potentially audible" impacts, refers to a change in noise level between 1 and 3 dBA. The last category includes changes in noise level of less than 1 dBA that are typically "inaudible" to the human ear except under quiet conditions in controlled environments. Only "audible" changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant. Note that a doubling of traffic flows (i.e., 10,000 vehicles per day to 20,000 per day) would be needed to create a 3 dBA increase in traffic-generated noise levels. An increase of 3 dBA CNEL is used as a threshold for a substantial increase.

The District estimates that 556,309 annual visitors would visit the Regional Park at full buildout. Approximately, 2,665 visitors are anticipated on a typical weekend day and 1,075 visitors per day are anticipated on a typical weekday day. In addition, the Regional Park would host annual events at the Visitor Center Complex on the anniversary of the Port Chicago Naval Magazine explosion. These events are anticipated to draw approximately 1,000 visitors. Smaller events would be held approximately quarterly, with approximately 300 visitors expected per event.

The proposed Visitor Center Complex is approximately 3,800 feet northeast of the nearest residences in Concord. The Visitor Center Complex would serve as the gateway into the Regional Park and it is anticipated that many visitors would enter the Regional Park at or near this area. The primary vehicle entrance to the Regional Park would be along Kinne Boulevard, which would provide access from SR 4. Kinne Boulevard between the proposed Visitors Center and Willow Pass Road (which connects to SR 4) passes through vacant land on the former CNWS and not next to sensitive receptors.

Two proposed facilities would be closer to residences: the Operations Facilities, approximately 1,260 feet northeast of residences; and the Community Orchard, approximately 500 feet from residences. Access to the Operations Facilities would be limited to the District staff, partner agencies, and contractors (such as the grazer) approved by the District.

Estimated project trip generation is described in Chapter 4.14, Transportation and Traffic. The Park is estimated to generate 1,303 average daily trips on the weekend and 587 average daily trips on a weekday at buildout.[8] Nearly all trip generation by the Regional Park is expected to be during daytime. Average daily traffic volumes on Bailey Road are approximately 8,120 vehicles per day, where the Bailey Road Staging Areas would be located. A doubling of traffic flows (i.e., 8,120 vehicles per day to 16,240 per day) would be needed to create a 3 dBA increase in traffic-generated noise levels.[9] Therefore, at the nearest residences, Park-generated traffic noise would not be audible over the ambient noise environment and impacts would be *less than significant*.

Stationary (On-Site) Noise

Approximately 126 acres (5 percent) of the 2,543-acre Regional Park are proposed for Recreation/Staging Units, including 86 acres for the development footprint and a buffer from the conservation areas. Within these zones, there would be approximately 35 acres of developed recreation and operations facilities. All facilities, with the exception of trails, would be located within Recreation/Staging Units. The majority of the recreational areas would be along the southern boundary of the site near access roads. These facilities include a visitor center, event and educational spaces, picnic areas, campsites, overlooks, and interpretive elements (see Figure 3-7, Overview of the Proposed Regional Park).

The recreational facilities would generally be intended for interpretation and enjoyment of biological and cultural resources in the park and scenic vistas visible from the park. The District's regional parks are typically characterized by low ambient noise levels in order to enjoy the natural biological and cultural resource elements of the District's parklands. Overlooks, the backcountry campsite, picnic areas, and trails would not generate substantial stationary noise levels. The proposed Plan does not propose active recreation facilities (e.g., team sports fields, hardcourts). Proposed outdoor lighting would be for safety and security purposes only, not to enable nighttime use of recreational facilities. However, outdoor activities would generate noise in several places in the Regional Park. The following sections describe potential noise sources within the proposed Regional Park.

Mechanical Equipment

Proposed buildings would require heating, ventilation, and air conditioning (HVAC) systems. These include buildings at the Visitors Center (Building IA-24) and Park Operations and Support Facility (Corp Yard) buildings (Buildings 93, 94, and 420), Diablo Center, and the Caretaker's Residence. Because noise dissipates rapidly over natural surfaces at a rate of 7.5 dBA per doubling distance, the operation of HVAC units and machinery would not generate noise levels that would disturb nearby residents or exceed the strictest 55 dBA L_{eq} City of Concord noise compatibility standard. Mechanical equipment installed by the District would comply with the Concord Municipal Code and would not substantially contribute to the ambient noise environment. Impacts from mechanical equipment would be *less than significant*.

[8] Assumes peak hour traffic volumes are 10 percent of daily traffic volumes. In 2014, Bailey Road had 924 AM peak hour trips and 700 PM peak hour trips (average of AM and PM x 10 = daily). U.S. Department of the Navy, 2014, Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapon Station Seal Beach, Detachment Concord, Concord, California.

[9] California Department of Transportation, 2013, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*.

Parking Lots

The primary sources of noise from parking lots are vehicles starting and maneuvering, automatic lock beeps, and sporadic car alarms and horns. The most disruptive of these noise sources would be car alarms and horns. Each of these individual noise sources would be sporadic and last for short durations. Traffic on the local roadways would generally overshadow noise from the parking lots. Therefore, noise associated with the proposed parking lots would not substantially increase the ambient noise environment, and impacts from the parking lots would be *less than significant*.

Operations Facilities

Operations facilities would include the Corporation Yard (Corp Yard), a native plant nursey, a Caretaker's Residence, and a livestock corral. Access to these facilities would be limited to the District staff, partner agencies, and contractors (such as the grazer) approved by the District. As such, these facilities are not anticipated to be a substantial source of noise and would not generate noise levels that exceed the Concord Municipal Code. Impacts from the operations facilities would be *less than significant*.

Community Orchard

The community orchard would be located in the footprint of a historic homestead and orchard and would be 500 feet from existing residences. Long-term operation of the orchard may require use of agricultural equipment. However, given the distance of the orchard from nearby residential areas, noise from the equipment would not exceed the noise levels of the Concord Municipal Code. Impacts from the community orchard would be *less than significant*.

Group Campsite

A group campsite would be in the middle of the southern portion of the park, approximately 1,800 feet from residents in unincorporated Contra Costa County. The campsite would generate noise from people utilizing the site for recreational and educational activities, and may involve the use of sound amplifying equipment. However, use of sound amplifying equipment in the campsites would be prohibited between the hours of 10:00 p.m. and 7:00 a.m. under District Ordinance 38 Section 908.2(c). Additionally, the group campsite is over 1,200 feet from the nearest residential receptors and noise from the group campsite would not be perceptible above the ambient noise environment. Impacts from the group campsites would be *less than significant*.

Visitor Center Complex

The Visitor Center Complex includes the Visitor Center Building, outdoor exhibit area, multi-purpose room, archive building, picnic areas, magazine exhibit space, and amphitheater. The Visitor Center Complex is over 3,800 feet away from existing residents in Concord. Noise from the use of the picnic areas would be typical of that in a park setting and would be compatible with the nearby residential uses.

The stage in the amphitheater constructed in the Visitor Center Complex would face west, toward the Visitor Center building, so that the building would block part of the sound from activities at the amphitheater. The amphitheater would be used for Park programming, such as interpretive talks. No

large-scale musical performances would be staged at these facilities due to their small size. Noise associated with amphitheater use includes elevated speech, singing, music, and applause. Nighttime use of the amphitheater is not proposed. Noise generated from the interpretive talks and other District programming at the small outdoor amphitheater would occur in the daytime and would be compatible in a residential neighborhood. Additionally, use of the amphitheater would conform with District Ordinance 38 and would comply with Contra Costa County's event noise limitations (see Table 4.11-4). Considering the distances from the amphitheater from the nearest off-site developed land uses, stationary-source noise from amphitheater would not cause noise at such land uses exceeding City of Concord community noise level exposure standards or the Contra Costa County's event noise limits. Impacts from the Visitor Center Complex, including use of the amphitheater, would be *less than significant*.

Significance without Mitigation: *Less than significant.*

NOI-2	**The project would not cause a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

The area affected by the construction effort involved in implementation of the proposed Plan would be comparatively limited relative to the 2,543-acre project site size. Proposed recreational and operations facilities, including those involving adaptive reuse, would be developed on approximately 86 acres (including 35 acres within Recreation/Staging Units) of the 2,543-acre Regional Park. Plan implementation would involve adaptive reuse of several buildings, and reuse of parts of existing structures at other locations.

Park facilities, roads, and trails would be built in three phases, with Phase 1 being the southern part of the Regional Park, south of Bailey Road; Phase 2 being the Visitor Center complex; and Phase 3 being the remainder of the Regional Park (see Figure 3-10, Proposed Phasing; project phasing is discussed further in Chapter 3, Project Description). Construction of the staging areas, park facilities, and trails would not require use of pile drivers. Construction activities would generally occur in the daytime hours when people are less sensitive to noise.

The Community Orchard would be 500 feet from existing residences; however, construction of the orchard would not involve use of a substantial number of large off-road construction equipment. The most intensive construction activities would be associated with construction of the Corp Yard, which is approximately 1,260 feet northeast of residences.[10] At a distance of 100 feet from a construction or demolition site, 8-hour average noise from the various types of equipment will, at times, range from 73 to 84 dBA.[11] No impact pile driving, which can generate excessive noise levels and may be needed for underground parking or bridge construction, is anticipated as part of the Plan. At a distance of over 1,260

[10] The Community Orchard would be about 500 feet from existing residences; cultivation of the Orchard would not involve substantial construction.

[11] United States Department of the Navy, 2014, Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapon Station Seal Beach, Detachment Concord, Concord, California.

feet (and conservatively not accounting for any shielding or ground absorption), construction noise levels would range from 51 to 62 dBA and would not exceed the FTA threshold of 80 dBA. Therefore, this impact is considered to be *less than significant*.

Significance without Mitigation: Less than *significant.*

NOI-3 The project would not cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Operational Vibration

Land uses generating substantial operational vibration include industrial uses, roads, and railways. The proposed Plan does not propose development of land uses or improvements that would generate substantial operational phase vibration. Therefore, the impact would be *less than significant*.

Construction Vibration

Construction operations generally include a wide range of activities that can generate ground-borne vibration, which varies in intensity depending on several factors. In general, blasting and demolition of structures, as well as pile driving and vibratory compaction equipment, generate the highest vibrations. Because of the impulsive nature of such activities, the use of the peak particle velocity (PPV) descriptor has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet.[12] However, use of pile drivers and other vibratory equipment is not anticipated for the construction activities associated with implementation of the proposed Plan.

Heavy trucks can also generate ground-borne vibrations, which can vary, depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, and differential settlement of pavement increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement conditions.[13]

[12] California Department of Transportation, 2004, Transportation- and Construction-Induced Vibration Guidance Manual, prepared by ICF International.

[13] California Department of Transportation, 2013, Transportation and Construction Vibration Guidance Manual, prepared by ICF International.

Construction-induced vibration that can be detrimental to a building is very rare and has only been observed in instances where the structure is in a high state of disrepair and the construction activity occurs immediately adjacent to the structure. Given the distance from future construction areas to off-site structures, no vibration-induced architectural damage would occur as a result of implementation of the proposed Plan.

Construction of improvements called for in the proposed Plan would generate some vibration. Several proposed Regional Park amenities would involve adaptive re-use of existing buildings, or re-use of foundations; these projects would involve less construction effort (and especially less grading, or no grading) compared to new construction. The nearest site where substantial construction could occur is the Corp Yard and Native Plant Nursery, about 1,260 feet northeast of existing residences.[14] The Community Orchard would be 500 feet from existing residences; however, construction of the orchard would not involve use of a substantial number of large off-road construction equipment. At these distances, vibration from on-site construction would not be readily perceptible and would not cause annoyance. Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

NOI-4 The project would not expose people residing or working in the project area to excessive aircraft noise levels.

The project site is outside of noise contours for Buchanan Field Airport, which is 3.1 miles east-southeast of the project site.[15] Therefore, project implementation would not expose park visitors or staff to excessive noise levels from aircraft approaching or departing Buchanan Field Airport and there would be *no impact*.

The nearest heliport to the project site is the Q Area Heliport on the US Army Military Ocean Terminal Concord (formerly CNWS) 2.3 miles to the north.[16] Helicopters approaching and departing the Heliport would pass high enough over the project site so that they would not subject park visitors or staff to excessive noise. Therefore, there would be *no impact*.

Significance without Mitigation: *No impact.*

[14] The proposed Community Orchard in the south part of the project site would be about 500 feet northeast of existing residences. The Community Orchard would be an orchard managed for fruit production and education; and would not involve construction of buildings.

[15] Barnard Dunkelberg, 2008, Buchanan Field Airport Master Planning Program.

[16] Airnav.com, 2018. Airport Information, http://www.airnav.com/airports/, accessed on April 30, 2018.

4.11.4 CUMULATIVE IMPACTS

NOI-5	The project would not contribute to significant cumulative noise impacts.

The cumulative impact analysis for noise includes potential future development under the proposed project combined with effects of development on lands within the project site vicinity in Concord, Pittsburg, and unincorporated Contra Costa County.

Operational Noise (Traffic)

Trips generated by cumulative growth in the project site vicinity would be distributed over the regional and local roadway network. As identified under Impact NOI-1, the proposed project would nominally contribute to the cumulative traffic noise levels in the project area. Therefore, traffic noise generated by the proposed project would not be cumulatively considerable. Impacts would be *less than significant*.

Operational Noise (Stationary Sources)

Unlike transportation noise sources, the effects of which can extend well beyond the limits of a project site, stationary-source noise generated by a project is limited to noise impacts to noise-sensitive receptors near the project site. As previously discussed, noise levels from stationary would not be substantial. Stationary-source noise from the proposed project would consist of noise from mechanical equipment on buildings and noise generated by park users, both of which would be localized in the visitor areas (35 acres) of the 2,543-acre project site. Therefore, stationary-source noise from the proposed project is not anticipated to combine with such noise from related projects to cause significant cumulative impacts, and this impact would be *less than significant*.

Operational Vibration

Only some categories of land uses—such as transportation facilities and some industrial uses—generate substantial operational vibration. Neither the proposed project nor related projects propose development of those categories of land uses. Therefore, cumulative impacts would be *less than significant*, and project impacts would not be cumulatively considerable.

Construction Noise and Vibration

Like stationary-source noise, construction noise and vibration impacts are confined to a localized area of impact. Cumulative impacts would only occur if other projects were being constructed in the immediate vicinity of the project's construction activities at the same time as the project. Construction noise and vibration associated with implementation of the proposed Plan would be phased over 31 years. Proposed project construction would involve a limited construction effort in relation to the 2,543-acre proposed project site, due both to the relatively small development area (35 acres) and because many proposed facilities would involve adaptive reuse of existing buildings or reuse of parts of existing buildings. In addition, construction sites would be scattered throughout the site. The proposed visitor center is likely to

be the closest portion of the Plan that would involve the construction of buildings and grading to potential future developments under the Concord Reuse Project. As discussed above, at a distance of 100 feet from a construction or demolition site, 8-hour average noise from the various types of equipment will, at times, range from 73 to 84 dBA.[17] At a distance of over 350 feet from potential future developments under the Concord Reuse Project (and conservatively not accounting for any shielding or ground absorption), construction noise levels would range from 62 to 73 dBA and would not exceed the FTA threshold of 80 dBA. At this distance, construction noise from buildout of the proposed Regional Park would not contribute substantially to a cumulative construction noise or vibration impact. Therefore, this impact is considered to be *less than significant*.

Significance without Mitigation: *Less than significant.*

[17] United States Department of the Navy, 2014, Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapon Station Seal Beach, Detachment Concord, Concord, California.

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4.12 POPULATION AND HOUSING

This chapter describes the regulatory framework and existing conditions on the project site related to population and housing in the vicinity of the project site, and the potential impacts of implementation of the proposed project.

4.12.1 ENVIRONMENTAL SETTING

This section describes the regulatory framework and existing conditions related to population and housing and the potential impacts that could result from development of the proposed project.

4.12.1.1 REGULATORY FRAMEWORK

This section summarizes key State, regional, and local regulations related to population and housing. There are no federal regulations pertaining to population and housing that apply to the proposed project.

State Regulations

California Housing Element Law

California Housing Element Law[1] includes provisions related to the requirements for housing elements of local government General Plans. Among these requirements, some of the necessary parts include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, in order to assure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, this section of the Government Code calls for local jurisdictions to plan for, and allow the construction of a share of the region's projected housing needs.

Regional Regulations

Association of Bay Area Governments Projections 2013

The Association of Bay Area Governments (ABAG) is the official regional planning agency for the San Francisco Bay Area region, which is composed of the nine Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 cities. ABAG produces growth forecasts on four-year cycles so that other regional agencies, including the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD) can use the forecasts to make project funding and regulatory decisions.

The ABAG projections are the basis for the regional Ozone Attainment Plan and the Regional Transportation Plan (RTP), each of which are discussed in Chapter 4.2, Air Quality, and Chapter 4.14, Transportation and Traffic, of this Draft EIR. The General Plans, zoning regulations and growth

[1] Government Code Sections 65580 to 65589.8.

management programs of local jurisdictions inform ABAG's projections. These projections are developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout their region.

Association of Bay Area Governments 2015-2023 Regional Housing Need Allocation

The Regional Housing Need Allocation (RHNA) is the State-mandated process to identify the total number of housing units (by affordability level) that each City and County must accommodate in its Housing Element. ABAG develops a methodology to distribute the total housing need for the San Francisco Bay Area identified by the California Department of Housing and Community Development (HCD) for an eight-year period. Each City and County must demonstrate how it plans to accommodate its portion of the region's housing need through the Housing Element. The RHNA was adopted by the ABAG Executive Board on July 18, 2013. Adopted in 2008, Senate Bill 375 requires ABAG to develop a Sustainable Communities Strategy (SCS). The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board (CARB).[2]

Local Regulations

City of Concord 2030 General Plan – Housing Element (2014)

The City of Concord 2030 General Plan includes a Housing Element, adopted in 2014. The Housing Element includes five goals and numerous policies for providing housing for all income groups in the city. The goals are:

- H-1: Promote a balanced supply of housing types, densities, and prices to meet the needs of all income groups residing or who wish to reside in Concord.
- H-2: Preserve and enhance Concord's residential neighborhoods and improve the quality of life for all residents.
- H-3: Promote the expansion of housing opportunities for all special needs groups, including seniors, female-headed households, persons with disabilities, first-time homebuyers, large families, and homeless individuals and families.
- H-4: Strive for equal housing opportunity and access for all people regardless of race, religion, gender, marital status, age, ancestry, national origin, color, sexual orientation, familial status, source of income, or disability.
- H-5: Protect the environment and lower the cost of energy through energy conservation policies.

[2] Association of Bay Area Governments, 2013, Regional Housing Need Plan San Francisco Bay Area 2014-2022.

Of these goals and their attendant policies, none are applicable to the proposed project, due to the Land Use Plan's program of open space, conservation, recreation and interpretive facilities. No housing or residential development will be built in the Concord Hills Regional Park.

4.12.1.2 EXISTING CONDITIONS

As described in Chapter 3, Project Description, of this Draft EIR the Concord Hills Regional Park is comprised of a road and rail network, as well as small magazines and existing buildings serving the former Concord Naval Weapons Station (CNWS). As such, no housing units or residents currently exist on the project site.

Population

Concord is the largest City in Contra Costa County, with a total population of 129,889 as of January 1, 2019. With a total population of 122,067 in 2010, the city experienced a population growth of 9 percent from 2010. According to current California Department of Finance estimates, the average household size is 2.9 persons per household, a slight increase from the average household size of 2.73 in 2010.[3]

As of current estimates, approximately 1,155,879 people live in Contra Costa County, an increase of approximately 9 percent from the 2010 population of 1,049,025. Currently, average household size in the County in 2.9 persons per household, which is an increase from the 2010 average of 2.7. The population is increasing at the same rate within the County as a whole, compared to the City.

Housing

As of 2019, there were 47,345 housing units in Concord, with a vacancy rate of 6 percent. Of the occupied housing units, approximately 59 percent were owner-occupied, and 41 percent are renter-occupied in 2017.[4] In 2010, there were 47,125 housing units in Concord, with a vacancy rate of 6 percent. Of those occupied units, 61 percent were owner-occupied and 39 percent were renter-occupied. Between the years 2010 and 2019, the number of housing units increased by 1 percent, while the vacancy rate remained unchanged. The share of housing units that were renter-occupied in 2010 was 37 percent,[5] representing an increase of 4 percent between the years 2010 and 2017.

There are currently 416,062 housing units in the County, with a vacancy rate of 6.3 percent. Of the occupied units, 64.5 percent are owner-occupied, while 35.5 percent are renter-occupied. Compared to the City of Concord, the rate of homeownership is greater within the County as a whole. In 2010, there were 396,782 housing units in the County, with a vacancy rate of 7.2 percent. Of the occupied housing units, 69.5 percent were owner-occupied while 30.5 percent were renter-occupied. Between the years

[3] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019*. Sacramento, California, May 2019., accessed on May 15, 2019

[4] U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table B25003, Tenure, Universe: Occupied Housing Units, Concord City, California.

[5] U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates, Table B25003, Tenure, Universe: Occupied Housing Units, Concord City, California.

2010 and 2019, the number of housing units increased by 3.9 percent, representing a greater increase than the City (which saw growth of less than 1 percent).[6]

Within the project vicinity, housing units are provided for Bay Area Coast Guard personnel along Olivera Road southwest of the project site. No housing units are located on-site.

Future Housing Needs

As shown in Table 4.12-1 below, the ABAG's 2013 Projections indicate that by 2040 the population of Concord will increase by 45 percent to 181,500 and the number of households will grow 39 percent to 63,190. These rates are higher than the ABAG's projected population growth of 23 percent and household growth on 19 percent for Contra Costa County as a whole.

TABLE 4.12-1 POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS

					Change 2015–2040	
Concord	2015	2020	2030	2040	Number	Growth Rate Percent[a]
City						
Population	125,300	128,500	154,000	181,500	56,200	45%
Households	45,380	46,500	54,840	63,190	17,810	39%
Jobs	52,900	58,880	63,320	69,450	16,550	31%
Contra Costa County						
Population	1,085,700	1,123,500	1,224,400	1,338,400	252,700	23%
Households	387,870	400,800	432,430	464,150	76,280	19%
Jobs	374,610	407,810	432,730	467,390	92,780	25%

a. Percent are rounded to the nearest whole number.
Source: Association of Bay Area Governments, 2013, *Projections 2013*, Subregional Study Area Table, Contra Costa County.

Employment

As shown in Table 4.12-1, there were approximately 52,900 jobs in Concord in 2015, comprising 14 percent of all jobs in Contra Costa County. According to ABAG, jobs in the city are projected to increase by 31 percent between 2015 and 2040 from 52,900 to 69,450. Jobs in Contra Costa County are expected to increase by 25 percent between 2015 and 2040, from 374,610 to 467,390.

[6] California Department of Finance, Report E-5, Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2019 with 2010 Benchmark.

4.12.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant unplanned population and housing impact if it would:

1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.12.3 IMPACT DISCUSSION

POP-1	**The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).**

The proposed project would result in a significant impact related to population growth if it would lead to substantial unplanned growth either directly or indirectly. As described in Chapter 3, Project Description, of the Draft EIR, the proposed project is a long-term management plan for a new Regional Park. Therefore, the proposed project would not result in direct population growth. Potential impacts stemming from the indirect inducement of unplanned population growth are discussed below.

Improvements to the existing infrastructure would be made in four separate phases over a 31-year buildout horizon (i.e., 2019 to 2050) to accommodate the proposed project facilities, such as visitor and employee-serving buildings (e.g., visitor center, caretaker residence) and trails, cattle grazing-related infrastructure, fencing, gates and regulatory signage. As described in Chapter 3, Project Description, one District employee would be housed in the Caretaker's Residence. These improvements would not accommodate population growth beyond what was projected by ABAG.

As described above, ABAG and MTC have responsibility for regional planning in the nine-county Bay Area, which includes the project site. ABAG and MTC have developed regional growth forecasts for the Bay Area as a whole and for constituent jurisdictions. Table 4.12-1 shows population, housing, and employment projections for the study area that are included in the regional forecasts. The proposed project would be considered to induce substantial growth if the estimated buildout resulting from future development permitted under the proposed project would exceed these regional growth projections for the study area. Implementation of the proposed project would result in the potential future development of up to 52 full-time equivalent (FTE) jobs, including one caretaker who would be a full-time resident. The project does not include housing, with the exception of the caretaker's residence, and would therefore not directly increase the population of the project site. Therefore, the project would not exceed regional growth projections. Further, the project conforms with Concord's 2030 General Plan and other regional plans. As discussed in other chapters of this Draft EIR, implementation and adoption of the proposed project would not result in physical impacts to the environment as a result of introducing new housing and population on the project site. Therefore, impacts related to substantial population growth would be *less than significant*.

The project site is served by utility and transportation infrastructure and therefore, implementation of the proposed project would not require significant off-site infrastructure improvements that may generate indirect population growth. As described in Chapter 3, Project Description, of this Draft EIR, the proposed project would accommodate the installation of a utility connection in order to provide water and electricity to the proposed project components. Once specific utility and pipeline projects are planned and the details are known, additional environmental review may be required. Therefore, the proposed project would not indirectly induce substantial growth through the extension of roads or other new infrastructure that would lead to additional growth outside the project site. Accordingly, indirect impacts related to substantial population growth would be *less than significant*.

Significance without Mitigation: *Less than significant.*

POP-2	**The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.**

As described above under Section 4.12.1.2, Existing Conditions, the project site is comprised of road and rail network, as well as small magazines and existing buildings serving the former CNWS and does not contain any residential units. As such, implementation of the proposed project would not displace existing housing or people and *no impact* would occur.

Significance without Mitigation: *No impact.*

4.12.4 CUMULATIVE IMPACTS

POP-3	**The project would not contribute to significant cumulative population and housing impacts.**

Impacts from cumulative growth are considered in the context of growth associated with the proposed Plan, as well as projected growth from the rest of Contra Costa County, as forecast by ABAG.

Impacts of cumulative growth are considered in the context of their consistency with regional planning efforts. As described above, the proposed project would not induce a substantial amount of growth or require the construction of replacement housing elsewhere. Although the proposed project would increase the number of jobs by 52 FTE, this growth would not exceed the regional employment growth projections nor would it exceed growth assumed under the General Plan 2030. Further, the project conforms with Concord's 2030 General Plan and other regional plans. Thus, the proposed project would not contribute to cumulative growth that could displace substantial numbers of people or housing or cumulatively exceed planned levels of growth. Therefore, cumulative impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.13 PUBLIC SERVICES AND RECREATION

This chapter describes public services, including fire protection, police and parks and recreation provided in the project vicinity and evaluates the potential impacts to public services and recreation that could result from development of the project. In each section, a summary of the relevant regulatory setting and existing conditions are followed by a discussion of project-specific and cumulative impacts.

This chapter contains separate sections for the following public services:

- Fire Protection
- Police
- Parks and Recreation

4.13.1 FIRE PROTECTION SERVICES

4.13.1.1 ENVIRONMENTAL SETTING

This section describes the current regulations, resources, and response time for fire protection services in the City of Concord.

Regulatory Framework

State Regulations

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2016 CBC went into effect in January 2017. The City of Concord adopted the CBC into its Municipal Code (see below). Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The 2016 California Fire Code (CFC)adopts by reference the 2015 International Fire Code (ICF) with necessary State amendments. Updated every three years, the CFC contains regulations related to construction, maintenance and use of buildings. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. The 2016 CFC was adopted by the City of Concord, into its Municipal Code (see section below).

District Regulations

East Bay Regional Park District Wildfire Hazard Reduction and Resource Management Plan

In 2010, the District approved the Wildfire Hazard Reduction and Resource Management Plan, which focuses on the urban interface at the boundaries between open space parklands and adjacent residential neighborhoods, between Castro Valley and Richmond. The Plan provides an assessment of wildfire hazards and provides preliminary recommendations for site-specific fuel reduction treatments and best management practices to reduce hazards. The Plan also describes methods for reducing fuels and managing vegetation through the East Bay hills fuel break, which is an area of thinned vegetation between parklands and homes. The District maintains the fuel break through a variety of measures. Because the project site was not yet transferred to the District at the time that the Wildfire Hazard Plan was written, the Wildfire Hazard Plan does not include site-specific vegetation treatment goals, treatment actions, or best management practices (BMP) for the project site. However, the District would apply the general fuel treatment methods, vegetation management practices, and monitoring activities of its Wildfire Hazard Plan to the project site.

East Bay Regional Park District Master Plan

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals directing adequate resources for fire and public safety protection:

> FR1b: The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resources stewardship, interpretation and recreation services.

Local Regulations

Contra Costa County General Plan

The Contra Costa County General Plan, adopted in 2000, includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.13.1.3, Impact Discussion. The General Plan includes the following goals and policy specific to fire protection and applicable to the proposed project:

- Goal 7-Y: To ensure a high standard of fire protection, emergency, and medical response services for all citizens and properties throughout Contra Costa County.
- Goal 7-AA: To incorporate requirements for fire-safe construction into the land use planning and approval process.

- Policy 7-63: The County shall strive to achieve a total response time (dispatch plus running and set-up time) of 5 minutes in central business district, urban, and suburban areas for 90 percent of all emergency responses.

Contra Costa County Hazard Mitigation Plan

Contra Costa County updated its Hazard Mitigation Plan in 2018, and it includes a City of Concord annex. The Hazard Mitigation Plan outlines activities designed to reduce or eliminate losses resulting from natural hazards, including wildfires. The Hazard Mitigation Plan describes wildfire risks for the county and establishes goals and objectives to mitigated risks.

Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.13.1.3, Impact Discussion. The General Plan includes the following goal, principle, and policies specific to fire protection and applicable to the proposed project:

- Goal S-7: Comprehensive Emergency and Safety Services for Community Protection.
- Principle S-7.2: Facilitate Fire Prevention.
  - Policy S-7.2.2: Require new development to incorporate water systems that meet CCCFPD fire flow requirements or to provide adequate on-site water storage.
  - Policy S-7.2.3: Ensure that sufficient access for fire protection services is available in all new development.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station (CNWS) to civilian use. Adopted by City Council in 2012, the Area Plan adapted goals and concepts developed in the Concord Community Reuse Plan that articulated the community's preferred vision for the area. The Reuse Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Area Plan provides the following principle and policies applicable to the project site:

- Principle CFP-3: Provide high levels of police and fire protection services to the CRP [Concord Reuse Project] area.
  - Policy CFP-3.2: 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.

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

Concord Municipal Code

The City of Concord Municipal Code (CMC), organized by Title, Chapter, and Section, contains all ordinances for the City. Title 15, Building and Building Regulation, includes regulations relevant to fire protection services in Concord as follows:

- Chapter 15.65, Fire Code. The Fire Code regulates, among other things, issuance of permits where operations or business or the installation or modification of any systems regulated under the Fire Code are planned, application and collection of applicable fire permit fees, and installation of residential and commercial automatic sprinkler systems. The Fire Code also adopts the Contra Costa County Fire Protection District Ordinance (2016-23), and the 2016 CFC.
- Chapter 15.10, Building Code. Chapter 15.10 of the Municipal Code adopts the 2016 California Building Code, referred to as the Building Code.

Existing Conditions

Contra Costa County Fire Protection District

The Contra Costa County Fire Protection District (CCCFPD) provides fire protection services to the project site. The CCCFPD serves approximately 600,000 people, covering nine cities and unincorporated areas with the County and maintaining 30 fire stations. The CCCFPD has mutual aid agreements with the neighboring departments, including the East Contra Costa Fire Protection District (ECCFPD), the District, the California Department of Forestry and Fire Protection (CAL Fire), and private industrial companies within each jurisdiction.

The CCCFPD anticipated a staffing of 370.6 full-time equivalents (FTE) for the 2018/2019 Fiscal Year (FY). CCCFPD's current service ratio is one fire station per 26,300 people.

The CCCFPD's dispatch time goal is to relay a dispatch within 90 seconds of receiving a call for service. As of 2007, the average time from call to dispatch was 103 seconds.[1]

The CCCFPD's headquarters is located at 40045 Port Chicago Highway in Concord. The CCCFPD operates three stations in the project vicinity and all stations serve the project site. The Concord Naval Weapons Station Fire Department will be conveyed by the Navy to a public agency such as the CCCFPD at the time when the site is conveyed; currently, the station operates under a mutual aid agreement between the Navy and the CCCFPD. The three stations are strategically placed to provide the most efficient response times. The CCCFPD FY 2017/2018 Adopted District Budget is $127 million, which is a 5 percent increase from the FY 2016/2017 budget. For the FY 2017/2018 adopted budget, $2.3 million is budgeted for capital

[1] City of Concord, 2007, Concord 2030 General Plan, page 7-20.

outlays, such as new fire stations. The CCCFPD maintains a schedule of fees for a variety of uses and permits in order to help support cost recovery for the CCCFPD.[2]

East Bay Regional Park District Fire Department

The District provides fire prevention and protection services to visitors to all 65 District parks. The District employs 46 firefighters and staff. Fire protection facilities in the District are managed by the park operations department and are headquartered at Lake Chabot Road in Castro Valley, with nine substations located in various parks under the District's jurisdiction. The facilities are staffed during the fire season. The District maintains fire engines, as well as helicopters with water dropping capabilities to serve larger-scale wildfire emergencies. The nearest stations to the site are Station Number 3, located at 700 Carquinez Scenic Drive in Martinez, and the Briones Station Number 6, located at 53/63 Alhambra Valley Road in Martinez. The District Fire Department maintains automatic aid agreements with all of its neighboring agencies and participates in the State mutual aid response system in coordination with the California Emergency Management Agency. In addition to fire prevention and protection services, the District Fire Department manages emergency medical services, a hazardous materials program and a search and rescue task force.

4.13.1.2 STANDARD OF SIGNIFICANCE

The proposed project would result in a significant impact related to fire protection if it would:

1. Result in substantial adverse physical impacts associated with the provision of or need for new or physically-altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

4.13.1.3 IMPACT DISCUSSION

PS-1	**The project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.**

The proposed project has the potential to add 126[3] acres of recreational uses, and 2,417 acres of conservation uses into the CCCFPD's service area. Potential future development could result in approximately 52 FTE employees, including one caretaker, as well as approximately 556,000 annual visitors at full buildout. This represents an increase in the demand for fire protection services for CCCFPD by drawing park users to a particular location. However, the proposed project would not result in new permanent residents or businesses within the project site. In addition, buildout would occur over a 50-

[2] Contra Costa County, Recommended 2018/2019 Budget, http://www.cccounty.us/DocumentCenter/View/49434, accessed on April 16, 2018.

[3] This 126-acre figure includes the 86 acres for the development footprint (approximately 50 acres of trails and 35 acres of park facilities) and a buffer from the conservation and open space areas.

year horizon, which would result in an incremental increase in demand for fire protection services to be accommodated by the CCCFPD.

Potential future construction and operation as a result of the proposed project would not prevent the CCCFPD from maintaining acceptable service ratio, response times, or other performance objectives that would require the new construction of or modifications to an existing fire station. Consistent with Concord Reuse Project Area Plan Policy CFP-3.2 and CFP-3.3, there are plans for expansion and construction of new CCCFPD fire protection facilities in the project vicinity to serve the Concord Reuse Project Area Plan area as a whole. The proposed Project facilities are generally consistent with the proposals for the project site in the Reuse Plan and the Area Plan. The Draft EIR for the Area Plan found the impacts of these new facilities to be less than significant without mitigation.[4]

Therefore, while the proposed project would contribute to the demand for already-planned new fire protection facilities, impacts from the construction of new or expanded fire protection facilities as a result of implementing the proposed project would be *less than significant* and no mitigation measures are required.

Significance without Mitigation: *Less than significant.*

4.13.1.4 CUMULATIVE IMPACTS

PS-2	**The project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to fire protection services.**

The cumulative setting for fire protection services consists of the current service area boundaries of the CCCFPD, which include the current city limits. The proposed project, in combination with other reasonably foreseeable development, would not increase the population of the jurisdictions within and surrounding the project site, including Concord and Pittsburg, and subsequently the CCCFPD service area; however, the increase in visitors to the project site could contribute to the need for expanded fire protection services that could cause significant physical impacts to the environment. As described in impact discussion PS-1, the proposed project's contribution to this cumulative impact would be less than cumulatively considerable. Furthermore, the Concord Community Reuse Plan EIR evaluated potential impacts to public safety services resulting from buildout of the project area. The proposed project facilities are generally consistent with the proposals for the project site in the Reuse Plan and the Area Plan. The Community Reuse Plan EIR determined that with implementation of the goals and policies in place at the city and regional level, potential cumulative impacts to fire protection services would be less than significant.[5] Like future development under the proposed project, all future development in the city would be required to comply with regulations established to reduce adverse impacts from fire hazards. For these reasons, the cumulative impact on the provision of fire services would be *less than significant*.

[4] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 14-16.
[5] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 17-13.

Significance without Mitigation: *Less than significant.*

4.13.2 POLICE SERVICES

4.13.2.1 ENVIRONMENTAL SETTING

This section describes regulations, resources, and response times for police protection and public safety services in Concord.

Regulatory Framework

There are no federal or State regulations pertaining to law enforcement that apply to the proposed project.

District Regulations

East Bay Regional Park District Master Plan

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals directing adequate resources for fire and public safety protection:

> FR1b: The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resources stewardship, interpretation and recreation services.

Local Regulations

Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. An applicable goal, principle, and policy are identified and assessed for their effectiveness later in this chapter under Section 4.13.2.3, Impact Discussion.

- Goal S-7: Comprehensive Emergency and Safety Services for Community Protection.
- Principle S-7.1: Provide the Highest Standard of Police Protection Services.
  - Policy S-7.1.1: Evaluate the effects of new development on law enforcement service and take public safety issues into account when reviewing land use proposals.

Concord Reuse Project Area Plan

The Area Plan includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the CNWS to civilian use. Adopted by City Council in 2012, the Area Plan adapted goals and

concepts developed in the Concord Community Reuse Plan that articulated the community's preferred vision for the area. The Reuse Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Area Plan provides principle and policies applicable to the project site:

- Principle CFP-3: Provide high levels of police and fire protection services to the CRP area.
  - Policy CFP-3.2: Police Department Field Office. Plan for the eventual development of a Concord Police Department Field Office to serve the CRP area.
  - Policy CFP-3.3: Coordination with Police and Fire Departments. 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.

Existing Conditions

Concord Police Department

The Concord Police Department (CPD) provides law enforcement services in the City of Concord, including the project site. The CPD headquarters is located at 1350 Galindo Street, and the CPD operates one field office in downtown Concord at 1950 Parkside Drive. The district offices allow the CPD to fulfill its philosophy of community oriented policing services. Lieutenants are assigned full-time to each office which is staffed by non-sworn personnel.

The CPD has a mutual aid agreement with other agencies with jurisdiction over facilities and districts near the site, including the California Highway Patrol (CHP), the Contra Costa County Sheriff, the Bay Area Rapid Transit (BART) District Police, and the University Police at the Concord Campus of California State University (CSU) East Bay.[6]

Staffing

The CPD service population as of January 1, 2019 is equal to the City population of 129,889 and CPD staffing includes 150 full-time sworn officers with a staffing ratio of 1.2 officers per 1,000 service population.[7] This service ratio does not meet the national standard of 1.25 officers per 1,000 residents, and is less than the State standard of between 1.4 to 1.7 officers per 1,000 residents.[8]

Call Volume and Response Times

The CPD prioritizes calls for police services by urgency. Priority 1 calls involve emergency and potentially life-threatening situations have a response time goal of 5 to 6 minutes.[9]

[6] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 14-2.

[7] Weiler, Sarah. Police Department, City of Concord. Personal communication with Jacqueline Protsman, PlaceWorks. October 7, 2019.

[8] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 14-1.

[9] City of Concord, 2006, Concord 2030 Urban Area General Plan Draft EIR, page 3.11-12.

East Bay Regional Park District Police Department

The District Police Department will provide police protection to the Project area. The District maintains a full-time staff of police officers, dispatchers and fire responders based out of its Headquarters at Lake Chabot Regional Park in Castro Valley. The Police Department includes an Air Support Unit, Marine Patrol, Equestrian Patrols, K-9 Unit, Special Enforcement Unit, Investigations Unit and a 24- hour per day 911 Communications Center. The Police Department patrols 1,750 square miles of park trails throughout the 65 District parks. The Police Department employs approximately 500 personnel during the peak summer season, which includes 71 sworn police officers, and 200 volunteers. District police vehicles and helicopters will patrol Concord Hills daily. 4.13.2.2

4.13.2.2 STANDARD OF SIGNIFICANCE

The proposed project would result in a significant impact related to police protection if it would:

1. Result in substantial adverse physical impacts associated with the provision of or need for new or physically-altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

4.13.2.3 IMPACT DISCUSSION

PS-3	**The project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.**

The proposed project has the potential to add 126[10] acres of recreational uses, and 2,417 acres of conservation open space uses into the CPD's service area. Potential future development could result in approximately 52 FTE employees, including one caretaker, as well as approximately 556,000 annual visitors that would increase fire protection demands on the CPD. However, the proposed project would not result in new permanent residents or businesses within the project. In addition, buildout would occur over a 50-year horizon, which would result in an incremental increase in demand for police protection services to be accommodated by the CPD.

The Concord Reuse Project Area Plan Policy CFP-3.2 and CFP-3.3 specify the planning of an additional field office to serve the Concord Reuse Project Area Plan area, the impacts of which were analyzed in the Draft EIR and found to be less than significant without mitigation.[11]

In addition to the Park District's Police Department officers and volunteers in the Plan area, the expected construction of two new Police and Fire stations by the City in the Reuse Project area (as identified in the

[10] This 126-acre figure includes the 86 acres for the development footprint (approximately 50 acres of trails and 35 acres of park facilities) and a buffer from the conservation and open space areas.

[11] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 14-15.

Concord Reuse Area Plan described in the local regulations sections above), would ensure adequate police protection services are available for the existing and future residents of Concord and park visitors. Future construction of police facilities would be subject to separate project-level CEQA review in order to identify potential environmental impacts and mitigation measures as needed. Therefore, while the proposed project would contribute to the demand for already-planned new police facilities, impacts from the construction of new or expanded police facilities as a result of implementing the proposed project would be *less than significant* and no mitigation measures are required.

Significance without Mitigation: *Less than significant.*

4.13.2.4 CUMULATIVE IMPACTS

PS-4	**The project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.**

The cumulative setting for police services consists of the current service area boundaries of the CPD, which include the current city limits. The proposed project, in combination with other reasonably foreseeable development, would not increase the population of Concord and subsequently the CPD service area; however, the increase in visitors to the project site could contribute to the need for expanded police facilities that could cause significant physical impacts to the environment. As described in impact discussion PS-3, the proposed project's contribution to this cumulative impact would be less than cumulatively considerable. Furthermore, the Concord Community Reuse Plan EIR evaluated potential impacts to public safety services resulting from buildout of the project area. The Community Reuse Plan EIR determined that with implementation of the goals and policies in place at the city and regional level, potential cumulative impacts to police protection services would be less than significant.[12] The Park District Police Department will also patrol the Concord Hills Regional Park. For these reasons, the cumulative impact on the provision of police services would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.13.3 PARKS AND RECREATION

4.13.3.1 ENVIRONMENTAL SETTING

This section describes the regulatory framework and existing conditions related to parks and recreation services in Concord and the potential impacts that would result from development of the proposed project on parks and recreation services.

[12] City of Concord, 2008, Concord Community Reuse Project Draft EIR, page 17-13.

Regulatory Framework

State Regulations

The Quimby Act of 1975 authorizes Cities and Counties to pass ordinances requiring developers to set aside land, donate conservation easements or pay fees for park improvements. The Quimby Act sets a standard park space to population ratio of up to 3 acres of park space per 1,000 persons. Cities with a ratio of higher than 3 acres per 1,000 persons can set a standard of up to 5 acres per 1,000 persons for new development.[13] The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of city-owned parkland. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for a recreation facility or park land, and the type of development project upon which the fee is imposed.

District Regulations

East Bay Regional Park District Master Plan

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. Specifically, the District Master Plan includes policies related to recreational outreach, resources, education, programs, interpretive resources, as well as availability and access to park resources and facilities:

- FR1b: The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resources stewardship, interpretation and recreation services.
- Policy PA 1: The District will use the concepts of the Healthy Parks Healthy People movement to focus its outreach and education efforts. To achieve the goals of the Healthy Parks Healthy People movement the District will partner with other park, recreation and community organizations; along with schools, local health providers and businesses to provide opportunities for families and individuals to experience both traditional and non-traditional types of outdoor activities while reconnecting to the outdoors.
- Policy PA 2: The District will provide information about its parks, trails and programs in a variety of venues, languages and types of media. There is a need to serve both a more ethnically diverse set of residents and an increasing number of seniors and youth.
- Policy PA 3: The District will regularly use formal and informal survey methods to assess the interests of its constituents. This information will be used to guide the development of outreach and educational programs, facilities and activities found in the parks.
- Policy PA 4: The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.

[13] California Government Code Section 66477, California Department of Parks and Recreation website, Quimby Act 101: An Abbreviated Overview, http://www.parks.ca.gov/pages/795/files/quimby101.pdf, accessed on March 13, 2018.

- Policy PA 5: The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
- Policy PA 6: The District will comply with the requirements of the Americans with Disabilities Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs and facilities throughout the Park District.
- Policy PA7: The District will evaluate and monitor the compliance level of access routes from public transit stops into the parks and encourage local agencies to make the improvements necessary to provide compliant accessibility to the parks.
- Policy PA 8: The District will endeavor to assist individuals and groups who require special assistance with programs or facilities because of physical disability or economic circumstances.
- Policy IRS 1: The District will provide a variety of interpretive programs that focus attention on the region's natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resources for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.
- Policy IRS2: The District will offer recreational programs and services that appeal to participants of all ages and backgrounds, in keeping with its vision and mission. The District will create and manage a comprehensive offering of recreational opportunities, tours and outdoor skills training that will help visitors use and enjoy the parks and trails, and will collaborate with other agencies, organizations and partners to provide a broad spectrum of regional recreational opportunities.
- PRPT10: The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- PRPT11: Regional trails may be part of a national, state, or Bay Area regional trail system. The District will cooperate with other agencies and organizations to implement these multijurisdictional efforts.
- PRPT18: The District will coordinate with other agencies and organizations involved in planning for jointly managed regional trails or trails that extend beyond the District's jurisdiction. When applicable, the District will use planning and environmental studies done by or in cooperation with other agencies for trail planning and development.
- PRPT21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.
- PRPT24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style and materials will

blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.

- Policy RFA 1: The District will provide areas and facilities that serve the recreational needs of park users, in accordance with the plans, policies and park classifications adopted by the Board of Directors. The District will generally not develop or provide facilities that are more appropriately provided by local recreational and park agencies. Where possible and appropriate, the District will provide multiple-use facilities to serve recreational needs.
- Policy RFA 2: The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple. users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design, signage and trail user education to promote safety and minimize conflicts between users.
- Policy RFA 3: The District will continue to add narrow trails designated as both single- and multi-use for hikers, equestrians, dog walkers and bike riders throughout the system of regional parklands.
- Policy RFA 4: The District will expand its unpaved multi-use trail system as additional acreage and new parks are added. The District will continue to provide multi-use trails to link parks and to provide access to park visitor destinations.
- Policy RFA 5: The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.
- Policy RFA 6: The District will continue to develop group and family picnic facilities throughout the parks system and will continue to improve the reservation system.
- Policy RFA 7: The District will continue to develop children's play areas in suitable park settings designated for recreation. The District will attempt to incorporate environmental and cultural themes in the design of these facilities.
- Policy RFA 9: The District will continue to plan and develop a balanced system of regional camping facilities, including day camps, group camps, backpack camps, family camps and residential camps.
- Policy RFA 10: The District will continue to provide special recreational facilities throughout the parklands to broaden the range of opportunities in the parks and to take advantage of existing resources. The District will ensure that these facilities are compatible with the District's vision and mission, with other parkland resources and priorities. and with public needs and demands.

Camping Program (District Resolution 1996-4-80 and Program Update)

The Park District has a camping program, adopted in 1996, which makes available for interested East Bay residents a wide range of different and exciting camping experiences. It is intended that the camping experiences be diverse in nature, and that the camping sites be selected in a manner that assures a reasonable accessibility for East Bay residents, wherever they may live in the two-county area. The camping facilities and experience will be of a regional nature, and occur in those selected District facilities in which the activity will not compromise or endanger the quality of the environment.

Local Regulations

Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The General Plan's Parks, Open Space and Conservation Element provides guidance for preservation of the City's open spaces and other natural resources, as well as identify the parks and recreation facilities available to local residents. The Element contains the following selected goals, principles, and policies:

- Goal POS-1: Premier Parks and Recreation Facilities.
- Principle POS-1.1: Provide and Maintain Park and Recreation Facilities for the Entire Community.
  - Policy POS-1.1.1: Acquire and develop additional neighborhood and community parks to serve existing and future needs, working toward a goal of 6 acres of park land per 1,000 residents.
  - Policy POS-1.1.5: Secure and maintain parks and open space facilities consistent with the ability of the City, East Bay Regional Park District, or an equivalent entity to finance acquisition and operation.
- Goal POS-2: A Protected and Accessible Open Space System.
- Principle POS-2.1: Provide an Interconnected Open Space System.
  - Policy POS-2.1.2: Participate in joint planning and implementation with the State of California Parks and Recreation Department, East Bay Regional Park District, and other appropriate agencies to establish connections to Mt. Diablo State Park.
  - Policy POS-2.1.4: Incorporate portions of the Concord Reuse Project site into the regional open space network, and provide trail and greenway connections between this area and developed Concord neighborhoods.
- Principle POS-2.3: Expand Open Space Systems as Opportunities are Identified.
  - Policy POS-2.3.1: Increase the regional trail, ridgeline, and hillside open space system in the City's Planning Area through joint efforts with East Bay Regional Park District, Contra Costa County, the U.S. Government, and nonprofit trustee agencies.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the CNWS to civilian use. Adopted by City Council in 2012, the Plan adapted goals and concepts developed in the Concord Community Reuse Plan that articulated the community's preferred vision for the area. The Reuse Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Plan provides the following principle and policies applicable to the project site:

- 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.
  - 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-6.10: 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.

Concord Reuse Project Specific Plan (2018-2020)

On November 20, 2018, the City of Concord released a Notice of Preparation (NOP) for the environmental review of the Concord Reuse Project Specific Plan. The Specific Plan, when released in 2020, will be the land use regulation for the 2,327-acre section of the former Naval Weapons Station which is being conveyed to the City by the United States Navy.[14] In the "Draft Land Use Program" of the NOP, 149 acres of "Creek Corridor," 390 acres of "District and Citywide Parks," and 266 acres of "Greenways" are proposed. Of these and other greenways and open space corridors, the NOP states:

The proposed project would involve the construction of new open space and related improvements and facilities, active-use parks (including a proposed Tournament Sports Park), trails, and greenways. Implementation of the project would also create demand for open space. The EIR will describe the existing open space and recreation resources managed by the City, the East Bay Regional Park District, and other regional agencies. At full buildout, development under the proposed project would exceed the City's requirement of 6 acres of parkland per 1,000 residents and would meet other City policies related to open space and recreation. The EIR will analyze whether the proposed project ensures that this ratio would be achieved for each individual phase of development and, if not, whether residents and employees of the proposed project land uses would increase the use of existing neighborhood and regional parks and result in substantial physical deterioration such that off-site park construction would be necessary.[15]

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 19, Planning and Development, includes regulations relevant to parks and recreational facilities. Chapter 19.15, Park Land Requirements, outlines the requirements for the dedication of land or payment of fees for park and recreational services and land for public right of access. Under Section

[14] This boundary does not extend north beyond Highway 4 and is different than the earlier Concord Reuse Project Area Plan boundary, which did extend beyond Highway 4 and did not include the Coast Guard base.

[15] City of Concord, 2018, "Concord Reuse Project Specific Plan Project Description and Potential Environmental Issues, page 21 and Table 3.

19.15.020, the City can require the dedication of land or the payment of fees, or a combination of both, for park and recreational purposes as a condition to the approval of a tentative subdivision, parcel map, or permit approval for residential development on one or more parcels of the subdivision. The amount of land dedicated or fees paid is calculated based upon residential density per the formula listed under Section 19.15.030, which is based on 5 acres per 1,000 persons.

Existing Conditions

City-Owned Parks and Facilities

The Concord Parks and Recreation Department programs and operates parks and recreational facilities in the City of Concord; all green infrastructure is maintained by the Public Works Department. The City has adopted a goal of maintaining a ratio of 6 acres of developed parkland per 1,000 residents.[16] Currently, the City provides 636 acres of parkland for the residents in 22 neighborhood and community parks, with a ratio of 5.2 acres per 1,000 residents, which is 87 percent of the standard.[17]

Regional Parks and Open Space

In addition to the City's parks facilities, Concord residents have access to a range of regional parks and open space under the jurisdiction of the District, including the Briones Regional Park, Diablo Foothills Regional Park, and Las Trampas Regional Wilderness. Diablo Foothills Regional Park is the closest regional facility to the project site, and is located approximately 4 miles to the southwest. The Park has connections to Mt. Diablo State Park and the Walnut Creek Open Space. The 1,060-acre park provides opportunities for horseback riding, hiking, and bicycling, as well as Castle Rock Recreation Area, which offers seasonal aquatic recreational opportunities. Briones Regional Park is located approximately 5 miles to the east. The 6,177-acre Park includes trails suitable for hiking, running, and horseback riding, and also includes camping and picnic facilities, as well as an archery range. Las Trampas Regional Wilderness is located 10 miles to the south, and consists of 5,342 acres of wilderness and trails.

Other Parks and Open Spaces

The State of California Parks system and East Bay Municipal Utility District (EBMUD) provide additional open space near the project site. The 20,000-acre Mount Diablo State Park is accessible from approximately 2.5 miles southeast of the project site. The Park consists of a museum providing historic and ethnographic information, as well as exhibits about the park's natural features. Recreational activities include hiking, biking, horseback riding, and camping, as well as rock climbing sites. EBMUD owns approximately 28,000 acres of open space allowing for recreational activities within watersheds around the San Pablo, Briones, Lafayette, Upper San Leandro, and Chabot reservoirs.

[16] City of Concord, 2006, General Plan Draft EIR, page 3.10-5.
[17] 636 acres divided by 124.4 (existing population as of 2003[124,440]/1,000) = 5.2 acres per 1,000 residents.

4.13.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to parks and recreation if it would:

1. Result in substantial adverse physical impacts associated with the provision of or need for new or physically-altered parks and recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.
2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.13.3.3 IMPACT DISCUSSION

PS-5	**The project would not result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.**

As described in Chapter 3, Project Description, of this Draft EIR, potential future development under the proposed project is expected to generate approximately 52 FTE employees, including one caretaker, as well as approximately 556,000 annual visitors to the project site; the proposed project would not include new permanent residents that could increase the demand for the parks and recreational facilities in the city.

Implementation of the proposed project would have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities in order to maintain the City's adopted ratio of 6 acres of parkland per 1,000 residents are required. As described under Existing Conditions, the City currently does not meet its standard of 6 acres per 1,000 residents. However, the proposed project would add 126[18] acres of park and recreational uses, and 2,417 acres of conservation open space uses to the city. This is consistent with Concord General Plan Policy POS-1.1.1 to develop additional parks to meet the adopted goal of 6 acres of park land per 1,000 residents, as well as Policy POS-2.3.1 to increase the hillside open space system through joint efforts with the District.

As described in Chapter 3, Project Description, Recreation/Staging Units would comprise approximately 126 acres of the proposed Regional Park. Within these zones, there would be approximately 35 acres of developed recreation and operations facilities. These facilities would include a visitor center, event and educational spaces, picnic areas, campsites, overlooks, and interpretive elements.

[18] This 126 acres includes the 86 acres for the development footprint (approximately 50 acres of trails and 35 acres of park facilities) and a buffer from the conservation and open space areas.

The proposed project would increase the quality of recreational options in the area, and thus would not result in the physical deterioration of or require the expansion of an existing facility, nor would it require the addition of new parks in Concord or the surrounding area. As the proposed project would not affect population growth, it would not increase the use of existing parks or facilities. Further, the proposed project, by providing a guide for future development of the site, may attract some users from existing parks and facilities, thus alleviating the physical deterioration of existing parks and facilities. The proposed project would construct new recreational facilities and renovate existing facilities to increase park usability by potential users. However, construction activities would be required to undergo project-specific CEQA analysis to mitigate any potential significant environmental impacts. Therefore, the proposed project would result in *no impact*, and no mitigation measures are required.

Because the proposed project includes 126 acres of publicly-accessible park and recreational areas in the proposed Recreation/Staging Units, this would contribute to the City's goals for providing recreational opportunities to the residents of Concord and impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

PS-6	**The project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.**

The park and recreational opportunities under the proposed project combined with the wide range of parks and recreational facilities available for public use in Concord and the surrounding area would not be expected to increase the use of recreational facilities to the extent that substantial deterioration would occur. As described under impact discussion PS-5, the proposed project would introduce recreational facilities in Concord that are accessible to the regional population. In addition, the District has identified two future parks and recreational areas, including Deer Valley located near Antioch, and Delta Access located in eastern unincorporated Contra Costa County, adding to the existing regional park facilities.[19] Consequently, the proposed project would not result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities, and a *less-than-significant* impact would occur.

Significance without Mitigation: *Less than significant.*

PS-7	**The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.**

[19] East Bay Regional Park District, 2013, Master Plan 2013, page 94.

As described under impact discussion PS-5, implementation of the proposed project would include 126 acres of park and recreational facilities, and 2,417 acres of conservation open space uses that would contribute to an increase in access to recreation facilities for residents of Concord and the region. For this reason, implementation of the proposed project would not warrant the construction of recreational facilities elsewhere that could result in physical impacts to the environment. Therefore, implementation of the proposed project would not require the expansion of an existing facility, nor would it require the addition of new parks in Concord or the surrounding area and impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.13.3.4 CUMULATIVE IMPACTS

PS-8	**The project, in combination with past, present and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to parks.**

Implementation of the proposed project would have a significant impact if, in combination with other development projects in Concord, it would result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities in order to maintain the City's adopted ratio of 6 acres of parkland per thousand residents.

While cumulative growth in the employee population would result in increased use of neighborhood and regional parks and recreational facilities, buildout of the reasonably foreseeable projects in Concord would not result in substantial adverse impacts to parks and recreational facilities in Concord. The new employees that would be generated by cumulative development would use existing local and regional parks and recreational facilities, and continued implementation of the parkland dedication requirements established in the CMC would ensure that existing parks or public facilities are well-maintained and improved as needed, avoiding substantial physical deterioration of recreational facilities.

Overall, implementation of the proposed project, in combination with other past, present, and reasonably foreseeable projects, would result in a *less-than-significant* cumulative parks and recreation impact. The proposed project would have a positive impact in terms of recreational facilities and would help the City meet its parkland standard.

Significance without Mitigation: *Less than significant.*

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4.14 TRANSPORTATION AND TRAFFIC

This section describes the regulatory framework and existing conditions on the project site related to transportation and traffic. This section also addresses the potential impacts of the proposed Plan's implementation on transportation and traffic conditions on and in the regional vicinity of the project site.

The City of Concord, in a letter to the East Bay Regional Park District (District) dated July 27, 2017, sent in response to the Notice of Preparation of this Draft EIR, expresses transportation concerns with future park site access, particularly new access points such as Avila Road and Bailey Road, as well as the potential impact of the new visitor center. These concerns are addressed in the impact discussions below.

4.14.1 ENVIRONMENTAL SETTING

4.14.1.1 REGULATORY FRAMEWORK

This section identifies the laws, regulations, policies, and programs related to the physical environment that pertain to the project's effects on transportation and circulation on the highways and local roadways within the project site area.

Federal Regulations

Federal highway standards are administrated in California by the California Department of Transportation (Caltrans) (see discussion under "State Regulations" below).

State Regulations

Caltrans and the California Transportation Commission (CTC) are the primary agencies that oversee transportation infrastructure in California. Caltrans manages the state's highway and inter-city rail systems, and the CTC is responsible for the programming and allocating of funds for the construction of highway, passenger rail, and transit improvement in California.

California Transportation Plan 2040

Caltrans' California Transportation Plan 2040 (CTP 2040) is a statewide, long-range transportation plan that establishes a policy framework for all levels of government to address future mobility needs and reduction of GHG emissions. Transportation goals identified in the CTP 2040 include improving multi-modal mobility and accessibility for all people and preserving the multi-modal transportation system. Policies related to these goals include operating an efficient transportation system; strategic investment; providing multi-modal choices; sustainable and preventative maintenance strategies; including life cycle costs in decision making; and adapting the transportation system to reduce impacts from climate change. The project site is located in Contra Costa County, within Caltrans' District 4, which encompasses the nine-county San Francisco Bay Area.

State Transportation Improvement Program and State Highway Operating and Protection Program

The CTC is responsible for adopting the five-year State Transportation Improvement Program (STIP) and approving the four-year State Highway Operating and Protection Program (SHOPP). The 2018 STIP includes an estimated $46.4 million in allocations for state highway improvements, intercity rail, and regional highway and transit improvements in Contra Costa County through Fiscal Year 2022-23. The Interregional Transportation Improvement Program and Regional Transportation Improvement Program (RTIP) nominate projects for inclusion in the STIP. The RTIP is prepared by Caltrans to allocate funding for highway and rail projects that improve interregional mobility across the state. There are multiple STIP and SHOPP projects planned in the vicinity of the project site.

California Transportation Development Act

The California Transportation Development Act (TDA) provides a dedicated State funding source for use by local jurisdictions at the county level to improve existing public transportation and encourage regional public transportation coordination. Transit agency audits are performed on a triennial basis to ensure that transit agencies are meeting minimum service performance standards. Unmet transit needs identified by local transit agencies and included in the Regional Transportation Plan (RTP). TDA funds can be allocated to non-transit uses if there are no unmet transit needs within the jurisdiction that are reasonable to meet with the use of TDA funds.

Senate Bill 743

With the adoption of the Senate Bill 375 in 2008, the State Legislature signaled its commitment to encourage land use and transportation planning decisions and investments to reduce vehicle miles traveled and thereby contribute to the reduction of greenhouse gas emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill 32).

On September 27, 2013, Senate Bill 743 was signed into law. Senate Bill 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, Level of Service, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). Senate Bill 743 required the Office of Planning and Research to propose revisions to the CEQA Guidelines establishing new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Public Resources Code Section 21099(b)(1)).

The new CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses (which in turn reduces vehicle trips). Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. The City of Concord is currently engaged in this process and has not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the City, automobile delay remains the measure used to determine the significance of a traffic impact. As a lead agency, the District may elect to develop its own significance thresholds or may opt to use the thresholds of "host" jurisdictions (i.e., for projects within the City of Concord, the District would use the City's thresholds).

Regional Regulations

Multiple regional agencies are involved in planning for transportation in and around Concord, and include the Metropolitan Transportation Commission (MTC) of the Bay Area, the Contra Costa Transportation Authority (CCTA), and two Regional Transportation Planning Committees (RTPCs) serving central and eastern Contra Costa County. The East Bay Regional Park District Master Plan contains numerous policies and goals for transportation to its parks.

Plan Bay Area

The MTC serves as the region's federally-designated Metropolitan Planning Organization (MPO) and the State-designated regional transportation planning agency. MPOs are designated in urbanized areas with populations over 50,000 people and are responsible for developing a Regional Transportation Plan (RTP) that recommends regional transportation projects to be included in the STIP. In the Bay Area, the RTP was developed by MTC in partnership with the Association of Bay Area Governments (ABAG), and was integrated with the Sustainable Communities Strategy and adopted in 2013 as Plan Bay Area. Plan Bay Area fulfills the requirements of California's 2008 Senate Bill 375 to reduce GHG emissions from cars and light trucks and plan for future population growth. Plan Bay Area identifies the Concord Naval Weapons Station (CNWS) site as a Priority Development Area, where the region expects to see transit-oriented and infill development that will accommodate the majority of future growth. As a result, 70 percent of funding through the One Bay Area Grant, which provides a share of the region's federal transportation funding, must be invested in Priority Development Areas for local street preservation, bicycle and pedestrian access improvements, planning activities, and other specific transportation programs.

Congestion Management Program

California's Proposition 111 (1990) specifies that each county designate a congestion management agency to implement programs to manage traffic levels. The CCTA is designated as the congestion-management agency for Contra Costa County and is responsible for coordinating land use, air quality, and transportation planning and for preparing and updating the county's Congestion Management Program (CMP) every two years. The 2017 CMP identifies level of service standards for state highways and principal arterials including Interstate 680 (I-680), State Route (SR) 4, SR 242, and sections of Clayton Road, Treat Boulevard, Kirker Pass Road, and Ygnacio Valley Road near the project site. Performance measures are also identified for these key roadways in addition to performance measures for transit service in the county. The CMP also includes a seven-year capital improvement program.

Measure J

In 2004, Contra Costa voters approved Measure J, a law to extend a sales tax under Measure C for an additional 25 years beyond Measure C's 2009 expiration. Measure C was a 0.5-percent transportation sales tax in Contra Costa County passed in 1988, and Measure J continues the half-cent transportation sales tax to fund voter-approved transportation programs and projects and is managed by CCTA. The measure is expected to provide $2.5 billion for countywide and local transportation projects. As part of Measure J, RTPCs must develop an action plan for Routes of Regional Significance and establish Multimodal Transportation Service Objectives for those routes. Multimodal Transportation Service Objectives are based on specific criteria and include quantifiable measures of effectiveness for attaining transportation objectives.

Regional Transportation Planning Committees

TRANSPAC (Transportation Partnership and Cooperation) is the designated RTPC in central Contra Costa County, including the City of Concord. The TRANSPLAN committee is the RTPC for eastern Contra Costa County, which includes the area just east of the former CNWS. Multimodal Transportation Service Objectives in both eastern Contra Costa County and central Contra Costa County action plans use a delay index for freeways of regional significance. The eastern Contra Contra Costa County action plan Multimodal Transportation Service Objective for freeways also includes a utilization of high-occupancy lanes.

District Regulations

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for stewardship and development of parks within the jurisdiction of the District. The Master Plan is organized into six chapters that describe the purpose and role of the District, challenges and priorities. The Master Plan also includes a vision, mission, and policies for parking, encouraging green transportation and availability and access to park facilities:

- PA 4: The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.
- PA 5: The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
- PA 6: The District will comply with the requirements of the Americans with Disabilities Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs and facilities throughout the Park District.
- PA-7: The District will evaluate and monitor the compliance level of access routes from public transit stops into the parks and encourage local agencies to make the improvements necessary to provide compliant accessibility to the parks.

- PRPT 9: Regional trails will connect regional parks or trails to each other, to parks and trails of other agencies, or to areas of unusual scenic beauty; vista points, San Francisco Bay, Delta or lake shoreline, natural or historic resources, or similar areas of regional significance. Regional trails may also connect regional parks and trails to important destinations such as transit centers, schools, colleges, civic centers, other major institutions, employment centers, large commercial complexes, or residential areas. A regional water trail may provide a water connection with launching and landing sites for small watercraft to points along the San Francisco Bay shoreline and/or the Sacramento/San Joaquin River and Delta.
- PRPT 10: The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- PRPT 21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.
- RFA 2: The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design, signage and trail user education to promote safety and minimize conflicts between users.
- RFA 5: The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers

Local Regulations

City of Concord 2030 General Plan

The City's 2030 General Plan includes a Transportation Element that describes future improvements to the City's transportation system to accommodate new development. The 2030 General Plan was amended in 2012 to include the Area Plan for the Concord Reuse Project. Relevant policies from the Transportation Element include the following:

- Policy T-1.1.2: Maintain and upgrade transportation systems to provide smooth flow of traffic, minimize vehicle emissions, and save energy. Transportation improvements should be consistent with statewide greenhouse gas reduction goals established by Assembly Bill 32, and the land use and transportation policy initiatives established by Senate Bill 375.
- Policy T-1.1.3: Unless otherwise specified, the benchmark for the evaluation of intersections and roadway segments is LOS D. In the Downtown area, the benchmark is LOS E, recognizing the more urban, pedestrian-oriented character of this area. The Downtown is defined as the area served by streets designated Downtown in this element. The LOS E benchmark also applies in the Concord BART Station vicinity, the North Concord / Martinez BART Station vicinity, and along the City's transit routes.

Transit routes are generally defined as roads with two or more bus transit lines, such as Concord Avenue, Clayton Road, and Treat Boulevard.

- Policy T-1.1.5: Require all new development to provide adequate right-of-way and to construct ultimate on and off-site improvements.
- Policy T-1.1.16: Continue to provide and enhance landscaped medians and street edges that are visually pleasing and provide shade and buffers for pedestrians and cyclists; landscaping should use native or low-water plants and reduce stormwater runoff to the greatest extent possible.
- Policy T-1.3.3: Ensure that streets are designed to balance the needs of multiple travel modes, including vehicles, pedestrians, bicycles, and transit. This policy supports the concept of "complete streets," consistent with AB 1358. New streets should be designed to balance the needs of motorists with the needs of other travelers and should recognize the special needs of children, seniors, and persons with disabilities. Over time, the existing street system will be adapted to reflect the "complete streets" emphasis, making it easier to travel around Concord without a car.
- Policy T-1.5.1: Ensure adequate parking facilities are provided for public convenience and to promote economic development, where consistent with other objectives such as promoting public transit use, walking and bicycling.
- Policy T-1.5.5: Locate and design off-street parking lots in a way which makes them less visually prominent.
- Policy T-1.6.1: Coordinate with public transportation agencies to facilitate safe, efficient, and convenient pedestrian access to transit stops; work with agencies to relocate stops when necessary.
- Policy T-1.7.2 Use innovative and effective walkway features to enhance the pedestrian experience, including buffers between pedestrians and vehicle traffic, wide sidewalks, illuminated crosswalks, signalized crossings, bulb-outs, pedestrian-scale lighting, benches, and other street furniture; include trees wherever possible, selecting species that do not negatively impact sidewalks as they grow.
- Policy T-1.8.4 Require provision of bicycle facilities in new developments, where appropriate.

Concord Reuse Project Area Plan

The Concord City Council adopted the Concord Reuse Project Area Plan in January 2012, and Chapter 2 of Book Two (Technical Chapters) sets forth policies to ensure that the multi-modal transportation network offers residents, employees and visitors multiple choices for the trips they make. The topics addressed in the Plan are complete streets, intermodal connectivity, emerging technologies, parking management, Transportation Demand Management, and off-site impacts. Relevant policies from the Concord Reuse Project Area Plan include the following:

- Policy T-1.1: Road Connections to Adjacent Neighborhoods. Provide road connections between the Planning Area and surrounding neighborhoods. 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 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.
- 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 that 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 Planning 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 Planning Area. These connections are critical in making transit trips appealing and convenient.
- Policy T-2.1: Support Facilities for New Technologies. Assist in providing support facilities for emerging technologies, such as alternative fueling stations.
- Policy T-3.5: Preferential Parking. Provide preferential parking for car-share, carpool, and vanpool vehicles in all workplace and educational campus parking facilities.

City of Concord Department of Public Works

The City of Concord Department of Public Works is responsible for maintaining the city's street infrastructure, including curbs, gutters, sidewalks, street lighting, and traffic control devices. The development of infrastructure (e.g., roadways, sidewalks, etc.) is subject to review/approval by the Department, and must follow the Department's Standard Plans and Specifications.

City of Concord Bicycle, Pedestrian, and Safe Routes to Transit Plan

The City of Concord adopted the Bicycle, Pedestrian & Safe Routes to Transit Plan in 2016, which presents a strategy for the development of a comprehensive bicycling and walking network to provide access to transit stops and stations, and other destinations throughout the city.[1] Relevant policies from the Bicycle, Pedestrian, and Safe Routes to Transit Plan include the following:

- Policy 2.A.1: Apply state of the practice and emerging designs including the Design Guidelines supplemented to this plan, the California Manual on Uniform Traffic Control Devices, and national manuals such as National Association of City Transportation Officials guides.
- Policy 2.A.3: Prioritize pedestrian and bikeway designs to address the needs and safety for people of all ages and abilities, considering issues such as street design speed, hierarchy of streets, connectivity, and level of stress experienced.

[1] City of Concord, 2016, Bicycle, Pedestrian, & Safe Routes to Transit Plan, https://www.cityofconcord.org/DocumentCenter/View/ 1045/ Bicycle-Pedestrian-and-Safe-Routes-to-Transit-Plan-PDF, accessed on June 22, 2018.

- Policy 3.F.1: Seek to provide marked crossings at reasonable intervals in areas with existing or potential high pedestrian activity and establish vehicle speed and volume thresholds for appropriate treatments such as crossing control, curb extensions, and refuge islands.
- Policy 3.H.2: Integrate bicycle and pedestrian facilities as part of new street design and resurfacing projects where feasible.

California Mitigation Fee Act

The California Mitigation Fee Act (Government Code Sections 66000 to 66020) allows the city to levy transportation impact fees on new development. An offsite street improvement program is included in the City of Concord's Municipal Code to administer transportation impact fees. The off-site street improvement program levies a fee on future development outside of the CNWS to partially fund transportation improvements identified in the 2030 General Plan that will accommodate growth and maintain level of service benchmarks.

4.14.1.2 EXISTING CONDITIONS

Project Location and Vicinity

The project site is located on the eastern side of the City of Concord in central Contra Costa County. The City of Concord is served by several major highways, including I-680, SR 4, and SR 242, and an extensive street network made up of arterials, collectors, and local roads. The northwest boundary of the project site runs along the southern side of SR 4, east of its interchange with SR 242 and I-680. Willow Pass Road crosses the site in a northeasterly direction and provides access to SR 4 just north of the site. Bailey Road crosses the southeast portion of the site in a northeasterly direction and then joins SR 4 in western Pittsburg. The North Concord/Martinez BART Station is located to the west of the site, off Port Chicago Highway. Several access roads provide circulation around the site. The regional and local roadways serving the site are further described below.

Regional Roadways

I-680 is the primary north-south freeway in central Costa County and runs along the west side of Concord, with an interchange with SR 4 near the northwestern corner of the city. I-680 begins at an interchange with Interstate 80 (I-80) in Solano County north of Contra Costa County and travels south to its terminus in San José. The number of lanes on I-680 within the vicinity of the project site varies from seven lanes north of SR 4 to twelve lanes north of Monument Boulevard.

SR 4 is the primary west-east route in northern Contra Costa County. SR 4 begins at the interchange with I-80, near the San Pablo Bay, and runs east through northern Concord to the cities of Pittsburg, Brentwood, Stockton, and eventually reaches its terminus at SR 89 near the California/Nevada State border. SR 4 varies from twelve lanes east of SR 242 to nine lanes east of Willow Pass Road, with direct ramp access near the site provided on Willow Pass Road.

SR 242 is a north-south route that connects SR 4 with I-680, running northeasterly through Concord. SR 242 is a six-lane highway with direct ramp access near the site provided on Olivera Road.

Local Roadways

Willow Pass Road is an arterial that begins at I-680 in Pleasant Hill as a six-lane road, and travels east and then north through Concord as a four-lane and ultimately a two-lane road. Willow Pass Road terminates just north of the project site, where it provides ramp access to SR 4.

Bailey Road is a two-lane arterial that travels in a northeasterly direction from Clayton Road, through the project site, to Pittsburg.

Port Chicago Highway is a semi-circular route that begins at Clayton Road as a one-way northbound road in central Concord, and continues north as a two-way road (with four lanes and then two lanes) before turning east and terminating in Bay Point. The road provides ramp access to SR 4 just north of the project site near the North Concord/Martinez BART Station.

Kirker Pass Road/Railroad Avenue/Ygnacio Road is a major corridor extending between I-680 in Walnut Creek and SR 4 in Pittsburg. The roadway does not provide direct access to the former CNWS, but serves as one of the west-to-east arterials south of the site. The segment south of the property primarily has two lanes in each direction with a center median.

Concord Boulevard is an arterial (with varying width of two and four lanes) to the west of the project site that begins at the intersection of Clayton Road and Sutter Street, just east of SR 242 near Downtown Concord. The roadway continues in a southeastward direction beyond Kirker Pass Road, where it continues as Oakhurst Drive.

Travel Activity in Concord

A traffic analysis of existing traffic conditions on roadway segments, freeway segments, freeway ramps, and intersections in the vicinity of the former CNWS was conducted by Kittleson and Associates in 2013,[2] updating data used in the Concord Community Reuse Plan EIR.[3] The study locations initially analyzed in the Concord Community Reuse Plan EIR were reviewed by public and agency stakeholders during the City's CEQA public review process. As a result of extensive information and feedback received from agency and other stakeholders during this public review process, the City expanded the number of study intersections and study roadway segments.

Traffic Volumes

Peak hours for weekday traffic volumes typically occur between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. Traffic volumes are generally highest during the evening peak hour for the roadway segments studied, except for Bailey Road, which has higher morning peak-hour volumes.

[2] Department of the Navy, 2014, Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord.

[3] City of Concord, 2010, Concord Community Reuse Project Final EIR.

Interstate 680

Morning peak hour volumes for I-680 (between Monument Boulevard and SR 4) range from about 3,000 to 7,600 vehicles in the northbound direction and from about 4,900 to 8,600 vehicles in the southbound direction. Evening peak hour volumes range from about 4,800 to 9,600 vehicles in the northbound direction and from about 4,100 to 7,300 vehicles in the southbound direction. All of the I-680 freeway ramps in the vicinity of the project site have higher evening peak-hour volumes than morning volumes.

State Route 242

The segment of SR 242 north of I-680 carries about 3,100 northbound vehicles and 4,700 southbound vehicles during the morning peak hour, and 3,000 southbound vehicles and 5,300 northbound vehicles during the evening peak hour. The peak hour for freeway ramps varies.

State Route 4

Morning peak hour volumes on SR 4 (between SR 242 and Railroad Avenue) range from about 2,200 to 4,800 vehicles in the eastbound direction and from about 2,900 to 8,700 vehicles in the westbound direction. Evening peak hour volumes range from 4,100 to 7,900 in the eastbound direction and from about 2,200 to 3,400 vehicles in the westbound direction. Westbound peak-hour volumes are generally twice as high during the morning, and eastbound peak-hour volumes are twice as high during the evening. The peak hour for freeway ramps varies.

Existing Traffic Operations

Evaluation of the capacity of roadway and freeway segments, freeway ramps, and intersections to accommodate current traffic volumes is based on the road facility's Level of Service (LOS). Level of Service is a qualitative measure that describes the general operating conditions of the roadway or freeway segment, freeway ramp, or intersection using factors such as speed, travel times, and delays. Level of Service is reported on a scale of "LOS A" to "LOS F," with "LOS A" representing excellent operating conditions with little or no delay, and "LOS F" representing the worst operating conditions with substantial delays. The level of service classifications for intersections and roadways are defined in Tables 4.14-1 and 4.14-2, respectively.

Intersections

The majority of the intersections included in the analysis operate at or better than the established acceptable level of service standard during both morning and evening peak hours. There are three intersections that operate worse than acceptable standards. The Willow Pass Road/SR 4 westbound ramps and Willow Pass Road/SR 4 eastbound ramps, which are both unsignalized and operate at a morning peak-hour LOS E and F, respectively. The signalized intersection of Bailey Road and the SR 4 eastbound ramps operates at LOS F during the evening peak hour.

TABLE 4.14-1 DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

Description	Average Total Vehicle Delay (Seconds)	Level of Service Grade	Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	**Free Flow or Insignificant Delays:** Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	**Stable Operation or Minimal Delays:** Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	**Stable Operation or Acceptable Delays:** Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	**Approaching Unstable or Tolerable Delays:** Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	**Unstable Operation or Significant Delays:** Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	**Forced Flow or Excessive Delays:** Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: Transportation Research Board, *Highway Capacity Manual*, 2000.

Roadway Segments

The roadway segments in the vicinity of the project site generally operate at LOS D or better and are within the performance thresholds. Exceptions to acceptable service levels are two-lane Willow Pass Road (north of Landana Drive) and Bailey Road east of Concord Boulevard, both of which operate at LOS F during both peak traffic hours.

TABLE 4.14-2 DEFINITIONS FOR ROADWAY LEVEL OF SERVICE

Level of Service Grade	Description
A	**Free Flow or Insignificant Delays:** The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability with the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
B	**Stable Operation or Minimal Delays:** The presence of other vehicles becomes noticeable. Average travel speeds are the same as LOS A, but drivers have slightly less freedom to maneuver within the traffic stream. Minor disruptions are still easily absorbed, although local deterioration in level of service will be more obvious.
C	**Stable Operation or Acceptable Delays:** The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in level of service, and queues will form behind any significant traffic disruption
D	**Approaching Unstable or Tolerable Delays:** The ability to maneuver within the traffic stream is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming, and the level of service deteriorating.
E	**Unstable Operation or Significant Delays:** Operations are at or near capacity, an unstable level of service. The densities vary, depending on the free-flow speed. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F.
F	**Forced or Breakdown Flow with Excessive Delays:** This condition occurs when vehicle arrive at a rate greater than the rate at which they are discharged. Operations with queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Transportation Research Board, Highway Capacity Manual, 2000.

Freeway Segments

The freeway segments in the vicinity of the project site operate at LOS D or better during both peak hours, except two segments on SR 4 (east of SR 242 and east of San Marco Boulevard) that operate at LOS F in the westbound direction during the morning peak hour.

Freeway Ramps

The majority of ramps studied currently operate at LOS E or better with the exception of four ramps on SR 4, which operate at LOS F during one of the peak hour (the westbound off-ramps to Port Chicago Highway and Willow Pass Road, the westbound on-ramp from Willow Pass Road to SR 4, and the eastbound off-ramp to San Marco Boulevard).

Routes of Regional Significance

As described in the Regulatory Framework discussion, Multimodal Transportation Service Objectives, specifically the travel speed and delay index, are used to evaluate Routes of Regional Significance. None of the area freeways exceed the delay index standard. In addition, SR 4 currently meets the threshold minimum Multimodal Transportation Service Objective for High Occupancy Vehicle utilization in eastern Contra Costa County.

Transit

Several public transit options are available in Concord with stops in proximity to the project site, offering the potential for "transit-oriented open space" recreation. Bay Area Rapid Transit (BART) provides commuter rail service throughout the region. The Pittsburg/Bay Point – SFO/Millbrae line provides a connection between Concord, San Francisco, and the San Francisco International Airport. The future Concord Hills Regional Park / Port Chicago Memorial visitor's center is located approximately 2.5 miles straight to the North Concord / Martinez Station off Port Chicago Highway; 3 miles to the Concord Station on Oakland Avenue in Downtown Concord, and 3 miles to the Pittsburg/Bay Point Station off Bailey Road.

The Central Contra Costa Transit Authority, or County Connection, provides fixed-route and paratransit bus service in Concord and has several routes that provide service near the project site, including Routes 10, 15, 17, 28/627, and 93X, and several lines that connect to the three BART stations. Tri Delta Transit provides bus service in east Contra Costa County with routes that connect Concord with Bay Point, Pittsburg, Antioch, Oakley, Brentwood, and Discovery Bay. Route 201 provides service between the Concord Station and the Pittsburg/Bay Point Station, where transfers can be made to 11 other Tri Delta Transit bus routes. The City of Concord's General Plan indicates additional transit service is planned for the CNWS area that would connect to BART stations and other Concord neighborhoods.

Bicycle and Pedestrian Facilities

Bicycling and walking are considered viable alternatives to the automobile in Concord, and the Concord Development Plan promotes pedestrian-oriented design and supporting bicycle facilities. Caltrans classifies bicycle facilities into three main categories:[4]

- Class I Bike Path – Provides an exclusive right-of-way (outside a roadway right-of-way) for bicycle access.
- Class II Bike Lane – Provides a striped width on a paved roadway to delineate a width for the preferential use by bicyclists.
- Class III Bike Route – Shares the road pavement with motorists with bike route signs or markings, but without a designated width for bicyclists.

The City of Concord, in its Trails Master Plan, employs a similar classification for bicycle facilities, but adds two additional subcategories:

- Class 3A routes are similar to Caltrans Class III designation routes.
- Class 3B routes use edge lanes to provide additional space for bicyclists, but do not meet the 5-foot bike lane minimum width required by Caltrans Class II bike lanes.

The Concord General Plan proposes a network of Class I and II bicycle facilities for the redevelopment of the CNWS site.

[4] California Department of Transportation, 2016, California Transportation Plan 2040.

The City of Concord and Contra Costa County have identified a number of proposed multi-use trails in and around the project site, including additional Class I and Class III trails with off-street and on-street facilities. The Contra Costa Countywide Bike and Pedestrian Plan provides policy and infrastructure recommendations to improve bicycle and pedestrian facilities throughout the region. Contra Costa County has several Class I trails in the study area, including the Contra Costa Canal Trail and the Iron Horse Trail, as well as Class II Bike Lane and Class III Bike Route facilities.

The Concord Trails Master Plan provides a framework for planning trails in Concord with the purpose of promoting the use of trails for recreation as well as an alternative mode of transportation. The Trails Master Plan includes recommended trail alignments and design guidelines, and identifies several potential trail routes, including a connection to the Delta De Anza Trail and Class I collector trails that follow either rail lines or creeks that run through the site.

4.14.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant transportation and traffic impact if it would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

4.14.3 IMPACT DISCUSSION

TRAF-1	**The project could increase traffic volumes on area roadways, and could conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.**

Project Construction

While there is no applicable program, plan, ordinance, or policy associated with temporary construction activity, construction activities associated with implementation of the proposed Plan would generate short-term increases in traffic volumes on area roadways. Construction activities that would generate off-site traffic would include the delivery of construction vehicles and equipment to the project site, the daily arrival and departure of construction workers, and the hauling of materials to and from the project site throughout the construction period. As described in Chapter 3.5, Site Preparation, Specific Plan construction activities that would involve the most use of haul trucks would include the demolition of Buildings IA-55, 97, and 87, and site grading (e.g., parking lots, picnic areas with parking, new buildings, the Corp Yard, new segments of roads and trails). The haul truck traffic would vary depending on the

construction activity, but would be spread over the course of the workday. In addition to truck trips, construction workers would commute to and from the site at the start and end of each workday.

It should be noted that Plan construction would occur over the course of three phases over the course of 50 years, meaning that construction of all Plan elements would not occur simultaneously, thus lessening the overall impact of construction traffic on local roadways at any given time (see Table 4.3-2, Proposed Phasing). Although the proposed project would add both truck and worker commute traffic to local area roadways, the traffic increase would be short-term in nature and is not expected to result in any long-term degradation in operating conditions on local roadways. Construction staging would occur primarily on site and would not be expected to disrupt access to nearby uses. In addition, no lane closures are expected during project construction, and emergency access in the area would be maintained at all times.

Construction vehicles traveling to and from the project site could disrupt vehicular, bicycle, and pedestrian activity along nearby public roadways (e.g., Baily Road). This would be a *potentially significant* impact.

Project Operation

Roadways

Based on the estimated visitor levels upon buildout of the Regional Park, the proposed project would generate approximately 590 weekday vehicle trips, with approximately 35 and 77 trips during the AM and PM peak hour, respectively. This includes trips by both park employees and visitors. Accordingly, the project's estimated peak-hour vehicle trips would be well below the 100-trip threshold set by both CCTA and the City of Concord for a full (detailed) traffic impact analysis. Trip generation under Phase 1 and Phase 2 (pre-buildout) conditions would be lower than the above-described levels and would also be much lower than the 100-trip threshold. As described above, area roadways and intersections generally operate at or better than the established level of service (LOS) standards. There are exceptions to those acceptable LOS conditions. For transportation facilities that operate at unacceptable level of service under no-project conditions, the City of Concord's threshold of significance is a project-caused increase in traffic volume of three percent or more. The low number of weekday peak-hour trips that the Regional Park would generate would be dispersed over different roads in the network serving the project site, and would increase traffic volumes by less than three percent on any single roadway. Furthermore, the City of Concord recently adopted its *Bicycle, Pedestrian & Safe Routes to Transit Plan* (2016), which presents a strategy for the development of a comprehensive bicycling and walking network to provide access to transit stops and stations, and other destinations throughout the city.[5] Through implementation of this Plan, options for alternative modes of transportation within Concord, including to the proposed Regional Park, would likely increase. Such improvements, and the alternative transportation options they would provide, may further reduce the total number of vehicle trips generated by the project. For the above reasons, the effects of the increase in peak-hour traffic volumes on area roadways caused by the project would be minimal.

[5] City of Concord, 2016, Bicycle, Pedestrian, & Safe Routes to Transit Plan, https://www.cityofconcord.org/DocumentCenter/View/1045/Bicycle-Pedestrian-and-Safe-Routes-to-Transit-Plan-PDF, accessed on June 22, 2018.

Public Transit, Bicycle, and Pedestrian Facilities

Proposed development would neither directly nor indirectly eliminate existing or planned alternative transportation corridors or facilities (e.g., bike paths or lanes) as envisioned by the City of Concord in its 2016 Bicycle, Pedestrian and Safe Routes to Transit Plan, including changes in polices or programs that support alternative transportation, nor would it result in the construction of facilities in locations where future alternative transportation facilities may be planned. Space would be provided along Kinne Boulevard in front of the Visitor Center for a bus/shuttle stop that could be used for public transit and private shuttle providers. For those reasons, the proposed project would not conflict with adopted policies, plans, or programs related to public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Congestion Management Program Facilities

CCTA has established travel demand measures such as the above-described 100 new peak-hour trip threshold for a full (detailed) traffic impact analysis. As described above, the proposed project's weekday peak-hour vehicle trip generation would be lower than that threshold (also established by the City of Concord). For the reasons described above, the increase in peak-hour traffic volumes on area roadways caused by the project would not conflict with CCTA CMP standards.

Based on the above discussion, the proposed project would have a *less-than-significant* impact with respect to conflicts with plans, policies, and regulations related to the performance of the area's circulation system.

Significance without Mitigation: *Potentially significant.*

Impact TRAF-1: Construction activity associated with the proposed Regional Park could result in temporary impacts to the circulation system. This would be a potentially significant impact

> Mitigation Measure TRAF-1: *Traffic Control Plan.* The District shall prepare, or shall require construction contractor(s) to prepare, and implement a traffic control plan (TCP) for each of the three Plan phases, prior to commencing construction on that phase. The TCPs will aim to reduce traffic impacts on the roadways at and near the work sites, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders and construction vehicles, as appropriate. The District and construction contractor(s) shall coordinate development and implementation of the TCPs with the City of Concord, as appropriate. To the extent applicable, the TCP shall conform to the California Manual on Uniform Traffic Control Devices (MUTCD), Part 6 (Temporary Traffic Control) (Caltrans, 2014). The TCP shall include, but not be limited to, the following elements:
>
> - Circulation and detour plans to minimize impacts on local road circulation during unanticipated road and lane closures (if any). Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone.
> - Identifying truck routes designated by the County. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible.

- Sufficient staging areas for trucks accessing construction zones to minimize disruption of access to adjacent public right-of-ways.
- Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by on-site inspectors.
- Scheduling truck trips outside the peak morning and evening commute hours to the extent possible.
- Limiting the duration of unanticipated road and lane closures (if any) to the extent possible.
- Construction activities that may encroach on bicycle routes or multi-use paths, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") shall be posted that indicate the presence of such users.
- Implementing roadside safety protocols. Advance "Road Work Ahead" warning and speed control signs (including those informing drivers of State legislated double fines for speed infractions in a construction zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone.
- Coordinating construction administrators of police and fire stations (including all fire protection agencies), and recreational facility managers. Operators shall be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable.
- Repairing and restoring affected roadway rights-of-way to their original condition after construction is completed.

Significance with Mitigation: *Less than significant*. Based on the analysis presented above, implementation of this Mitigation Measure TRAF-1 would reduce the potential construction-period impact on the performance of the circulation system to a less-than-significant level.

TRAF-2 The project would increase traffic volumes on area roadways, but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Senate Bill 743 (SB 743), signed by Governor Brown in 2013, directed Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines:

> "establishing criteria for determining the significance of transportation impacts of projects within transit priority areas . . . that promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" and to "recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." (Pub. Res. Code, § 21099(b)(1), emphasis added.)

On January 3, 2019, the comprehensive amendments to the CEQA Guidelines went into effect. The amended Guidelines include a new Section 15064.3 to implement SB 743, which establishes vehicle miles

of travel (VMT) thresholds as the most appropriate measure of transportation impacts under CEQA; and shifting away from the level of service (LOS) analysis. In December 2018, OPR also issued a Technical Advisory on Evaluating Transportation Impacts in CEQA, containing technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures for implementation of section 15064.3. Under Section 15064.3(b)(1) of Guidelines, generally land use "projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact."

The technical advisory suggests a significance threshold for VMT that is based on State-mandated greenhouse gas emission reduction targets. But the VMT thresholds under section 15064.3 do not take effect until July 1, 2020, unless the lead agency adopts the VMT metrics earlier. CCTA is Contra Costa County's Congestion Management Agency, and sets level of service standards. Neither CCTA nor the City of Concord have established VMT thresholds to date. As such, no determination on the significance of VMT impacts is made in this document since none is legally required.

Significance without Mitigation: *No impact*.

TRAF-3	The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The proposed Regional Park would meet all required geometric design standards for access. There would be three vehicular park access points for the area north of Bailey Road, a public road maintained by Contra Costa County. The primary access would be near the Visitor Center along Kinne Road, and two secondary access points would be provided, one along Bailey Road and one along a planned new road (to be named Delta Road). There would be one vehicular park access point for the area south of Bailey Road. The proposed project would not alter the physical configuration of the existing roadway network serving the area, and would not introduce unsafe design features or vehicles incompatible with existing traffic. Therefore, potential impacts related to traffic safety hazards would be *less than significant*.

Significance without Mitigation: *Less than significant.*

TRAF-4	The project would not result in inadequate emergency access.

Proposed development would meet all requirements for access and ingress/egress of emergency vehicles. Construction of the proposed project would not require road closures or affect any of the existing road networks surrounding the project site. As described under Impact TRAF-4, there would be four vehicle access points that would connect the Regional Park with the surrounding road network. In addition, there would be internal maintenance roads (paved and unpaved) provided for internal circulation. For those reasons, the project would provide adequate access for emergency vehicles, and the impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.14.4 CUMULATIVE IMPACTS

TRAF-5 The project would increase traffic volumes on area roadways, but would not contribute in a considerable way to cumulative transportation and traffic impacts.

The geographic scope of analysis for cumulative impacts on transportation and traffic conditions encompasses the road network that would serve the proposed Regional Park. Projects in the geographic scope include the Concord Reuse Project, the Faria/Southwest Hills project, the Keller Canyon Landfill Expansion project, as well as other development projects in the cities of Concord and Pittsburg.[6] See Chapter 4 for a complete list of the cumulative projects. Redevelopment of the former CNWS as part of the Concord Reuse Project would result in levels of service that are below the operating standard established by each applicable jurisdiction (i.e., CCTA or City of Concord) at area intersections and on area roadways.[7] As stated above, the proposed Regional Park would generate approximately 590 weekday vehicle trips. As a point of comparison with one of the large development projects included in the cumulative analysis, the Concord Community Reuse Project would generate approximately 173,000 weekday vehicle trips. Furthermore, the trip generation of the proposed project land use (recreation/ conservation) compared to the residential or employment-based land uses of the cumulative projects would be more oriented to off-peak travel times, during which transportation facilities are less congested and have the capacity to accommodate additional demand.

Construction of the Concord Reuse Project Specific Plan, including the Tournament Sports Park, as well as the other, smaller-scale projects included in the geographic scope of the cumulative analysis, could potentially overlap with construction of the proposed Regional Park. Although the potential impact of construction traffic was not evaluated for the Concord Community Reuse Plan or for the other cumulative projects, it is likely that simultaneous construction of multiple projects in the same geographic area could lead to increased congestion on regional (e.g., SR 4) and local roadways (e.g., Willow Pass Road). Similar to the comparison of the proposed project's operational trips to those estimated to be generated by the implementation of the Concord Community Reuse Project Specific Plan, construction of the proposed project would likely contribute few vehicle trips to regional and local roadways in relation to the number of vehicle trips that would likely be generated by the large development projects. Furthermore, project construction would occur over the course of three phases over the course of 50 years, meaning that construction of all project elements would not occur simultaneously, thus lessening the overall impact of construction traffic on local roadways at any given time (see Table 3-2, Proposed Phasing).

Considering the scale and temporal character of the proposed project's vehicle trip generation, the proposed Regional Park's contribution to cumulative adverse conditions on local and regional transportation facilities would be less than cumulatively considerable. This is because, as stated under

[6] The Concord Reuse Project includes 65 acres set aside for the Tournament Sports Complex, which is currently being designed and evaluated by the City (https://www.concordreuseproject.org/186/Tournament-Sports-Complex). Specific elements of the Complex related to transportation and access have not yet been defined or evaluated, and as such cannot be specifically considered in the cumulative impact analysis of the proposed project.

[7] City of Concord, 2010, Concord Community Reuse Project Final EIR.

Impact TRAF-1, the effects of the park's low trip generation, dispersed over different roads in the network serving the project site, would be negligible, relative to the effects of vehicle trips associated with other projects in the cumulative scenario. Therefore, the cumulative impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.15 UTILITIES AND SERVICE SYSTEMS

This chapter describes the existing utilities and service systems serving the project and evaluates the potential environmental consequences of the project.

Water, wastewater, solid waste, and stormwater infrastructure are each addressed in separate sections of this chapter. In each section, a summary of the relevant regulatory setting and existing conditions is followed by a discussion of potential impacts and cumulative impacts from the project. Potential impacts associated with the need to expand existing electricity and natural gas facilities are addressed in Chapter 4.5, Energy, of this Draft EIR.

4.15.1 WATER

This section is based in part by the information provided in the Concord 2030 Urban Area General Plan Draft Environmental Impact Report prepared for the City of Concord by Dyett and Bhatia, adopted December 2006, and the City of Concord Community Reuse Plan Draft Environmental Impact Report prepared for the City of Concord by ARUP North American Ltd., adopted 2010.

4.15.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The SDWA authorizes the United States Environmental Protection Agency (EPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State Regulations

California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, which was passed in California in 1969 and amended in 2013, the State Water Resources Control Board (SWRCB) has authority over State water rights and water quality policy. This Act divided the State into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions.

RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The City of Concord and Contra Costa County are overseen by the San Francisco Bay RWQCB.

California Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions and ensure adequate water supply for new development. Both statutes require that detailed information regarding water availability be provided to city and county decision-makers prior to approval of large development projects. SB 610 requires water supply assessments (WSAs) for certain types of projects, as defined by Water Code Section 10912, which are subject to the California Environmental Quality Act (CEQA). Projects required to prepare a WSA include large residential and commercial projects, as well as any project that would demand an amount of water equivalent to, or greater than, the amount of water required for 500 dwelling units.

Because this is a plan level document and no specific development project is proposed, a WSA is not required for the proposed project pursuant to the California Water Code ("CWC" or "Water Code") Section 10910-10915.

California Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet[1] of water annually. The Act is intended to support conservation and efficient use of urban water supplies. The Act requires that total project water use be compared to water supply sources over the next 20 years in five-year increments, that planning occur for single and multiple dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses. In September 2014 the Act was amended by SB 1420 to require urban water suppliers to provide descriptions of their water demand management measures and similar information.[2]

Groundwater Management Act (1992)

The Groundwater Management Act of the California Water Code (Assembly Bill [AB] 3030), signed into law on September 26, 1992 and effective on January 1, 1993, provides guidance for applicable local agencies to develop voluntary Groundwater Management Plans (GMP) in State-designated groundwater basins. The GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance, and water quality.[3]

[1] Once acre-foot is the amount of water required to cover 1 acre of ground (43,560 square feet) to a depth of 1 foot.

[2] Department of Water Resources. About Urban Water Management, https://www.water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans, accessed on March 13, 2018.

[3] Department of Water Resources Planning and Local Assistance Central District, Groundwater, *Groundwater Management*, http://www.cd.water.ca.gov/groundwater/gwab3030.cfm, accessed on March 13, 2018.

Sustainable Groundwater Management Act (2014)

The Sustainable Groundwater Management Act of 2014 (SGMA) consists of three legislative bills, SB 1168, Assembly Bill (AB) 1739, and SB 1319. The legislation provides a framework for long-term sustainable groundwater management across California. Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins will form Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). The project site is adjacent to the Clayton Valley Groundwater Basin, which DWR has classified as "very low" priority. Therefore, the proposed project area is not within a GSA.[4]

The Water Conservation Act of 2009

The Water Conservation Act of 2009,[5] SB X7-7, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. The SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards. It also requires agricultural water suppliers to prepare plans and implement efficient water management practices.

State Updated Model Landscape Ordinance

The updated Model Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by February 1, 2016 or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance (MO). The City of Concord has incorporated the Water Efficient Landscaping Regulations by reference and revised Municipal Code Chapter 18.170, which is described below.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the State of California. CALGreen established planning and design standards for sustainable site development, including water conservation measures and requirements that new buildings reduce water consumption by 20 percent. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process.

[4] Department of Water Resources, CASGEM Basin Prioritization 2014 Final Results, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Basin-Prioritization/Files/B118-Basin-Prioritization-2014-Final-xlsx.xlsx, accessed on May 17, 2018.

[5] Department of Water Resources, Water Conservation Act of 2009, http://wdl.water.ca.gov/wateruseefficiency/sb7/, accessed on March 13, 2018.

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design.
- Water efficiency and conservation.
- Material conservation and resource efficiency.
- Environmental quality.

The California Plumbing Code (Part 5, Title 24, CCR)

The California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code. The general purpose of the universal code is to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems. Water supply and distribution shall comply with all applicable provisions of the current edition of the California Plumbing Code.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals related to water utilities and service systems in the Natural Resource Management section

- NRM11: Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative efforts to plan comprehensive watershed management and will adopt “best management practice” guidelines for District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.
- NRM11b: The District will pursue conservation and control technologies for the use of potable and irrigation water. The District will seek to reduce the use of imported water for uses other than human consumption through conservation and by developing other sources of water for irrigation and non-potable needs.

Local Regulations

2015 Urban Water Management Plan[6]

The Contra Costa Water District (CCWD) adopted its 2015 UWMP in June 2016 in accordance with the SB X7-7 and the Urban Water Management Planning Act, outlined in Section 10610 of Division 6 of the

[6] Contra Costa Water District, 2016, 2015 Urban Water Management Plan.

California Water Code. One of the purposes of the UWMPs is to identify measures to meet SB X7-7 requirements that mandate a 20-percent reduction of per capita water use and agricultural water use throughout the State by 2020. These UWMPs evaluate the water supply capacity and the projected water demands of the service area over a 20- or 25-year planning horizon. A range of water supply scenarios were modeled, including 1) normal, 2) single-dry, and 3) multiple-dry water year conditions. The UWMPs also provide action plans in the event of a catastrophic interruption in water supplies.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The following goal, principles, and policies and relevant to the proposed project:

- Goal PF-1: Availability of Adequate Public Utilities.
- Principle PF-1.1: Provide a Safe and Reliable Water Supply.
    - Policy PF-1.1.1: Coordinate with the Contra Costa Water District (CCWD) to provide an adequate and safe water supply.
- Goal POS-3: Well-Planned Natural Resource Conservation.
- Principle POS-3.3: Facilitate Water Conservation.
    - Policy POS-3.3.1: Cooperate with the Contra Costa Water District to implement water saving programs.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station (CNWS) to civilian use. Adopted by City Council in 2012, the Plan adapted goals and concepts developed in the Concord Community Reuse Plan that articulated the community's preferred vision for the area. The Reuse Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Plan provides the following principles and policies applicable to the proposed project:

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

- Principle U-2: Provide a safe and reliable water supply to the CRP area.
  - 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.
  - 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-2.7: 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 firefighting design standards. Tanks may be located in Conservation Open Space consistent with provisions of natural resource permits.
- Principle U-4: Reduce the use of potable water for non-potable purposes by providing a recycled water system serving the CRP area.
  - 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.

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 18, Development Code, includes regulations relevant to water resources in Concord as discussed below.

- **Chapter 18.170, Water Efficient Landscaping.** Chapter 18.170 of the City's Municipal Code establishes water-efficient landscaping standards to conserve water use on irrigation. The chapter adopts the California State Model Efficient Landscaping Ordinance by reference, and requires compliance with the NPDES and stormwater control plan.

Existing Conditions

Water Supply

Existing water distribution at the site includes five water storage tanks with a total capacity of 1.7 million gallons and five pump stations that are owned by the United States Department of the Navy.[7] Potable water is supplied to the project site by the Contra Costa Water District (CCWD). The CCWD serves approximately 500,000 customers within the over 140,000-acre area in eastern and central Contra Costa County.[8] The CCWD provides treated water to the cities of Concord, Clayton, Clyde, Pacheco, Port Costa, and parts of Martinez, Pleasant Hill, and Walnut Creek. The CCWD also sells wholesale treated water to the cities of Antioch, the Golden State Water Company in Bay Point, and a portion of Brentwood. The CCWD also stores water in two reservoirs within Contra Costa County, including Mallard Reservoir in Concord and Los Vaqueros Reservoir in Brentwood. The Mallard Reservoir is the closest reservoir to the project site, located approximately 4 miles northwest.

CCWD co-owns and operates the Randall-Bold Water Treatment Plant, which provides treated water to Antioch, Diablo Water District serving Oakley, and Brentwood as well as its Treated Water Service Area. The Randall-Bold Plant has a production capacity of 50 million gallons per day (mgd) and is designed for future expansion for up to 80 mgd.[9] The CCWD-operated Bollman Treatment Plant also supplies treated water to the project site. The Bollman Water Treatment Plant (Bollman Plant) is located in North Concord approximately 4 miles northwest of the project site and supplies potable water to the City, including the project site, as well as Pleasant Hill, Walnut Creek, Clayton, and Martinez. The Bollman Plant has a treatment capacity of 75 million mgd.[10] CCWD also sells untreated water to the cities of Antioch, Martinez, and Pittsburg, and the California Cities Water Company in Bay Point, industrial and irrigation customers. CCWD water intakes are located at Rock Slough and on Old River located in eastern Contra Costa County, and Mallard Slough located in central Contra Costa County. Water is conveyed from these intakes through the 48-mile Contra Costa Canal, which runs from Rock Slough to the Terminal Reservoir in Martinez.[11]

The major water supply source for the CCWD is the Sacramento-San Joaquin Delta under a contract with the United States Bureau of Reclamation's Central Valley Project (CVP) that runs to 2045. Under this contract, CCWD is provided up to 174 mgd, or 194,905 acre-feet per year (afy). As of 2015, annual retail

[7] City of Concord, 2009, Concord Community Reuse Project Draft Revised EIR, page 16-1.

[8] Quimby, Jeff. Director of Planning, Contra Costa Water District. Personal communication with Ashley James, PlaceWorks. May 8, 2018.

[9] Contra Costa Water District, Randall-Bold Water Treatment Plant, http://www.ccwater.com/documentcenter/view/992, accessed on March 14, 2018.

[10] Contra Costa Water District, Ralph D. Bollman Water Treatment Plant, www.ccwater.com/documentcenter/view/993, accessed on March 14, 2018.

[11] Contra Costa Water District, CCWD Facilities, http://www.ccwater.com/923/CCWD-Facilities, accessed on March 14, 2018.

water demand was 58,840 afy. Planned retail water supplies are 113,100 afy in the year 2040, which are sufficient to meet retail demand of 96,500 afy in average and multiple dry years through the year 2040. The CCWD also maintains contracts with various local districts and private entities, including the East Contra Costa Irrigation District, for a total annual supply of 22 mgd. The City of Concord supplements its CCWD supply with two wells within the Clayton Valley Groundwater Basin,[12] which are located at City Park and at Dover and Frontage Roads, totaling 1.34 mgd.[13] Groundwater levels in the basin have declined gradually; groundwater levels are generally lowest during the summer months and highest during the winter months. Water quality testing conducted on samples collected indicate groundwater meets drinking water standards.[14]

CCWD holds a Los Vaqueros water right that allows diversion of excess Delta Flows to Los Vaqueros Reservoir for storage. Surplus conditions occur in the Delta when there is more than enough water in the system to meet all regulatory constraints and demands. In wetter years, the Delta is in surplus conditions for much of the late winter through early summer. Surplus conditions are more limited in duration in drier years. CCWD also has a permit and a license that allow for total diversions of up to 23.9 mgd from the Delta at Mallard Slough. However, this water source often has high salinity levels and can only be used seasonally. Little or no water is available from Mallard Slough during dry periods.[15]

Recycled water would be provided by the Central Contra Costa Sanitary District (CCCSD) to the project site, although there is no existing service. The project site could be connected to the CCCSD recycled water distribution system either at the WWTP or at planned extensions of the recycled water distribution system. Recycled water may be used as a potable water alternative for landscape irrigation, decorative water features, and restroom facilities. The CCCSD has a recycled-water generation capacity of approximately 3 mgd, which has been allotted to current and future customers in the Concord/Pleasant Hill area. Additional generation capacity can be obtained with improvements to filtration and disinfection systems. CCCSD currently provides 200 million gallons (MG) per year to irrigation customers within the cities of Concord, Pleasant Hill, and Martinez, and 400 MG per year for plant use.[16]

Water Shortage Contingency Plans

The 2015 Urban Water Management Plan includes a Water Shortage Contingency Plan that addresses the water management practices required during a drought or other interruption of water supplies. The current M&I Water Shortage Policy provides for a minimum shortage allocation of 75 percent of adjusted historical use until irrigation allocations fall below 25 percent. In addition, Reclamation will deliver CVP water to CCWD at not less than a public health and safety water supply level, provided CVP water is available, if the Governor declares an emergency due to water shortage or if an emergency exists due to water shortage. CCWD's CVP allocation during a minimum public health and safety condition shall be sufficient to satisfy public health and safety requirements, which is estimated to be 60 percent of normal demand. To manage a water supply shortfall condition, four demand reduction stages have been defined.

[12] California Department of Water Resources, Groundwater Basin Boundary Assessment Tool, https://gis.water.ca.gov/app/bbat/, accessed on April 19, 2018.

[13] Contra Costa Water District, 2016, 2015 Urban Water Management Plan.

[14] Concord 2030 Urban Area General Plan, 2006, Draft Environmental Impact Report, page 3.13-2.

[15] Contra Costa Water District, 2016, 2015 Urban Water Management Plan, page 6-2.

[16] Contra Costa Water District, 2015, Treated Water Master Plan, page 2-17.

The total demand reduction goal for each stage increases from less than 10 percent to up to 50 percent of normal demand from Stage I to Stage IV. Stages I and II involve voluntary customer demand reduction measures and Stages III and IV impose mandatory measures including allotments and temporary drought charges.

Water Demand

Total normalized annual water use in 2007 for CCWD was approximately 13,943 MG, or 38.2 mgd. As of 2015, retail water demand was 52.53 mgd. CCWD estimates that average annual daily water use for the Concord Area Plan area as a whole will be approximately 4.8 mgd (or 5,370 afy).[17]

4.15.1.2 STANDARDS OF SIGNIFICANCE

The project would have a significant impact on water service if:

1. It would require or result in the relocation or construction of new or expanded water facilities the construction or relocation of which would cause significant environmental effects.
2. There were insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

4.15.1.3 IMPACT DISCUSSION

UTIL-1	**The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.**

As described above, the CCWD has a total of 100.97 mgd existing and projected water supplies available through 2040.

As described in Chapter 3, Project Description, of this Draft EIR, the proposed project would result in approximately 35 acres of developed recreation and operations facilities, including a visitor center, event and educational spaces, picnic areas, campsites, overlooks, and interpretive elements. The proposed project's projected water demand was calculated using the water demand factors generated by CalEEMOD estimates by land use type and similar park projects. The projected water demand for the proposed project is shown in Table 4.15-1 below.

Specifically, new water connections or upgrades would be required at all park facilities. Potable water would be provided at the Visitor Center Complex, the Diablo Center, the caretaker's residence, the Corporation Yard, and several staging and picnic areas. Non-potable water would be provided at the cattle corral and troughs. The existing supply lines and troughs would be utilized to the extent feasible and

[17] Contra Costa Water District, May 15, 2019, Concord Community Reuse Project – Water Demand Update, https://www.ccwater.com/DocumentCenter/View/7114/051519-8-Concord-Community-Reuse-Proj---Water-Demand-Update, accessed on October 15, 2019.

TABLE 4.15-1 PROPOSED PROJECT WATER DEMAND (GPY)

Land Use	Size	Unit	Water Demand Per Unit (gpy)	Indoor Water Use (gpy)	Outdoor Water Use	Total Water Demand (gpy)
City Park	2.46	Acre	1,191,481	0	2,931,043	2,931,044
Visitor Center, Offices, Corp. Yard	86,111	Sq.Ft.	320	17,106,586	10,484,681	27,591,267
Caretakers Residence	1,200	Sq.Ft.	89	65,154	41,075	106,229
Campsite	11	Campsite	36,500	0	401,500	401,500
Orchard	100	Tree	43,800	0	4,380,000	4,380,000
Total Water Demand				**17,171,740**	**18,238,299**	**35,410,041**

Notes: Demand calculations may not match totals due to rounding.
gpy = gallons per year
Source: CalEEMod 2016 3.2, PlaceWorks, 2018.

improved where necessary. Irrigation for landscaping would be provided at the Visitor Center Complex and other park facilities which could be supplied by recycled water.

As shown on Table 4.15-1, the projected water demand for the proposed project would be 35.4 million gallons per year (gpy), which translates to 97,014 gallons per day (0.097 mgd) or 109 afy. The General Plan 2030 includes policies (listed above) that require that an adequate amount of public utilities, including water supply, be available to serve existing and future needs of the city. The proposed project would also be required to comply with the standards for water efficient landscape design included in CMC Chapter 18.170 in an effort to reduce water consumption. To supplement these existing regulations, the proposed project would design all impervious surfaces to comply with C.3 requirements which will ultimately decrease water demand within the project site. Consistency with these regulations and additional water from groundwater wells would ensure that future development under the proposed project would reduce impacts to the CCWD's water supply.

Furthermore, growth associated with the proposed project would be within the projected growth for the City in accordance with the City's General Plan. The CCWD's UWMP projects water demands based on land use and demographic change associated with County and City General Plans. As such, the UWMP accounts for the water demand of the proposed project. The UWMP shows that there is enough supply to meet this projected demand.

The CCWD conducted an SB 610 water supply assessment of the Concord Community Reuse Plan in 2010 that confirmed the CCWD's has the capacity to serve the Concord Community Reuse Project. The CCWD has estimated that the entire Concord Community Reuse Project would use 4.8 mgd (5,370 afy) of water and has accounted for future water demand with buildout of the Concord Community Reuse Project

within its 2015 UWMP.[18] Accordingly, impacts to water supplies and entitlements from the proposed project would be *less than significant*.

Significance without Mitigation: *Less than significant.*

UTIL-2 The project would require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which would cause significant environmental effects.

The CCWD supplies water to the former CNWS. There are existing CCWD trunk lines at the main CNWS gate on Port Chicago Highway and near the existing Coast Guard Housing complex located on Olivera Road. Additionally, there are five water storage tanks within the former CNWS, with a total capacity for the storage tanks of 1.7 million gallons. The three largest tanks are located north of Bailey Road (one 1 million gallon tank and two 350,000 gallon tanks), while the two south of Bailey Road are smaller (1,500 and 5,000 gallon tanks), gravity tanks. There is one pump station (located in the Concord Reuse Project area, outside of the proposed Regional Park project site) and two wells that extract water for livestock. There are water troughs connected by underground pipes to the storage tanks, throughout project site, to provide drinking water for cattle. There are 13 troughs north of Bailey Road and 13 troughs in the Southern Area.

The Contra Costa Canal and Clayton Canal currently traverse the site. Both canals were built as part of the Delta Division of the CVP by the Bureau of Reclamation. The canals are managed by CCWD and the canal rights-of-way are owned by the Bureau of Reclamation. The Contra Costa Canal is currently in use, while use of the Clayton Canal has been discontinued. The proposed project would not affect the use of the canals.

Potable water supply would be required at the Visitor Center Complex, the Diablo Center, the caretaker's residence, the corporation yard, and at some staging and picnic areas. There are currently supply lines from the CCWD to the project site; however, new connections or upgrades would likely be necessary for all park facilities.

Water would also be necessary for the cattle corral and troughs. There is currently a network of supply lines and troughs through the project site which would be utilized as feasible, and improved where necessary, with consideration of overall water demand and the relocation of the corral.

The Visitor Center Complex and key facilities may include landscape areas that require irrigation for establishment. There is a potential opportunity for irrigation water to be supplied through a connection to the recycled water system planned for the EDC area.

The proposed project would result in the construction of new water facilities and the expansion of existing facilities to serve park facilities. Short-term construction-related environmental effects (e.g., noise, dust, traffic, erosion)would be subject to compliance with applicable local and regional regulations and

[18] Contra Costa Water District, May 15, 2019, Concord Community Reuse Project – Water Demand Update, https://www.ccwater.com/DocumentCenter/View/7114/051519-8-Concord-Community-Reuse-Proj---Water-Demand-Update.

standard conditions for new construction related to water lines, in addition to the CCWD's best management practices (BMPs) for construction projects. For example, these regulations and conditions would require the water line construction to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. Any new or expanded local water supply and distribution facilities would require permitting and review in accordance with CEQA, which would ensure environmental impacts are disclosed and mitigated to the extent feasible. However, despite the implementation of local and regional regulations and project policies, the potential remains that impacts from improvements to water facilities would be *significant*.

Significance without Mitigation: *Significant.*

Impact UTIL-2: Despite implementation of the proposed project policies, implementation of the proposed project would result in the need to construct additional facilities, the effects of which could be significant. Therefore, the impact would be *significant*.

> Mitigation Measure UTIL-2: The District shall work with the City's Local Reuse Authority and the Engineering Division to ensure that all required water distribution systems, water storage tanks, pump stations, and other facilities at the site to supply the demand for potable water are constructed to meet the CCWD's requirements and standards.

Significance with Mitigation: *Less than significant.*

4.15.1.4 CUMULATIVE IMPACTS

UTIL-3	**The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.**

The cumulative impact for water service is considered in the context of the growth from potential future development under the proposed project combined with the estimated growth in the CCWD service area. The CCWD supplies water to Clayton, Clyde, Pacheco, Port Costa, and parts of Martinez, Pleasant Hill, and Walnut Creek.

The proposed project would contribute to an increase in the cumulative demand for water. As described under Impact UTIL-1, the CCWD has determined that, in order to support the Concord Community Reuse Project, new facilities would be needed to provide water service. With the implementation of Mitigation Measure UTIL-1, the District would ensure that all required water distribution systems, water storage tanks, pump stations, and other facilities at the site to supply the demand for potable water are constructed to meet the CCWD's requirements and standards. With implementation of this mitigation measure, the proposed project would not contribute to cumulative impacts associated with the provision of water supply. The CCWD has concluded in its 2015 Urban Water Management Plan that CCWD's currently available and planned supplies, including future cumulative development outside of the project site under the Concord Community Reuse Project, are sufficient to meet the District's reliability goal and

estimated water demands during average, single-dry and multiple-dry year conditions during the next 25 years.[19] Therefore, cumulative impacts related to water service would be *less than significant.*

Significance without Mitigation: *Less than significant*.

4.15.2 WASTEWATER (SEWER)

This section describes the existing regulatory setting and conditions as well as potential impacts of the project with regard to wastewater collection and treatment facilities. Wastewater collection services in the city and project vicinity are provided by Contra Costa County Sanitary District (CCCSD). Wastewater treatment services are provided by CCCSD at the Bollman Waste Water Treatment Plant (Bollman Plant) in Martinez.

4.15.2.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

The federal government regulates wastewater treatment and planning through the Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), as well as through the National Pollutant Discharge Elimination System (NPDES) permit program, both of which are discussed in further detail below.

Clean Water Act

The Federal Water Pollution Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the nation. It is the primary federal law governing water pollution. Under the CWA, the EPA implements pollution control programs and sets wastewater standards. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable connections and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and

[19] Contra Costa Water District, 2016, 2015 Urban Water Management Plan.

provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

State Regulations

State Water Resources Control Board

On May 2, 2006 the SWRCB adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sanitary Sewer Master Plan. The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system.

The SWRCB has delegated authority to nine RWQCBs to enforce these requirements within their region. The San Francisco Bay RWQCB issues and enforces NPDES permits applicable to the WBSD wastewater collection system in Concord.

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts and enforces the Districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. The Act was amended in 1949 to allow the districts to also provide solid waste management and disposal services, including refuse transfer and resource recovery.

District Regulations

There are no District polices or regulations for wastewater treatment.

Local Regulations

City of Concord General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The following goal, principle, and policy are relevant to the proposed project:

- Goal PF-1: Availability of Adequate Public Utilities.
- Principle PF-1.2: Ensure Public Health and Safety by Providing Effective Wastewater Collection and Treatment.

- Policy PF-1.2.2: Reduce the need for sewer system improvements by requiring new development to incorporate water conservation measures.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes the following principles and policies applicable to the project site:

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

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 13, Public Utilities and Services, includes regulations relevant to sanitary wastewater resources in Concord as discussed below.

- Chapter 13.05, Sewer System. Section 13.05.100 provides requirements for sewer system connections, while Section 13.05.110 provides requirements to establish sewer services to premises outside of the City.

Existing Conditions

This section describes the environmental setting and potential impacts of the project with regard to wastewater collection and treatment facilities.

Sanitary Sewer

The City of Concord provides wastewater collection service both within Concord and Clayton. Wastewater from the city is treated by the CCCSD. Wastewater is conveyed to the CCCSD's interceptor system and Wastewater Treatment Plant in unincorporated Martinez. CCCSD treats 32 million gpd, serving 481,600 residents and 3,000 businesses within Contra Costa County.[20] Approximately 43 percent of the project site

[20] Central Contra Costa Sanitary District, Service Area Map, http://www.centralsan.org/index.cfm?navid=167, accessed on March 14, 2018.

is located within the CCCSD service area, which consists of the northeastern portion of the site. Another 43 percent of the site is not served by an existing sewer system but is entitled for service by the City of Concord and the CCCSD, which consists of the southwestern portion of the site.

The CCCSD is a special district that was established in 1946 to provide sewage collection, wastewater treatment, recycled water distribution and household hazardous waste collection services. The CCCSD serves approximately 456,200 people over an area of approximately 142 square miles, and includes the cities of Concord, Clayton, Walnut Creek, Pleasant Hill, Lafayette, Moraga, Orinda, Danville, portions of Martinez and San Ramon, and the adjacent unincorporated areas of Contra Costa County.[21]

The City pays a flow-proportional share of the WWTP operations and maintenance costs, as well as related CCCSD capital costs. The City also maintains a 20 Year Sewer Enterprise Plan, which provides a long-term forecast of anticipated revenues and expenditures of the Sewage Pump Station and sewage collection system, sewage treatment costs, City-related CCCSD capital improvements, and City-related capital improvements to the sewage infrastructure.[22]

Wastewater Collection

The City of Concord's wastewater collection system consists of approximately 502 miles of underground pipelines, 8,140 manholes, and three siphons that collect and convey wastewater from homes and businesses to the CCCSD conveyance system, which terminates at the CCCSD Wastewater Treatment Plant (WWTP). Wastewater flows from the maintenance service area to the Concord pump station site by gravity. The Concord Sewage Pump Station pumps an average of approximately 12 mgd to CCCSD, but is capable of pumping up to 40 mgd during peak wet weather flows (PWWF). An additional 8 mgd of wastewater can be conveyed to CCCSD from the Sewage Pump Station through two gravity-flow bypass lines. From the pump station site, wastewater flows west underneath the Walnut Creek Flood drainage channel, to where it connects to the CCCSD A-Line at the intersection of Galaxy Way and Meridian Park Boulevard, and then eventually flows to the CCCSD Wastewater Treatment Plant in unincorporated Martinez. After the City's pump station was decommissioned, CCCSD installed two gravity-flow connections to connect to the A-Line. Gravity-flow connections are located north of Marsh Drive to service the North Concord area and south of Concord Avenue.[23]

Aside from the North Concord system, the CCCSD collection system has sufficient capacity for existing and future dry weather flows, including peak daily flows. Capacity improvements are required only for correcting wet weather design event capacity deficiencies. The CCCSD Master Plan identifies current and projected capacity needs, and determined that seven miles of pipes are capacity deficient, and that the capacity of the 10 largest pump stations is adequate for a 10-year design event, except for one pipe. The 2017 CWMP recommended capacity improvements totaling 19,000 feet of collection system piping at a cost of $14 million.[24]

[21] City of Concord, 2009, Community Reuse Project Draft Revised EIR, page 16-7.
[22] City of Concord, 2012, Concord Reuse Project Area Plan, Book Two, page 66.
[23] City of Concord, 2009, Community Reuse Project Draft Revised EIR, page 16-6.
[24] Central Contra Costa Sanitary District, 2017, Sewer System Management Plan, page 8-4.

Wastewater Treatment

The CCCSD WWTP treats raw wastewater from its 144-square mile service area over 10 municipalities in Contra Costa County, and discharges to Suisun Bay.

The WWTP has a maximum treatment capacity of 90 mgd, and a permitted dry weather treatment capacity of 53.8 mgd as set by the District's National Pollution Discharge Elimination System (NPDES) permit approved by the San Francisco Bay Regional Water Quality Control Board. The average dry weather flow of the WWTP was 33.3 mgd as of 2017.[25] The maximum wet weather flow is 240 mgd, while excess sewer inflow above the effluent discharge limit of 53.8 mgd is diverted into a holding tank.

The WWTP currently collects and treats wastewater at either secondary or advanced levels. Wastewater treated at the secondary level is released into Suisun Bay. Advanced treatment occurs at the CCCSD Filter Plant, which includes chemical-assisted filtration and chlorine disinfection to produce recycled water suitable for nonpotable uses. The CCCSD stores excess recycled water at the 30-million gallon capacity WWTP storage basin.

4.15.2.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would have a significant impact on wastewater service if it would:

1. Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.
2. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4.15.2.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to wastewater collection and treatment facilities.

The proposed project does not include any uses that would typically have the potential to exceed wastewater treatment requirements, such as industrial land uses. The proposed Regional Park, recreational, and conservation open space uses that would result from the proposed project would not generate wastewater of different quality and treatability than that generated by current and proposed land uses in the CCCSD service area. The CCCSD WTP is currently in compliance with its NPDES permit requirements and the proposed project would not generate wastewater that would conflict with the

[25] Leavitt, Russell. Environmental Coordinator, Central Contra Costa Sanitary District. Personal communication with Ashley James, PlaceWorks. April 25, 2018.

CCCSD's ability to comply with treatment requirements. Therefore, the proposed project would result in a *less-than-significant* impact.

Significance without Mitigation: *Less than significant.*

UTIL-4 The project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which would cause significant environmental effects.

As described in the existing conditions section above, the CCCSD WTP is permitted to treat up to 53.8 mgd and has an average daily dry weather flow of 33.3 mgd. Accordingly, the CCCSD WTP has a remaining capacity to receive and process 20.5 mgd.[26] As shown on Table 4.15-1, the water demand for the proposed project was calculated based on the proposed land uses. It is unlikely that the wastewater generated by the increase in water demand for the proposed park and recreational land uses would be conveyed to the CCCSD WTP given that the proposed park and recreational areas would be primarily made up of pervious surfaces. However, for a conservative approach, this analysis assumes 90 percent of the net increase in water demand for the proposed project would become wastewater. Using this approach, the proposed project would generate approximately 0.04 mgd of wastewater.[27] This represents less than 1 percent (0.19 percent) of the remaining CCCSD WTP capacity.[28] While the increase in wastewater flows from the proposed project would add to the capacity demands on the CCCSD WTP, the amount of wastewater generated would not exceed the remaining capacity.

This EIR is a program-level document and does not evaluate the specific details associated with the installation of future utilities. Once utility and pipelines projects are planned and the details are known, additional environmental review may be required. Furthermore, the 2030 General Plan includes policies (listed above), such as Policy PF-1.2.2, which requires new development to incorporate water conservation measures in order to ensure effective wastewater collection and treatment. Therefore, the proposed project would result in a *less-than-significant* impact.

Significance without Mitigation: *Less than significant.*

UTIL-5 The project would not result in the determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As described under Impact UTIL-4, the WWTP has adequate capacity to serve the proposed project. Therefore, implementation of the proposed project is not expected to result in the determination by the

[26] 53.8 MGD permitted capacity – 33.3 average daily dry weather flow = 20.5 MGD remaining capacity.

[27] Assumes 90 percent of indoor water demand at park facilities is attributable to wastewater demand. (17,171,740 gpy of indoor water use x 0.90 = 15,454,566 gpy; 15,454,566 gpy / 365 days / 1,000,000 = 0.04 mgd)

[28] (0.04 wastewater generated/20.5 MGD remaining capacity) x 100 = 0.19 percent of the remaining capacity.

CCCSD that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant*.

4.15.2.4 CUMULATIVE IMPACTS

UTIL-6	**The project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.**

The cumulative impact for wastewater is considered in the context of the growth from potential future development under the proposed project combined with the estimated growth in the WWTP service area. The WWTP serves Concord, Clayton, Walnut Creek, Pleasant Hill, Lafayette, Moraga, Orinda, Danville, portions of Martinez and San Ramon, and the adjacent unincorporated areas of Contra Costa County.

The proposed project would contribute to an increase in the cumulative demand for wastewater. As described under Impact UTIL-4, the proposed project would generate wastewater that represents less than 1 percent (0.19 percent) of the remaining CCCSD WTP capacity. Therefore, the project is not expected to contribute to cumulative impacts associated with wastewater treatment services. Accordingly, cumulative impacts to sanitary wastewater service would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.15.3 SOLID WASTE

4.15.3.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989, AB 939, subsequently amended by SB 1016, set a requirement for cities and counties throughout California to divert 50 percent of all solid waste from landfills by January 1, 2000 though source reduction, recycling, and composting. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. The California Integrated Waste Management Board was replaced by the California Department of Resources Recycling and Recovery (CalRecycle) in 2010. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an

annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

In 2011, AB 341 was passed that sets a State policy goal of not less than 75 percent of solid waste that is generated to be source reduced, recycled, or composted by the year 2020.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires areas in development projects to be set aside for collecting and loading recyclable materials. This Act required CalRecycle to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, providing for adequate areas in development projects for the collection and loading of recyclable materials.

Mandatory Commercial Organics Recycling

In October 2014, Governor Brown signed AB 1826[29] requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that, on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Greenhouse gas (GHG) emissions result from the decomposition of organic wastes in landfills. Mandatory recycling of organic waste is aimed at helping achieve California's aggressive recycling and GHG emission goals.

California Green Building Standards Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, California Code of Regulations [CCR], known as "CALGreen") was adopted as part of the California Building Standards Code to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California, unless otherwise indicated in the code. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. This Code requires that project applicants prepare a Waste Management Plan (WMP), for on-site sorting or construction debris, which is submitted to the City of Concord for approval.

The WMP is required to include the following:

- Identify the materials to be diverted from disposal by recycling, reuse on the Project or salvage for future use or sale.

[29] CalRecycle, 2016, Mandatory Commercial Organics Recycling, http://www.calrecycle.ca.gov/recycle/commercial/organics/, accessed on April 30, 2018.

- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected can be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both.

District Regulations

East Bay Regional Park District Master Plan (2013)

There are no polices or goals that are applicable to solid waste in the District's Master Plan.

East Bay Regional Park District Ordinance 38

District Ordinance 38 contains three applicable sections regulating solid waste:

- Section 504: Littering Waters. Any person who violates the littering laws of this State with respect to littering or dumping waste material in water or on shore may be arrested or issued a citation pursuant to Penal Code Section 374e. Penal Code Section 374e states: Every person who litters or causes to be littered, or dumps, or cause to be dumped, any waste matter into any bay, lagoon, channel, river, creek, slough, canal, lake or reservoir, or other stream or body of water, or upon a bay, beach or shore within 150 feet of the high water mark of any such water, is guilty of a misdemeanor.
- Section 900.2: Littering or Dumping. No person shall litter or cause to be littered any District parkland, or cause to be dumped any waste matter in or upon any District parkland. It shall be unlawful to place, deposit, or dump, or cause to be placed, deposited or dumped, any rocks or dirt in or upon any District parkland without the prior written consent of the General Manager. Any person littering or dumping any waste material upon District parkland shall be arrested or issued a citation pursuant to Penal Code Sections 374.4 and 374.3.
- Section 900.3: Household or Industrial Materials. No person, firm, or business shall bring household or industrial garbage, trash or waste materials into any lands owned or operated by the District for the purpose of placing such materials into any trash can, dumpster, or receptacle provided by the District.

Local Regulations

City of Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The following goal, principle, and policies are relevant to the proposed project:

- Goal PF-1: Availability of Adequate Public Utilities.
- Principle PF-1.5: Continue Solid Waste Reduction and Recycling Efforts.
    - Policy PF-1.5.1: Expand reduction and recycling efforts within the City to divert increasingly larger portions of the waste stream from local landfills.

- Policy PF-1.5.2: Promote the importance of recycling industrial and construction wastes.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes the following principles and policies applicable to the proposed project:

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

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 8, Health and Safety, includes regulations relevant to solid waste resources in Concord as discussed below.

- Chapter 8.10, Sanitation, provides regulations for disposal of garbage or refuse.
- Chapter 8.20, Solid Waste, describes the responsibilities and requirements for owners, occupants and service providers regarding solid waste collection, storage, recycling and disposal. The chapter provides regulations that govern collection and disposal, source reduction and recycling, and construction and demolition waste recycling.

City of Concord Climate Change Action Plan

The City's 2013 Climate Action Plan (CAP) was developed to reduce GHG emissions by implementing various strategies and programs at the local level.[30] The CAP strategies related to solid waste include 1) reducing business and multi-family waste, 2) anticipating the State's 2020 requirement of 75 percent diversion for business and multi-family waste sources, 3) striving for 75 percent reduction for single-family household waste by 2020 and mandate such reduction by 2030, and 4) requiring 75 percent reduction in municipal waste by 2020. The CAP reports that 9 percent of Concord GHG emissions are attributable to solid waste.

Existing Conditions

Mount Diablo Resource Recovery[31] provides solid waste collection and conveyance service for Concord. Collected recyclables, organics, and garbage are conveyed to the Mt. Diablo Resource Recovery Park in Pittsburg for processing and shipment. The Mt. Diablo Resource Recovery Park serves the cities and

[30] City of Concord, *Climate Change Action Plan,* 2013, http://www.cityofconcord.org/pdf/dept/planning/climate.pdf, accessed on March 21, 2018.

[31] Formerly known as Concord Disposal Service (CDS).

communities of Concord, Pittsburg, Bay Point, Antioch, Oakley, Rio Vista, Discovery Bay, Byron, Knightsen, Bethel Island, and Brentwood.

The City of Pittsburg approved a Use Permit and Design Review of Plans for Mt. Diablo Resource Recovery Park in May 2015. Under this project, the existing Mt. Diablo Recycling Facility and the Recycling Center and Transfer Station were expanded and reorganized to become the Mt. Diablo Resource Recovery Park.[32] In 2016, Concord's per capita solid waste disposal rate for employees in 2016 was 10.7 PPD; the CalRecycle per capita disposal rate target for employees is 12.1 PPD. In 2016, Concord's per capita disposal rate for residents was 4.3 PPD; the CalRecycle per capita disposal rate target for residents is 5.7 PPD.[33]

CalRecycle[34] reports that in 2016 a total of 99,980 tons of solid waste from Concord was disposed at 18 different landfills. Eighty-eight percent (88.3 percent; 88,333 tons) of Concord's solid waste in 2016 went to the Keller Canyon Landfill. The three landfills receiving the second, third and fourth largest amount of solid waste from Concord in 2016 were:

- Potrero Hills Landfill (5,940 tons)
- Acme Landfill (4,146 tons)
- Recology Hay Road Landfill (769 tons)

Keller Canyon Landfill

The Keller Canyon Landfill in unincorporated Contra Costa County to the east of the project site. It has a permitted throughput capacity of 3,500 tons per days. Its remaining capacity is 63,408,410 cubic yards. It has an estimated "cease operation date" of December 31, 2030.[35]

Potrero Hills Landfill

The Potrero Hills Landfill is located in Suisun City, California. It has a permitted throughput capacity of 4,330 tons per day. Its remaining permitted capacity is 13,872,000 cubic yards. It has an estimated "cease operation date" of February 14, 2048.[36]

[32] City of Pittsburg, http://www.ci.pittsburg.ca.us/index.aspx?page=828, accessed on May 25, 2018.

[33] CalRecycle, http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx, accessed on May 25, 2018.

[34] CalRecycle Jurisdiction Disposal by Facility Report, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2016%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d100, accessed on March 21, 2018.

[35] CalRecycle Jurisdiction Disposal by Facility Report, http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0032/Detail/, accessed on May 25, 2018.

[36] CalRecycle Jurisdiction Disposal by Facility Report, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2016%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d100, accessed on March 21, 2018.

Acme Landfill

The Acme Landfill is located in Martinez, California. It has a permitted throughput capacity of 1,500 tons per day. Its remaining permitted capacity is 506,590 cubic yards. It has an estimated "cease operation date" of July 1, 2021.[37]

Recology Hay Road Landfill

The Recology Hay Road Landfill is located in Vacaville, California. It has a permitted throughput capacity of 2,400 tons per day. Its remaining permitted capacity is 30,433,000 cubic yards. It has an estimated "cease operation date" of January 1, 2077.[38]

4.15.3.2 STANDARDS OF SIGNIFICANCE

The project would have a significant impact on solid waste service if:

1. The project would generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
2. The project would be out of compliance with federal, State, and local management and reduction statues and regulations related to solid waste.

4.15.3.3 IMPACT DISCUSSION

UTIL-7	**The project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.**

As described above, the solid waste produced in Concord is collected by Mount Diablo Resource Recovery and conveyed to the Mt. Diablo Resource Recovery Park for processing. Once processed the waste is transported to the Keller Canyon Landfill, Potrero Hills Landfill, Acme Landfill, or Recology Hay Road Landfill. As described in Chapter 3, Project Description, of this Draft EIR, the new development potential under the proposed project in the project site at buildout could generate approximately 560,000 annual visitors (with 1,000 visitors expected on a typical weekday and 2,700 visitors expected on a typical weekend day), and 52 FTE employees. For the purposes of this analysis, solid waste generation is assumed to be the 2016 CalEEMod 3.2 default rates by land use type (see Appendix B of this EIR). Accordingly, the total estimated solid waste generation for the proposed project would be 517 PPD or 0.26 tons per day,[39] which represents less than 1 percent of the daily permitted capacity for Keller Canyon Landfill,[40] Potrero

[37] CalRecycle, Acme Landfill (07-AA-002), http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0002/Detail/, accessed on March 21, 2018.

[38] CalRecycle, "Recology Hay Road Landfill (48-AA-0002)"http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0002/Detail/ , accessed on March 21, 2018.

[39] (517 PPD x 0.0005 tons) = 0.26 tons of waste per day.

[40] (0.26 tons of waste per day divided by 3,500 permitted daily capacity) x 100 = 0.007 percent of the daily permitted capacity.

Hills Landfill,[41] Acme Landfill,[42] and Recology Hay Road Landfill.[43] In addition, the proposed project would be required to comply with State and local regulations that require the reduction of solid waste production and promote recycling and composting of materials listed above. The General Plan 2030 also includes policies that ensure the City's solid waste disposal needs are met, while maximizing opportunities for waste reduction and recycling. Accordingly, buildout of the proposed project would have a *less-than-significant* impact with regard to daily capacity at each of the landfill facilities.

Significance without Mitigation: *Less than significant.*

UTIL-8 The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

As described above under Section 4.15.3.1, Regulatory Framework, California's Integrated Waste Management Act of 1989, AB 939, subsequently amended by SB 1016, set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000 though source reduction, recycling, and composting. The City of Concord has several waste reduction and recycling programs in place to divert the amount of waste that is transported to other landfills. Curb-side recycling efforts in multi-family and commercial projects, as well as single-family neighborhoods, contribute to increased waste diversion.[44] In addition, the City provides education related to recycling, and programs for grass, construction, and demolition and household hazardous waste recycling. General Plan 2030 principles and policies actively encourage residential and commercial waste reduction and recycling programs to divert increasingly larger portions of the waste stream from local landfills. The policies also promote the importance of recycling construction wastes. Potential future development under the proposed project would be required to comply with existing regulations, including the General Plan 2030 policies, that have been prepared to minimize impacts related to adequate waste collection and disposal facilities. All staging areas would provide trash and recycling receptacles in compliance with AB 341. Storage and collection of recyclable materials separate from trash would also comply with requirements of AB 939. All solid waste and refuse would be collected, stored, recycled, and disposed in accordance with the City's municipal code Chapters 8.10 and 8.20. Furthermore, operation of the park would include recycling of green waste in accordance with AB 1826. At least 50 percent of construction and demolition debris would be recycled and/or salvaged for reuse in compliance with CALGreen Section 5.408. The project applicants would prepare a WMP for on-site sorting or construction debris, which is submitted to the City of Concord for approval.

Therefore, continued compliance with State and local policies, would ensure that impacts are less than significant with regards to solid waste and the impact would be *less than significant.*

[41] 0.26 tons of waste per day divided by 4,330 permitted daily capacity) x 100 = 0.006 percent of the daily permitted capacity.

[42] 0.26 tons of waste per day divided by 1,500 permitted daily capacity) x 100 = 0.017 percent of the daily permitted capacity.

[43] 0.26 tons of waste per day divided by 2,400 permitted daily capacity) x 100 = 0.01 percent of the daily permitted capacity.

[44] City of Concord, City Services, Recycling, http://www.cityofconcord.org/page.asp?pid=1009, accessed on April 24, 2018.

Significance without Mitigation: *Less than significant.*

4.15.3.4 CUMULATIVE IMPACTS

UTIL-9	**The project, in combination with past, present, and reasonably foreseeable development, would not result in significant impacts with respect to solid waste.**

The cumulative impact for solid waste is considered in the context of the growth from potential future development under the proposed project combined with the estimated growth in the areas served by the Keller Canyon Landfill, Potrero Hills Landfill, Acme Landfill, and Recology Hay Road Landfill.

While the proposed project would contribute to an increase in the cumulative demand for solid waste disposal, as described under Impact UTIL-7, the increase represents less than 1 percent of the remaining at the landfills that serve Concord. As described above, the proposed project would be served by a landfill with permitted capacity and would comply with federal, State, and local statutes and regulations related to solid waste. Accordingly, the proposed project cumulative impacts to solid waste would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.15.4 STORMWATER INFRASTRUCTURE

This section outlines the regulatory setting, describes environmental setting, and discusses potential impacts of the project with regard to stormwater infrastructure.

4.15.4.1 ENVIRONMENTAL SETTING

Regulatory Setting

Federal Regulations

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the United States including discharges from municipal separate storm sewer systems (MS4s).

State Regulations

State Water Resources Control Board and Regional Water Quality Control Board

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs.

Statewide General Permit

The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0005-DWQ) for Small Municipal Separate Storm Sewer System (MS4s) operators to efficiently regulate stormwater discharges under a single permit.[45] Permittees must develop and implement a Stormwater Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable.

SWRCB Construction General Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (2009-0009-DWQ, which was amended by 2010-0014-DWQ in 2010).[46] Under the terms of the permit, applicants must file a complete and accurate Notice of Intent with the SWRCB. Applicants must also demonstrate conformance with applicable BMPs and prepare a Storm Water Pollution Prevention Plan (SWPPP), containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, discharge points, and general topography both before and after construction, as well as drainage patterns across the project site. The operative Construction General Permit requires stormwater pollution prevention controls, including the imposition of minimum BMPs and the development and implementation of Rain Event Action Plans for certain sites.

NPDES Municipal Regional Stormwater Permit

The project is covered under the regulations of the new Municipal Regional Stormwater NPDES Permit (MRP) issued by the RWQCB. This NPDES Permit falls under Order R2-2015-0049, adopted on November 19, 2015.[47] The municipalities have to require both private and public projects to implement post-construct stormwater controls as part of their obligations under Provision C.3 of the MRP. Above and beyond post-construction stormwater management practices, the permit also requires municipalities to adopt trash and street sweeping programs to regulate discharges into storm drain systems or directly into waters of the United States.

Local Regulations

Contra Costa County Flood Control and Water Conservation District

The Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) maintains surface water bodies within the county. The District ensures that adequate capacity exists to manage stormwater runoff from development, and requires that storm channels be designed to be capable of handling a 25-year storm event. Stormwater discharge in Concord is regulated by the Contra Costa Clean Water Program (CCCWP) in accordance with a NPDES permit issued by the SWRCB and overseen jointly by the

[45] State Water Resources Control Board, *Order No. 2003-0005-DWQ*, https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003_0005dwq.pdf, accessed on March 13, 2018.

[46] State Water Resources Control Board, *Order No. 2010-0014-DWQ*, http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_factsheet.pdf, accessed on March 13, 2018.

[47] California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit, Order R2-2015-0049 NPDES Permit No. CAS612008, November 19, 2015, http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf, accessed on May 23, 2018.

San Francisco Bay and Central Valley RWQCB's. The CCCWP is administered by the District and is intended to reduce the discharge of pollutants in stormwater to the maximum extent possible and to effectively prohibit non-stormwater discharges into municipal storm drain systems and waterways. The CCCWP includes a number of management practices and control techniques to reduce discharge of pollutants and addresses municipal government activities, new development controls, and stormwater treatment.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The following goals, principles, and policies are relevant to the proposed project:

- Goal PF-1: Availability of Adequate Public Utilities.
- Principle PF-1.1: Provide a Safe and Reliable Water Supply.
  - Policy PF-1.1.3: Coordinate with the San Francisco Bay Regional Water Quality Control Board to provide for the implementation of Storm Water Management Programs intended to protect receiving water sources from pollutants.
- Principle PF-1.3: Protect the Community from Adverse Impacts of Water Runoff.
  - Policy PF-1.3.1: Require new development to provide any needed storm drains that are not part of the City's master storm drain system and to incorporate features into site improvement plans to minimize surface runoff.
  - Policy PF-1.3.5: Ensure that new development contributes needed drainage improvements in proportion to a project's impacts, to assure an equitable distribution of costs to construct and maintain the City's master storm drainage system.
- Goal POS-3: Well-Planned Natural Resource Conservation.
- Principle POS-3.1: Preserve and Protect Water Quality.
  - Policy POS-3.1.1: Enhance and maintain the natural values of creeks and major drainage ways.
  - Policy POS-3.1.3: Require adequate building setbacks for development adjacent to creek banks and major drainage ways to protect neighboring properties from erosion and flooding.
  - Policy POS-3.1.5: Provide access easements for creek maintenance purposes and public access to creekside amenities, where consistent with habitat protection objectives and resource agency regulations.
  - Policy POS-3.1.6: To the extent practical, preserve creeks in a natural condition while providing for the need to convey storm water.
- Goal S-4: Flood Protection
- Principle S-4.1: Protect the community from risks to lives and property posed by flooding and stormwater runoff.
  - Policy S-4.1.1: Manage development to ensure compliance with the City's Flood Management Ordinance and the City's Stormwater Management and Discharge Control Ordinance.

- Policy S-4.1.4: Design storm drainage facilities to meet the Contra Costa County Flood Control and Water Conservation District standards and ensure adequate and safe flow to minimize flooding.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes the following principle and policies applicable to the proposed project:

- Principle U-5: Protect the CRP area 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.
  - Policy U-5.3: Stormwater Best Management Practice. 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.

City of Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 16, Environment, and Title 18, Development Code, include regulations relevant to stormwater infrastructure in Concord as discussed below.

- Chapter 16.05, Stormwater Management and Discharge Control. Chapter 16.05 of the Municipal Code aims to protect and enhance the water quality of the City's watercourses and establishes regulations and restrictions related to pollutants in storm water discharges and non-storm water discharges, including spills, dumping, or disposal of materials. To reduce pollutants in stormwater, the City requires that new development or redevelopment projects use BMPs, such as biological treatments, detentions, and rain gardens.
- Chapter 18.175, Stormwater Management. Chapter 18.175 of the Municipal Code requires development projects that exceed the stormwater treatment threshold of the NPDES permit submit a stormwater control plan that complies with the Contra Costa Clean Water Program Stormwater C.3 Guidebook.

Existing Conditions

Watershed and Creek Systems

The project site is located within the Mount Diablo Creek watershed, which encompasses 23,800 acres and drains the northwest flank of Mount Diablo. The Mount Diablo Creek watershed drains 77 percent of the site. The Concord watershed (a tributary to the Walnut Creek watershed) drains 22 percent of the western portion of the site. The remaining 1 percent of the site is drained by the Willow Creek watershed along the crest of the Los Medanos Hills to the north. Surface water consists of ephemeral tributaries of Diablo Creek that drain the Los Medanos Hills along the eastern portion of the project site, stock ponds, watering holes and seepage ponds, and hilltop ponds. Groundwater on-site is located in the low-lying valley at the western edge of the project site.

West of Los Medanos Hills, surface water on the project site flows east to west from higher to lower elevations through Mount Diablo Creek. On the eastern slope of Los Medanos Hills, water flows west to east to Willow Creek. In addition to creeks, there are two canals that cross the project site that are located within the Bureau of Reclamation right-of-way: the Contra Costa Canal and the Clayton Canal. The Contra Costa Canal originates in Rock Slough near Oakley and terminates 48 miles downstream at the Martinez Reservoir. The Contra Costa Canal is leased, maintained and monitored by the CCWD, and is operational except for the winter months. Approximately 3.5 miles of the 4.85-mile Clayton Canal occupies 38 acres of the project site; it has not been operational for the past 20 years.

Mount Diablo Creek is also known as Seal Creek from the point where it enters the site to the mouth at Suisun Bay. The headwaters of the Creek are located at the face of Mount Diablo, and water flows north-northwest through the watershed to wetlands on the south border of Suisun Bay.[48] Past ranching and farming practices and the existing network of roads, rail lines, and magazines developed as part of the CNWS site has substantially altered run-off, drainage, and vegetation patterns in the watershed. The upper watershed includes the area upstream of the site and the lower watershed includes the area downstream from the site. Riparian vegetation around Mount Diablo Creek consists primarily of buckeye, mule fat, grasses, and cottonwoods; there is limited development adjacent to the riparian corridor.

Storm Drain System

The City of Concord Public Works Maintenance Services Department operates and maintains the storm drain system that consists of 229 miles of storm drain pipes, 1,140 manholes and approximately 6,000 catch basins. Stormwater drains into 11 miles of creeks and drainage channels, which include Mount Diablo Creek, Galindo Creek, Pine Creek and their tributaries, and/or the Walnut Creek Flood Control Channel, which is maintained by the Contra Costa County Flood Control and Water Conservation District (CCCFC&WCD). The majority of runoff within the project site drains to Mount Diablo Creek due to site topography. Mount Diablo Creek and Holbrook Channel, also known as the Clayton Valley Drain, are the major surface drainage features within the project site; Clayton Canal and Contra Costa Canal are also

[48] Environmental Science Associates, 2015, Hydrology and Water Quality Study for the Concord Hills Regional Park Land Use Plan, included in Appendix B of the proposed Land Use Plan.

within the site and are able to convey stormwater. There is no existing capacity analysis report of the City's storm drainage system.

The CCCFC&WCD maintains and manages surface water bodies within its service area, which includes Mount Diablo Creek and the Holbrook Channel. The CCCFC&WCD ensure that adequate capacity exists to manage stormwater runoff generated by development and requires storm channels to have adequate capacity for a 25-year storm event. Storm drainage facilities must meet CCCFC&WCD standards to ensure adequate and safe flow, thus minimizing the potential for flooding. The City requires that all development that creates, adds, or replaces existing impervious surface that meets or exceeds that NPDES stormwater treatment threshold create and implement a stormwater control plan in accordance with the Contra Costa Clean Water Program Stormwater C.3 Guidebook.[49]

Flood Hazard Areas

Although the majority of the former CNWS is located on upland slopes, which would lessen the probability of flooding, the low-lying areas of the former CNWS near Suisun Bay and the Contra Costa Canal may be susceptible to flooding. Within the project site, the southwest border of the project site north of Bailey Road is located within a 100-year flood zone.

4.15.4.2 STANDARD OF SIGNIFICANCE

The project would have a significant stormwater-related impact if it would:

1. Require or result in the relocation or construction of new or expanded storm water drainage facilities the construction or relocation of which would cause significant environmental effects.

4.15.4.3 IMPACT DISCUSSION

UTIL-10	**The proposed project would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which would cause significant environmental effects.**

Under existing conditions, the City's storm drainage systems are capable of containing the runoff from a 25-year storm event. In general, an increase in impervious surfaces with new development could result in an increase in stormwater runoff that could exceed the capacity of existing or planned stormwater drainage systems. In addition, changes in existing drainage patterns could increase the rate and/or amount of stormwater runoff.

While precise building plans have not yet been developed, it is estimated that development of the proposed Regional Park would install approximately 16.5 acres of new development, most of which would be impervious area, and replace 40.5 acres of existing impervious area in certain areas of the site, including buildings (such as the Visitor Center and Native Plant Nursery structures) and paved roads and

[49] Concord Municipal Code, Chapter 18.175, Stormwater Management.

trails. In other areas, impervious surfaces (such as roads) would be removed.[50] Overall the project would reduce the total impervious area on the site by approximately 41 acres or 33 percent.[51]

Implementation of Low-Impact Development (LID) guidelines and engineering review of drainage calculations and development plans by the Concord Public Works Maintenance Services Department would ensure that there are no significant increases in peak flow rates or runoff volumes. City General Plan Policy PF-1.3.1 requires new development to provide any needed storm drains and to minimize surface runoff. Further, the Municipal Code requires new development to submit a stormwater control plan that reduces stormwater pollutant discharges. Those projects that exceed the NPDES stormwater treatment threshold must submit a plan that complies with the County's C.3 Guidelines.

All new and redevelopment projects that create or replace 10,000 square feet or more of impervious space are considered regulated projects and would be required to comply with the C.3 provisions of the MRP requirements and implement various post-construction BMPs and LID features that include site design, stormwater treatment, runoff retention, and peak flow management. These measures would minimize the amount of stormwater runoff from the new sites.

Any increase in peak flow rates shall be handled on-site by retention to treat excess flow for the 25-year storm event. Any retained on-site stormwater would eventually be routed to existing storm drains. Future development under the proposed project, as part of the City's approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to stormwater drainage facilities. Any future development on the project site, throughout the 2050 buildout horizon, would be required to meet minimum setback requirements near the Clayton Canal and Mount Diablo Creek bank and would employ green building best practices. In addition, the Grading and Drainage Plans for each future project would be reviewed by the City to ensure that on-site drainage, LID features, and retention basins are adequate to prevent on-site or off-site flooding. As a result of implementation of these measures, including compliance with the C.3 provisions of the CMC, development associated with implementation of the proposed project would not require significant expansions of the existing stormwater drainage infrastructure. Therefore, the proposed project would result in a *less-than-significant* impact with respect to future development runoff.

[50] Existing developed areas includes approximately 125 acres of roadways, parking lots, and asphalt aprons surrounding buildings. Also included are a wide variety of structures, including buildings and magazines. This relatively broad category is collectively used to describe any land surface on site that consists primarily of steel, asphalt, or concrete. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. During construction by the Navy, the tops of the magazines on the site were covered with soil, and a plant community similar in structure and composition to the adjacent grasslands has developed over the years. Accordingly, the top of the magazine structures has been included in the California annual grassland vegetation community and are not included in this number.

[51] Based on preliminary site plan estimates, the project site would contain approximately 84 acres of developed park uses once complete. This includes the following existing infrastructure areas that would not be converted to restoration areas: paved roads, rail, unpaved roads, and magazines/building sites. This number also includes 16.5 acres of new development. This is a conservative (worst-case) scenario as it includes unpaved roads, which could be considered as permeable areas, and it does not account for the earthen/grassy portions of magazines. Excluding the unpaved roads, the developed park uses would be 70.2 acres.

Significance without Mitigation: *Less than significant*.

4.15.4.4 CUMULATIVE IMPACTS

UTIL-11	**The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.**

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the Mount Diablo Creek Watershed, which encompasses the entire site.

As discussed previously, new development and redevelopment under the proposed project would require conformance with State and local policies that would reduce stormwater utility impacts to less-than-significant levels. When applicable, any additional new development within the project site would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the City of Concord's General Plan, design guidelines, zoning regulations, and other applicable City requirements that reduce impacts related to stormwater hydrology. More specifically, potential changes related to stormwater flows, drainage, impervious surfaces, and flooding would be minimized via the implementation of stormwater control measures, retention, infiltration, LID measures, and review by the City's Public Works Maintenance Services Department to integrate measures to reduce potential flooding impacts. Per the City General Plan Policy PF 1.3.1 all new development would provide any needed storm drains to minimize surface runoff. Furthermore, the Municipal Code would require all new development to submit a stormwater control plan that reduces stormwater pollutant discharges. Any projects that exceed the NPDES stormwater treatment threshold would submit a plan that complies with the County's C.3 Guidelines. Furthermore, all new and redevelopment projects that create or replace 10,000 square feet or more of impervious space would comply with the C.3 provisions of the MRP requirements. In addition, all future projects would submit Grading and Drainage Plans to the City for review to ensure that on-site drainage and LID features are adequate to prevent on-site or off-site flooding. All cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and to be consistent with the General Plan, as well as numerous water quality regulations that control construction related and operational discharge of stormwater. Therefore, cumulative impacts would be *less than significant.*

Significance without Mitigation: *Less than significant.*

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4.16 WILDFIRE

This chapter the regulatory framework and existing conditions on the project site related to wildfire and analyzes the potential for the project to result in wildfire impacts.

4.16.1 ENVIRONMENTAL SETTING

4.16.1.1 REGULATORY FRAMEWORK

This section summarizes key State, District, and local regulations and programs related to wildfire which the District considered in evaluating the potential for the proposed Land Use Plan to have a significant effect related to wildfire. There are no relevant federal regulations applicable to the proposed project.

State Regulations

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2016 CBC went into effect in January 2017; the 2019 CBC will take effect in 2020. The City of Concord adopted the CBC into its Municipal Code (see below). Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

Chapter 7A of the CBC, Materials and Methods for Exterior Wildfire Exposure, prescribes building materials and construction methods for new buildings in a Fire Hazard Severity Zone. Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures.

California Fire Code

The California Fire Code (CFC) is Part 9 of Title 24. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, fire hydrant locations and distribution, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The City of Concord adopted the CFC into its Municipal Code (see below).

Chapter 49 of the CFC, Requirements for Wildland-Urban Interface Fire Areas, prescribes construction materials and methods in fire hazard severity zones; requirements generally parallel CBC Chapter 7A. The CFC is updated on a three-year cycle; the current 2016 CFC took effect in January 2017; the 2019 CFC will take effect in 2020.

California Public Resources Code

California Public Resources Code (PRC) Sections 4291 *et seq*. requires that—for buildings on or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land covered in flammable materials—brush, flammable vegetation, or combustible growth within 100 feet of buildings be removed.

California PRC Section 4290 requires the State Board of Forestry and Fire Protection to adopt regulations implementing minimum fire safety standards for defensible space that would be applicable to lands within the State Responsibility Area (SRA) and lands within very high fire hazard severity zones.

State Responsibility Area Fire Safe Regulations

SRA Fire Safe Regulations outline basic wildland fire protection standards and can decrease the risk of wildfire events in the wildland interface. SRA Fire Safe Regulations do not supersede local regulations that equal or exceed minimum State regulations. The State statute for wildfire protection is PRC Section 4290. Requirements in the PRC include information on:

- Road standards for fire equipment access.
- Standards for signs identifying streets, roads, and buildings.
- Minimum private water supply reserves for emergency fire use.
- Fuel breaks and greenbelts.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. The Office of the State Fire Marshal provides for fire prevention by enforcing fire-related laws in State-owned or operated buildings; investigating arson fires in California; licensing those who inspect and service fire protection systems; approving fireworks for use in California; regulating the use of chemical flame retardants; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and State government emergency response agencies. The California Fire Plan is the State's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CAL FIRE.

Governor's Office of Emergency Services

The Governor's Office of Emergency Services (Cal OES) was established on January 1, 2009—created by Assembly Bill (AB) 38, which merged the duties, powers, purposes, and responsibilities of the former Cal OES with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall State agency response to major disasters in support of local government. Cal OES is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, manmade, emergencies, and disasters—and for assisting local governments in their emergency preparedness,

response, recovery, and hazard mitigation efforts. In 2018, Cal OES completed a State Hazard Mitigation Plan, which designated fire hazard severity zones and wildland-urban interface areas.[1]

2018 Strategic Fire Plan for California

CAL FIRE produced the 2018 *Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate for the effects of fire on California's natural and built environments.[2] The 2018 *Strategic Fire Plan for California*, focuses on fire prevention and suppression activities to protect lives, property, and ecosystems; in addition to providing natural resource management to maintain to State forests as a resilient carbon sink to meet California's climate change goals. A key component of the 2018 *Strategic Fire Plan for California* is the collaboration between communities to ensure fire suppression and natural resource management is successful.[3]

California Public Utilities Commission

In 2007, wildfires in southern California were ignited by overhead utility power lines and aerial communication facilities near power lines. In response, the California Public Utilities Commission (CPUC) began considering and adopting regulations to protect the public from fire hazards due to overhead power lines and nearby aerial communication facilities. The CPUC publishes a Fire-Threat Map under Rulemaking 15-05-006, following procedures in Decision 17-01-009, revised by Decision 17-06-024, which adopted a work plan for the development of a utility High Fire-Threat District where enhanced fire safety regulations in Decision 17-12-024 apply.[4] The fire regulations require electric utilities to:[5]

- Prioritize the correction of safety hazards.
- Correct non-immediate fire risks in "Tier 2" (elevated fire threat) areas on the CPUC High Fire-Threat District within 12 months, and in "Tier 3" (extreme fire threat) areas within 6 months.
- Maintain increased clearances between vegetation and power lines within the High Fire-Threat District.
- Maintain stricter wire-to-wire clearances for new and reconstructed facilities in Tier 3 areas.
- Conduct annual inspections of overhead distribution facilities in rural areas of Tier 2 and Tier 3 areas.
- Prepare a fire prevention plan annually if overhead facilities exist in the High Fire-Threat District.

[1] California Office of Emergency Management, 2018, California State Hazard Mitigation Plan, https://www.caloes.ca.gov/HazardMitigationSite/Doecuments/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf, accessed on April 25, 2019.

[2] California State Board of Forestry and Fire Protection, 2018, 2018 Strategic Fire Plan for California, http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1614.pdf, accessed on April 25, 2019.

[3] California State Board of Forestry and Fire Protection, 2018, 2018 Strategic Fire Plan for California, http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1614.pdf, accessed on April 25, 2019.

[4] California Public Utilities Commission, http://www.cpuc.ca.gov/firethreatmaps/, accessed on April 30, 2019.

[5] California Public Utilities Commission, press release: CPUC Adopts New Fire-Safety Regulations, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352402.PDF, accessed on April 30, 2019

California Code of Regulations Title 14 Section 1250 et seq.: Fire Prevention Standards for Electric Utilities

CCR Title 14 Section 1250 et seq. set forth fire prevention standards for electric utilities. Sections 1254 and 1256 set forth requirements for vegetation clearance from poles, towers, and wires.[6]

Section 1254

The firebreak clearances required by PRC Section 4292 are applicable within an imaginary cylindroidal space surrounding each pole or tower on which a switch, fuse, transformer or lightning arrester is attached and surrounding each dead end or corner pole unless such pole or tower is exempt from minimum clearance requirements by provisions of Title 14 CCR Section 1255 or PRC Section 4296. The radius of the cylindroid is 3.1 meters (10 feet) measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

(a) At ground level – remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread.

(b) From 0 to 2.4 meters (0 to 8 feet) above ground level – remove flammable trash, debris or other materials, grass, herbaceous, and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 meters (8 feet).

(c) From 2.4 meters (8 feet) to horizontal plane of highest point of conductor attachment – remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Section 1256

Minimum clearance required by PRC Section 4293 shall be maintained with the specified distances measured at a right angle to the conductor axis at any location outward throughout an arc of 360 degrees

Minimum clearance shall include:

(1) Any position through which the conductor may move, considering, among other things, the size and material of the conductor and its span length.

(2) Any position through which the vegetation may sway, considering, among other things, the climatic conditions, including such things as foreseeable wind velocities and temperature, and location, height and species of the vegetation.

[6] Wires are referred to as "conductors" in CCR Title 14 Section 1256.

District Regulations

East Bay Regional Park District Master Plan

The East Bay Regional Park District Master Plan (Master Plan), adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies in the Planning for Regional Parks and Trails (PRPT) and Financial Resources (FR) chapters that direct adequate resources for fire and public safety protection:

- PRPT28: New utility lines will be placed underground on land owned, operated, or managed by the District to retain the optimal visual qualities of the area. Rights of way and easements for utilities will not be granted without under-grounding. The District will work in cooperation with the utility companies to place existing overhead utilities underground (unless so doing conflicts with applicable codes) as soon as practical and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the construction of high voltage power lines within the parklands, particularly in areas of sensitive or aesthetically important resources and in preserve areas.
- FR1b: The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resources stewardship, interpretation and recreation services.

Ordinance 38

Portions of District Ordinance 38, Sections 404 to 907, pertain to wildfire

- Section 404: Fires. No person shall build, light or maintain any open outdoor fire on park property except in those facilities or areas provided and so designated for that purpose. Exceptions to this requirement must be obtained in writing from the District Fire Chief. No person shall leave a fire unattended on District parklands.
- Section 404.2: Restriction. No person shall smoke or build fires of any kind in areas where prohibited and posted during declared fire season. Extreme conditions may cause the elimination of all open flames for any purpose, or the evacuation or closure of a park.
- Section 404.3: Smoke-Free Parks. Smoking is prohibited in the East Bay Regional Park District with the exception of in overnight campsites. “Smoking” means inhaling, exhaling, burning or carrying any lighted pipe, cigar, cigarette, weed, plant or other combustible organic or chemical substance, the smoke from which is specifically designed or intended to be inhaled or drawn into the nose or mouth. In addition “smoking” for the purpose of this Ordinance includes the use of any vapor device, of any product name or descriptor, which releases gases, particles or vapors into the air as a result of combustion, electrical ignition or vaporization intended to be drawn into the nose or mouth (excluding any United States Food and Drug Administration approved nebulized medication) (added 4/16).

- Section 409: Miscellaneous Regulated Activities. No person shall engage in any of the following activities within the District except in areas specifically designated and set aside from time to time by the Board for such activities.
- Section 409.1. Use or possess fireworks of any kind.

  Section 907: Prohibited or Restricted Area. To insure the safety and health of persons, to avoid interference in development, construction, management, and operations to protect the lands of the District and its neighbors during high risk fire weather, or to provide for the security, safeguarding and preservation of persons and property in the District and portions thereof, the General Manager or his designee may from time to time upon such finding declare an area closed, entry prohibited, entry regulated, or limited to further entry, and specify the period therefore. If the order is to close an area, the order may exclude such reasonable categories of persons who may enter therein in the conduct of such proper activities or official duties as the General Manager may prescribe. If the order is to limit the number of person in an area, no person shall enter the area unless specifically authorized.

  When by order a prohibited or limited area has been so declared, no person so prohibited shall enter therein, and all prohibited person within such area at the time it is so declared shall leave the same without any appreciable delay, and in so doing shall obey and abide by all instructions of the authorized District employee.

East Bay Regional Park District General Conditions

The District's General Conditions contain Article 26, Fire Hazards and Preventions, which states:

(a) The Contractor will be held responsible for fire ignited by the Contractor's employees, subcontractors, or equipment. Employees shall not be allowed to start fires. No open flames shall be permitted.

(b) The Contractor shall take necessary precautions to guard against and eliminate fire hazards that may cause damage to construction work, building materials, equipment, public, and private property, including grassland, brush, and trees.

(c) Flammable materials shall not be poured into drain lines, but shall be disposed of in a legal manner.

(d) Fire hydrants shall be kept accessible to fire-fighting equipment at all times.

(e) Contractors shall comply with State law requirements for burning and use of combustion engines including but not limited to Public Resources Code Sections 4427, 4431, 4435, and 4442.

East Bay Regional Park District Wildfire Hazard Reduction and Resource Management Plan (2009)

The District's Wildfire Hazard Reduction and Resource Management Plan (Wildfire Hazard Plan) provides long-term strategies for reducing fuel loads and managing vegetation within District lands. The Wildfire

Hazard Plan identifies and describes the vegetation types and their associated fuel characteristics and identifies potential fuel treatment methods. Specific recommendations and guidelines for reducing fuel loads and managing vegetation at recommended treatment areas are also provided. Recommendations include types and frequency of fuel treatment actions, considerations for selecting treatments, suggested end-state vegetation types, and concerns regarding plant and animal species and other site-specific features that could potentially be affected by fuel treatment activities. Because the project site was not yet transferred to the District at the time that the Wildfire Hazard Plan was written, the Wildfire Hazard Plan does not include site-specific vegetation treatment goals, treatment actions, or best management practices for the project site.

East Bay Regional Parks Fire Danger Operating Plan and Procedures

In 2010, the District approved the East Bay Regional Parks Fire Danger Operating Plan and Procedures (Fire Danger Operating Plan), which outlines the District's operational decisions and procedures based on the National Fire Danger Rating System (NFDRS). The Fire Danger Operating Plan presents data for five designated fire danger rating areas (FDRA) within the District. FRDAs are defined in the Fire Danger Operating Plan as areas that are usually greater than 10,000 acres in which fire danger is relatively uniform as a result of generally homogenous fuels, climate, and topography. The project site is located within the North-East FDRA.[7]

Because the project site was not yet transferred to the District at the time that the Fire Danger Operating Plan was written, the Fire Danger Operating Plan does not include the proposed Regional Park. The District would update the Fire Danger Operating Plan to include the project site following approval of the proposed project. The specific management prescription in the Plan under the management of public safety is "Access 1.21 Reduce the risk of wildfire by implementing fuels modification projects to mitigate hazards to nearby exposures, following best management practices and procedures outlined in EBRPD's Fire Danger Operating Plan and Procedures (2012) and Wildfire Hazard Reduction and Resources Management Plan (2010)."

The Fire Danger Operating Plan explains that the District utilizes the following indices to assess weather and fuel status and set corresponding restrictions:

- Motorized vehicle travel off designated roads. The District utilizes the Keetch-Byram Drought Index to measure soil moisture to track the growth, drying, and curing cycle of grass, which is the principle fuel in which vehicle fires start and spread. When the index is great than 200 for five continuous days and expected to remain there for the remainder of the fire season, motorized vehicle travel is restricted off of designated roadways.
- Fire danger. The District uses the Burning Index to measure fuel conditions (based on moisture levels in live and dead plants) and the wind's effect to assess fire behavior and the effort to contain a fire. The Burning Index relates to the average flame length and fire intensity expected. When the index is greater than 45 for five continuous days and expected to remain there for the remainder of the fire season, smoking is restricted in wildland areas. In the North-East FDRA, where the project site is

[7] East Bay Regional Park District, 2012, East Bay Regional Parks Fire Danger Operating Plan and Procedures, page 23.

located, a Burning Index of 48 to 54 is designated as a "very high" fire danger rating and 55 and above is an "extreme" fire danger rating.

The District also measures fire suppression resource drawdown to assess when wildland fire suppression resources are available for local assignment or reassignment. A maximum drawdown of normally available District resources signals that out-of-district commitments cannot be made unless approved by the District Fire Chief and necessitates activity restrictions within the parks. The maximum drawdown is reached with all of the following resources are committed out of the area:

- One fire officer.
- One Type 4 engine with two personnel.
- One Type 3 engine with 3 to 4 personnel.
- Office of Emergency Services engine with 3 to 4 personnel.

Within the North-East FDRA, where the project site is located, the District implements the following restrictions and activations based on the following corresponding conditions:

- When the Burning Index is greater than 25, the District activates a staff engine in the North-East FDRA.
- When the Burning Index is greater than 53, the District implements extended staffing hours.
- When Red Flag Warning conditions exist or are imminent, the District implements 24-hour staffing.
- When the Burning Index is 0 to 17, the District's dispatch level is considered to be "low." When the burning Index is 18 to 24, it is considered "medium." When it is greater than 25, it is considered "high."
- When the forecasted Burning Index is greater than 47, the District restricts gas-powered equipment unless on green, irrigated grass; when the forecasted Burning Index is greater than 47 for five continuous days and expected to remain there for the remainder of the season, the District restricts campfires and barbeques outside of developed recreational areas.
- When maximum drawdown of wildland fire suppression resources exists and Red Flag Warning conditions exist, the District implements park closures.

East Bay Regional Park District Fire Restriction Levels[8]

The District maintains fire danger information signs at a number of its parks. The signs explain fire danger levels and corresponding restrictions for park users, park employees, and contractors. Fire danger levels include the following:

- Low: No Restrictions.
- Moderate: No Restrictions.
- High: No Restrictions.

[8] East Bay Regional Park District, Fire Weather Information, https://www.ebparks.org/about/fire/fire_weather_information.htm, accessed on July 23, 2019.

- Very High: Level 1 Restrictions.
- Extreme: Level 2 Restrictions.

When fire danger levels are "low," "moderate," or "high," there are no restrictions. Many days from July through October may be rated "very high" or "extreme," with corresponding restrictions. Level 1 and Level 2 restrictions are as follows:

- Level 1 (Very High):
  - Smoking allowed inside of enclosed vehicles, designated day-use picnic areas, campgrounds, or developed recreational areas only.
  - Campfires or barbeques allowed inside of designated day-use picnic areas, campgrounds, or developed recreational areas only; gas-fueled stoves are permitted in all areas.
  - Vehicles are restricted to driving only on designated roadways; no cross-country driving.
  - No use of gasoline-powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) outside of irrigated areas, designated campgrounds, or developed recreational areas, unless extra protection fire safety measures approved by the Fire Chief are implemented.
- Level 2 (Extreme):
  - Smoking allowed inside enclosed vehicles only.
  - Open fires, campfires, or barbeques of any type are not allowed; gas-fueled stoves are permitted in all areas.
  - Vehicles are restricted to driving only on designated roadways; no cross-country driving.
  - No use of gasoline powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) outside of irrigated areas, designated campgrounds, or developed recreational areas; maintenance of irrigated areas is permitted. Road grading is permitted provided extra protection fire safety measures approved by the Fire Chief are implemented.
  - Contractors may continue working on District lands provided they institute extra protection fire safety measures approved by the Fire Chief; contractor operations must be directly supervised by a District representative to ensure specified extra protection fire safety measures are implemented.

The District closes its parks when both the District Fire Department has limited resources to fight fires and the National Weather Service has declared a Red Flag Warning. A Red Flag Warning is declared when there is a likelihood of hot, dry winds from the east (called the "Diablo Winds"), low relative humidity and low to moderate off-shore windows, or there is a prediction of severe lightning storms.

The District maintains a "Park Closures and Notices" webpage to post current fire weather conditions and parkland restrictions. It is rare for the District to completely close a park; rather, the District typically institutes Level 1 or Level 2 restrictions and employs fuel reduction techniques in the Wildfire Hazard Plan.

Local Regulations

Contra Costa County/City of Concord Local Hazard Mitigation Plan

Contra Costa County updated its Local Hazard Mitigation Plan in 2018, with the participation of the City of Concord, whose specific policies are included as an "annex".[9] The project site lies within the planning area for the Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan complies with federal and State hazard mitigation planning requirements to establish eligibility for funding under Federal Emergency Management Agency (FEMA) grant programs. The Disaster Mitigation Act (DMA; Public Law 106-390), passed in 2000, shifted the federal emphasis toward planning for disasters before they occur. The DMA requires State and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. Regulations developed to fulfill the DMA's requirements are included in Title 44 of the Code of Federal Regulations (44 CFR). The current update meets federal requirements for updating hazard mitigation plans on a five-year cycle. Risk assessment models were used in order to rank hazards and gauge potential impacts of each hazard of concern. Earthquake hazard was ranked as high followed by landslides, severe weather, wildfire, dam and levee failure, flood, sea level rise, tsunami, and drought.

The Local Hazard Mitigation Plan outlines activities designed to reduce or eliminate losses resulting from natural hazards. Contra Costa County Office of Emergency Services opened the planning process for the hazard mitigation plan to all eligible local governments within the planning area. Planning partners included the City of Concord, as well as local police departments, fire departments, city planning directors, public works departments, school districts, and water and sanitation districts.

National, State, and county databases were reviewed to locate available spatially based data relevant to the Local Hazard Mitigation Plan. Maps were produced using geographic information system (GIS) software to show the spatial extent and location of hazards when such datasets were available.

City of Concord General Plan

The Safety (S) and Noise Element of the Concord General Plan includes the following goals and policies specific to wildfire and applicable to the proposed project.

- Policy S-7.2.3: Ensure that sufficient access for fire protection services is available in all new development.
- Policy S-8.1.1: Maintain an ongoing program for disaster response, including participation in all aspects of emerging, new high-technology solutions.
- Policy S-8.1.2: Coordinate disaster response planning with surrounding cities, agencies, and Contra Costa County.
- Policy S-8.1.4: Implement the City's Local Hazard Mitigation Plan, consistent with the guidelines of the Federal Emergency Management Agency (FEMA) and the Disaster Act of 2000, and seek funding under FEMA's Hazard Mitigation Grant Program.

[9] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan Volume 1 – Planning Area-Wide Elements, Draft Final January 2018; and Volume 2, Planning Partner Annexes.

The Local Hazard Mitigation Plan is incorporated by reference into the Concord General Plan.

City of Concord Municipal Code

The City of Concord Municipal Code (CMC), organized by Title, Chapter, and Section, contains all ordinances for the city. Title 15, Building and Building Regulation, includes regulations relevant to wildfire in Concord as follows:

- Chapter 15.65, Fire Code. The Fire Code regulates, among other things, issuance of permits where operations or business or the installation or modification of any systems regulated under the Fire Code are planned, application and collection of applicable fire permit fees, and installation of residential and commercial automatic sprinkler systems. The Fire Code also adopts the Contra Costa County Fire Protection District Ordinance (2016-23), and the 2016 CFC.
- Chapter 15.10, Building Code. Chapter 15.10 of the Municipal Code adopts the 2016 California Building Code, referred to as the Building Code.

Contra Costa County General Plan

The Public Facilities/Services Element of the County's General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Although the County's General Plan does not apply directly to the project site, the project site borders unincorporated lands and therefore could affect, or be affected by, wildfire hazards on County lands. The County's General Plan includes the following goal, principle, and policies specific to fire protection and applicable to the proposed project:

- Goal 7-Y: To ensure a high standard of fire protection, emergency, and medical response services for all citizens and properties throughout Contra Costa County.
- Goal 7-AA: To incorporate requirements for fire-safe construction into the land use planning and approval process.
    - Policy 7-63: The County shall strive to achieve a total response time (dispatch plus running and set-up time) of 5 minutes in central business district, urban, and suburban areas for 90 percent of all emergency responses.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station to civilian use. Adopted by the Concord City Council in 2012, the Area Plan adapted goals and concepts developed in the Area Plan that articulated the community's preferred vision for the area. The Area Plan was adopted in 2010. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Area Plan provides the following General Community Facilities and Parks (CFP) and Safety, Health, and Noise (SHN) principles and policies applicable to the project site:

- Principle CFP-3: Provide high levels of police and fire protection services to the CRP [Concord Reuse Project Area Plan] area.
  - Policy CFP-3.2: Fire stations. Plan for the eventual development of two new fire 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.
  - Policy CFP-3.3: Coordination with Police and Fire Departments. Coordinate planning and future development approvals with the Concord Police Department and the CCCFPD [Contra Costa County Fire Protection District] to ensure that law enforcement and public safety issues are taken into account when reviewing CRP area development proposals.
- Principle SHN-3: Promote effective fire protection measures for homes adjacent to the open space in the CRP area.
  - Policy SHN-3.1: 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 [Area Plan] site.

4.16.1.2 EXISTING CONDITIONS

This section describes the existing conditions relevant to wildfire hazards on and around the project site.

Wildfire Background

Types of Wildfire

There are three basic types of wildland fires:

- Crown fires burn trees to their tops; these are the most intense and dangerous wildland fires.
- Surface fires burn surface litter (that is, the top layer of the forest, brushland, or grassland floor, containing dead sticks, branches, twigs, leaves, and needles) and duff (that is, the layer of decomposing organic material lying above the soil and below the layer of surface litter). Surface fires are the easiest fires to extinguish and cause the least damage to the forest. Brush and small trees enable surface fires to reach treetops and are thus referred to as "ladder fuels."
- Ground fires occur underground in deep accumulations of dead vegetation. These fires move very slowly but can be difficult to extinguish.[10]

Wildfires burn in many types of vegetation—forest, woodland, scrub (including chaparral, sage scrub, and desert scrub), and grassland.[11] Many species of native California plants are adapted to fire. Chaparral shrubs recover from fire in either of two ways: 1) woody root crowns or burls below the soil surface that survive a fire and re-sprout; and, 2) shrubs (various species of *Manzanita* and *Ceanothus*) that are killed by

[10] Natural Resources Canada, 2018, Fire Behavior, https://www.nrcan.gc.ca/forests/fire-insects-disturbances/fire/13145, accessed on April 30, 2019.

[11] California Department of Forestry and Fire Prevention, 1999, Learning to Live with Fire, http://www.fire.ca.gov/communications/downloads/live_w_fire.pdf, accessed on April 30, 2019.

fire and produce seeds requiring intense heat from a fire to germinate.[12] Many species of conifers have seed cones requiring fire to open.[13] Between 2010 and 2017, wildfires in California burned about 265,000 acres of forest land, 207,000 acres of shrub vegetation, 99,000 acres of grassland, 18,000 acres of desert vegetation, and 14,000 acres of other vegetation types.[14]

Wildfire Causes

Many factors contribute to wildfires, including:[15]

- **Fuel.** Fuel can include live and dead vegetation on the ground, surface vegetation such as brush and small trees, and above-ground vegetation in tree canopies. Moisture content affects how vegetation burns. Lighter fuels such as grasses, leaves, and needles quick expel moisture and burn rapidly, while heavier fuels such as tree branches, tree trunks, and logs retain moisture and take longer to ignite.
- **Weather.** Temperature, humidity, wind speed, wind direction, cloud cover, precipitation amount and duration, and atmospheric stability all affect wildfires. A wet spring can cause increased vegetation growth, creating more fuel susceptible to ignition during a dry summer. Strong, dry winds can produce extreme fire conditions.
- **Terrain.** Site and regional topography, including slope and elevation, influence fuel and weather. Terrain affects the amount and moisture of fuel, the effect of weather (such as temperature, precipitation, and wind), potential barriers to fire spread (such as roadways and bodies of water), and land forms. Fire spreads more easily uphill than downhill.

These factors interact with each other in several ways. Climate change also affects these factors, for instance by affecting fuel ecosystems and weather patterns.

Although the term "wildfire" suggests natural origins, a 2017 study that evaluated 1.5 million wildfires in the United States between 1992 and 2012 found that humans were responsible for igniting 84 percent of wildfires, accounting for 44 percent of acreage burned.[16] Wildfires can be ignited naturally during lightning events, but are most frequently caused by human activity, such as smoking, campfires, equipment use, and arson. The three most common types of human-caused wildfires are debris burning (logging slash, farm fields, trash, etc.); arson; and equipment use.[17] Power lines can also ignite wildfires

[12] Rundel, Philip, and Gustafson, Robert, 2005, Introduction to the Plant Life of Southern California. Berkeley and Los Angeles, California: University of California Press.

[13] California Department of Forestry and Fire Prevention, 1999, Learning to Live with Fire, http://www.fire.ca.gov/communications/downloads/live_w_fire.pdf, accessed on April 30, 2019.

[14] State Board of Forestry and Fire Protection and California Department of Forestry and Fire Prevention, 2018, 2018 Strategic Fire Plan for California, http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1614.pdf, accessed on April 30, 2019.

[15] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-3.

[16] Balch, Jennifer; Bradley, Bethany; Abatzoglou, John, et. al. 2017, March 14. Human-Started Wildfires Expand the Fire Niche Across the United States. Proceedings of the National Academy of Sciences: Volume 114 No. 11. https://www.pnas.org/content/pnas/114/11/2946.full.pdf, accessed on April 30, 2019.

[17] Pacific Biodiversity Institute, 2007, Roads and Wildfires, http://www.pacificbio.org/publications/wildfire_studies/Roads_And_Wildfires_2007.pdf, accessed on April 30, 2019.

through down lines, vegetation contact, conductors that collide, and equipment failures.[18] CAL FIRE determined that 16 wildfires in northern California in October 2017 were caused by electric power and distribution lines, conductors, and the failure of power poles.[19,20] Lightning is the major natural cause of wildfire in the United States.[21]

An analysis of United States Forest Service wildfire data from 1986 to 1996 determined that 95 percent of human-caused wildfires, and 90 percent of all wildfires, occurred within 0.5 miles of a road; and that about 61 percent of all wildfires and 55 percent of human-caused wildfires occurred within approximately 650 feet of a road. This analysis concluded that the increase in human-caused ignition greatly outweighs the benefits of increased access for firefighters.[22]

There are three primary methods of wildfire spread, which are listed below:

- Embers. Embers are glowing or burning pieces of vegetation or construction debris that are lofted during the wildfire, which can move up to a mile ahead of a firestorm. They are most prolific cause of home ignition at a rate of two out of every three homes destroyed. These small embers or sparks may fall on the vegetation near a home (on dry leaves, needles, or twigs on the roof) and then subsequently ignite and burn down the home. Ember storms place all structures without fire resistant landscaping and construction within miles of the fire at potential risk.
- Direct Flame Contact. Direct flame impingement refers to the transfer of heat by direct flame exposure. Direct contact will heat the building materials of the home. If the time and intensity of exposure is severe enough, windows will break and materials will ignite.
- Radiant Heat. A house can catch on fire from the heat that is transferred to it from nearby burning objects, even in the absence of direct flames or embers. Defensible space around homes significantly reduces the risk from radiant heat. A home with 100 feet of clearance from forest or shrubs will usually have minimal impact from radiant heat or direct flame.[23]

Wildfire season in the Western region of the United States, including California, recently has lengthened from a previous average of between five and seven months to a year-round occurrence, and the number of large wildfires (i.e., greater than 1,000 acres) has increased from 140 to 250 per year. This is occurring

[18] Texas Wildfire Mitigation Project, 2018, How Do Power Lines Cause Wildfires? https://wildfiremitigation.tees.tamus.edu/faqs/how-power-lines-cause-wildfires, accessed on April 30, 2019.

[19] California Department of Forestry and Fire Prevention, 2018, CAL FIRE Investigators Determine Causes of 12 Wildfires in Mendocino, Humboldt, Butte, Sonoma, Lake, and Napa Counties, https://calfire.ca.gov/communications/downloads/newsreleases/2018/2017_WildfireSiege_Cause.pdf, accessed on April 30, 2019.

[20] California Department of Forestry and Fire Prevention, 2018, CAL FIRE Investigators Determine Causes of 12 Wildfires in Mendocino, Humboldt, Butte, Sonoma, Lake, and Napa Counties, https://calfire.ca.gov/communications/downloads/newsreleases/2018/2017_WildfireSiege_Cause.pdf, accessed on April 30, 2019.

[21] Balch, Jennifer; Bradley, Bethany; Abatzoglou, John, et. al. 2017, March 14. Human-Started Wildfires Expand the Fire Niche Across the United States. Proceedings of the National Academy of Sciences: Volume 114 No. 11. https://www.pnas.org/content/pnas/114/11/2946.full.pdf, accessed on April 30, 2019.

[22] Pacific Biodiversity Institute, 2007, Roads and Wildfires, http://www.pacificbio.org/publications/wildfire_studies/Roads_And_Wildfires_2007.pdf, accessed on April 30, 2019.

[23] City of San Rafael, 2019, Wildfire Prevention and Protection Action Plan.

as average annual temperature in the Western regions of the United States has risen by nearly two degrees Fahrenheit since the 1970s and the winter snow pack has declined.[24]

Secondary Effects

The following sections describe the hazardous conditions created by wildfire effects.

Slope Instability

Post-fire conditions can pose hazards associated with unstable slopes, such as landslides, erosion, and gullying.[25] Post-fire landslide hazards include fast-moving, highly destructive debris flows that can occur in the period immediately following wildfires in response to high-intensity rainfall events, and flows that are generated over longer time periods that are accompanied by root decay and loss of soil strength. Fires increase the potential for debris flows by increasing the imperviousness of soil so that it repels water and destroying vegetation that would slow and absorb rainfall, and whose roots would help stabilize soil.[26] The burning of vegetation and soil on slopes more than doubles the rate that water will run off into watercourses.[27] Post-fire debris flows are particularly hazardous because they can occur with little warning, can exert great impulsive loads on objects in their paths, can strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles. Post-fire debris flows are most common in the two years after a fire; they are usually triggered by heavy rainfall. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas.

Air Pollution

Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. The biggest health threat from smoke is from fine particles ($PM_{2.5}$), which are microscopic particles can penetrate the lungs and cause a range of health problems, from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Exposure to particulate pollution is even linked to premature death. Some populations are more sensitive than others to smoke: for instance, people with heart or lung diseases; the elderly; children; people with diabetes; and pregnant women.[28]

[24] State Board of Forestry and Fire Protection and California Department of Forestry and Fire Prevention, 2018, 2018 Strategic Fire Plan for California, http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1614.pdf, accessed on April 30, 2019.

[25] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-5.

[26] US Geological Survey, 2018, New post-wildfire resource guide now available to help communities cope with flood and debris flow danger, https://www.usgs.gov/center-news/post-wildfire-playbook?qt-news_science_products=1#qt-news_science_products, accessed on April 30, 2019.

[27] California Geological Survey, 2018, Post-Fire Debris Flow Facts, https://www.conservation.ca.gov/index/Pages/Fact-sheets/Post-Fire-Debris-Flow-Facts.aspx, accessed on April 30, 2019.

[28] Airnow. 2018. How Smoke from Fires Can Affect Your Health, https://airnow.gov/index.cfm?action=smoke.index, accessed on December 21, 2018.

Vegetation Changes

Frequent wildfires reduce the recovery of shrubs and trees—especially shrubs and trees that must produce seeds to regenerate after fire—and increase the invasion of non-native grasses, that is, convert native shrublands to non-native grassland.[29] Non-native grasses are generally more flammable than the chaparral and sage scrub vegetation that is replaced; thus, such conversion exacerbates wildfire hazards.[30] Loss of vegetation can also lead to downstream flooding.

Wildfire History in the Project Area

According to the Contra Costa County Hazard Mitigation Plan, Contra Costa County historically experiences wildfires every two to three years. In more recent years with drought conditions, wildfires have occurred annually. From 2010 to 2017, ten fires occurred in or near Contra Costa County that destroyed over 10 acres.[31] Of the fires, the 2013 Kirker Fire occurred closest to the project site, burning 492 acres along Kirker Pass Road. Figure 4.16-1 maps wildfires in the vicinity of the project site that occurred between 1950 and 2017.

Wildfire Hazards in the Project Area

According to the Contra Costa County Hazard Mitigation Plan, the East Bay's geography, weather patterns, and vegetation provide ideal conditions for recurring wildfires. During the late summer and fall, natural vegetation is extremely flammable, and wildfire is a serious hazard in undeveloped areas and sites with extensive areas of un-irrigated vegetation. Although grassland fires are easily ignited, particularly during dry weather, grassland fires are fairly easy to control if they can be reached by fire equipment. Brush fires tend to burn quickly and are very hot, and lead to the destruction of vegetative cover. A brush fire that spreads to woodland can create a destructive hot crown fire (that is, a fire that burns the entire length of a tree and spreads from treetop to treetop).[32]

The project site's location and existing conditions make the site susceptible to wildfire hazards, as described below.

Hazard Zone Mapping

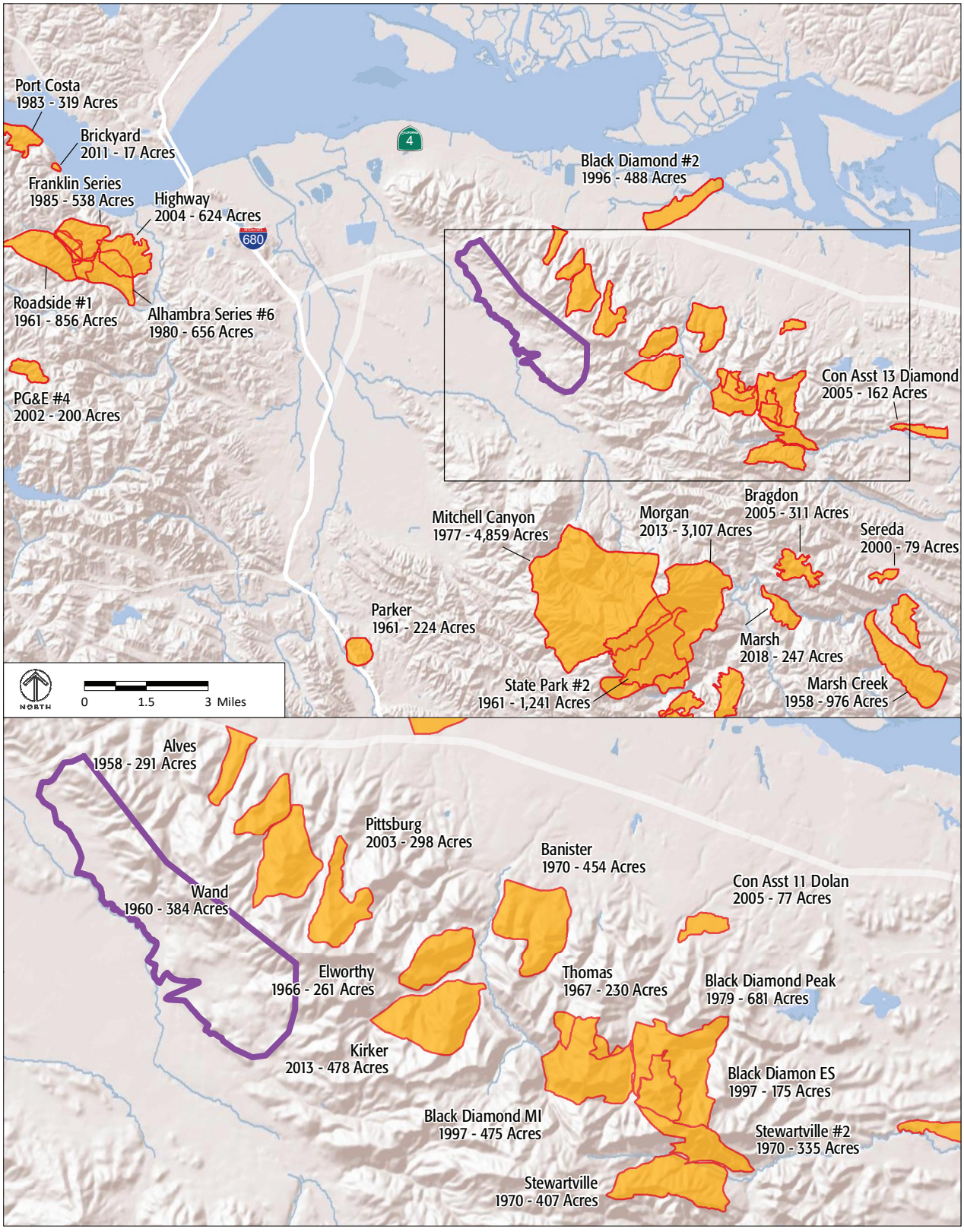
Various entities evaluate potential wildfire risks and publish data and maps showing wildfire risks for locations within California.

[29] US Geological Survey, 2012, Fire-Driven Alien Plant Invasion in a Fire-Prone Community, http://www.californiachaparral.com/images/Fire_driven_alien_plants_Brief.pdf, accessed on April 30, 2019.

[30] See University of California Division of Agriculture and Natural Resources, 2009, Invasive Plants and Wildfires in Southern California, https://anrcatalog.ucanr.edu/pdf/8397.pdf, accessed on April 30, 2019.

[31] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-2.

[32] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-5.



Source: PlaceWorks, 2016; CalFIRE, 2019; ESRI 2015

Project Site
Historic Wildfires 1950-2018

Figure 4.16-1

Wildfire History near the Project Site, 1950 to 2017

WILDFIRE

CAL FIRE

CAL FIRE publishes maps recommending fire hazard severity zones for every California county. The maps identify lands in California as falling within one of the following management areas: Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). Within each of these areas, a single agency has direct responsibility: in LRAs, local fire departments or fire protection districts are responsible; in SRAs, CAL FIRE is responsible; in FRAs, federal agencies such as the United States Forest Service, National Park Service, Bureau of Land Management, United States Department of Defense, United States Fish and Wildlife Service, and Department of the Interior are responsible.[33]

Within the LRA, CAL FIRE designates lands as being within a Very High Fire Hazard Severity Zone (VHFHSZ) or non-VHFHSZ. The LRA maps also show the VHFHSZ and non-VHFHSZ areas within the SRA and FRA but do not differentiate lands within the SRA and FRA from each other (that is, SRA and FRA areas are mapped together).

Within the SRA, CAL FIRE designates Moderate Fire Hazard Severity Zones, High Fire Hazard Severity Zones, and VHFHSZs. The SRA maps also indicate which lands area within the LRA and which are within the FRA, but do not show the hazard zones within the LRA and FRA.

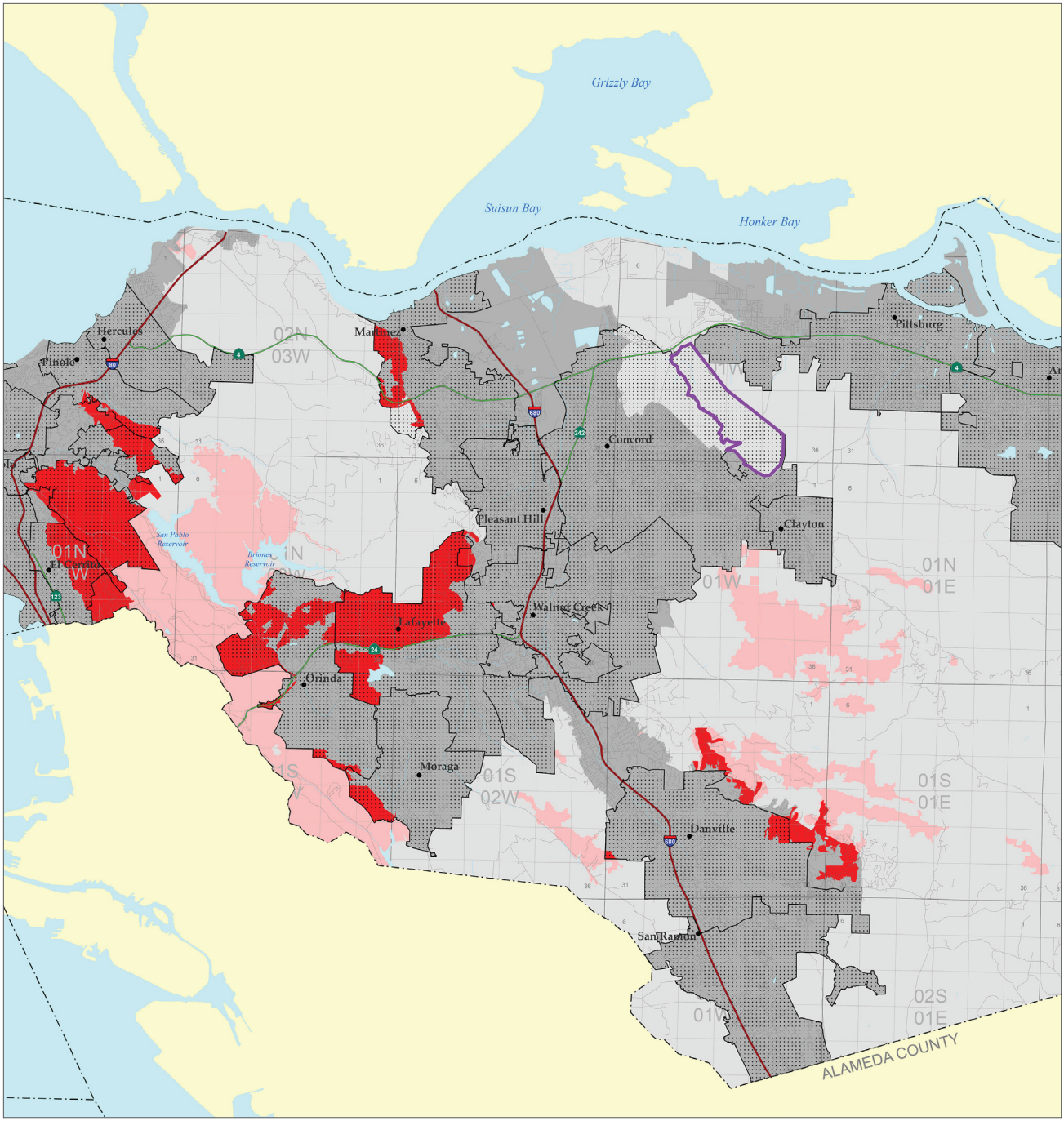
As shown in Figure 4.16-2, the CAL FIRE map for the LRA in Contra Costa County identifies the project site as within a non-VHFHSZ. As shown in Figure 4.16-3, the CAL FIRE map for the SRA in Contra Costa County identifies the project site as being within the FRA. Although CAL FIRE maps the site as being within the FRA, upon transfer to the District, the project site would no longer be under the management of the federal government and would become part of the LRA.

Figure 4.16-3 also shows that the project site is adjacent to lands to the east and north that are within the SRA and designated as being within the Moderate and High Fire Hazard Severity Zone.

CAL FIRE also publishes mapping data for the wildland–urban interface (WUI). The WUI includes areas susceptible to wildfires where wildland vegetation and urban (or suburban) development occur together.[34] Fires in the WUI result in direct damage to the built environment and harm to residents. The WUI area mapped by CAL FIRE represents the overlap between the following: land uses containing a housing density of one housing unit per 40 acres or denser, and areas within 2,400 meters (approximately 1.5 miles) of those land uses; areas within 2,400 meters of lands calculated to have a “high,” “very high,” or “extreme” fire threat, based on a combination of fuel rank and fire rotation; and areas designated as “communities at risk,” which are areas with a density of one housing unit per 20 acres or denser that are within 2,400 meters of areas with high, very high, or extreme fire threat. As shown on Figure 4.16-4, the project site is entirely within the WUI.

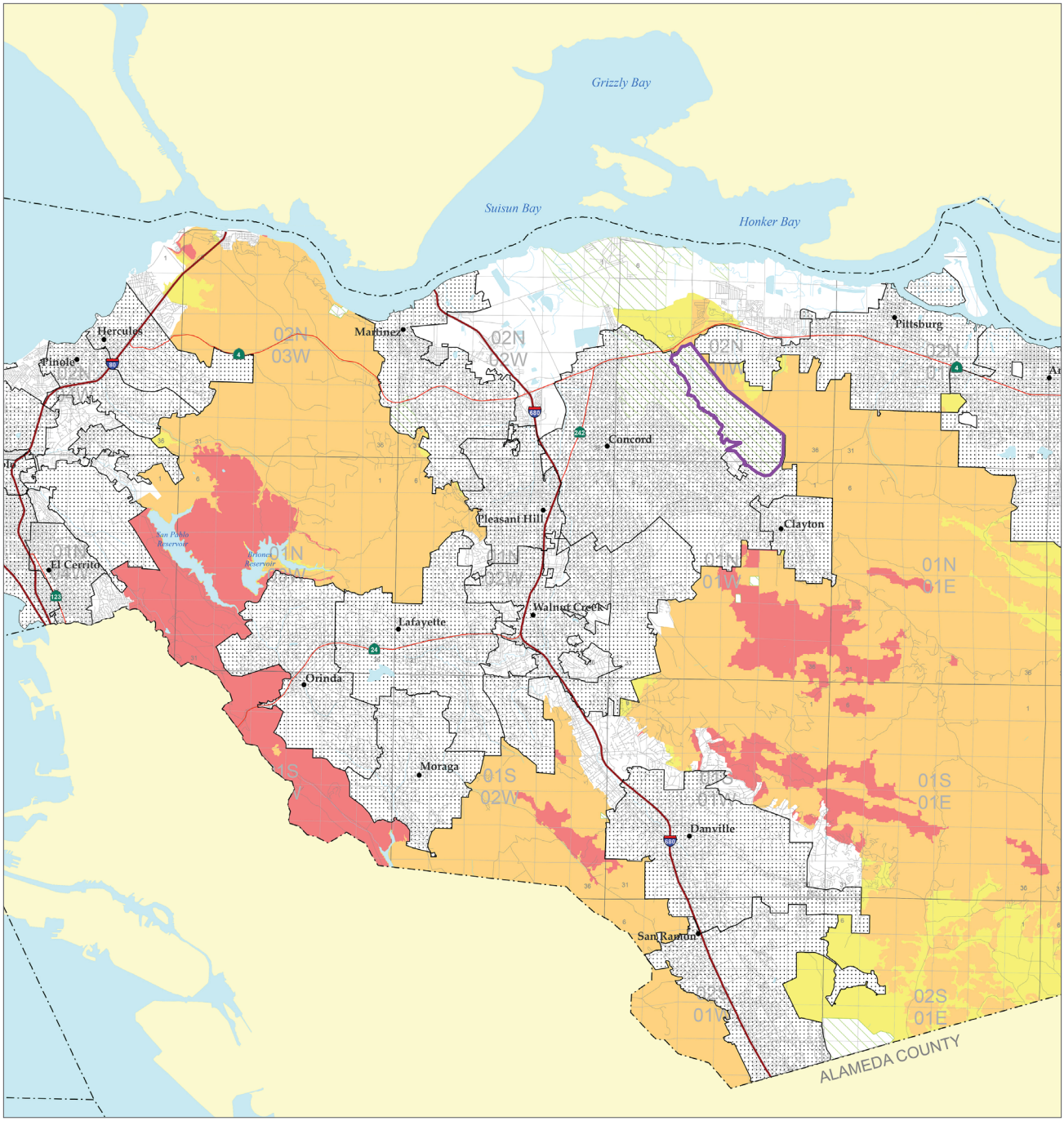
[33] Association of Bay Area Governments and Metropolitan Transportation Commission, 2018, White Paper: Bay Area Wildland Urban Interface Review of Risks, Plans, and Strategies, page 7; and Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-1.

[34] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 13-1.



Source: CAL FIRE, 2009.

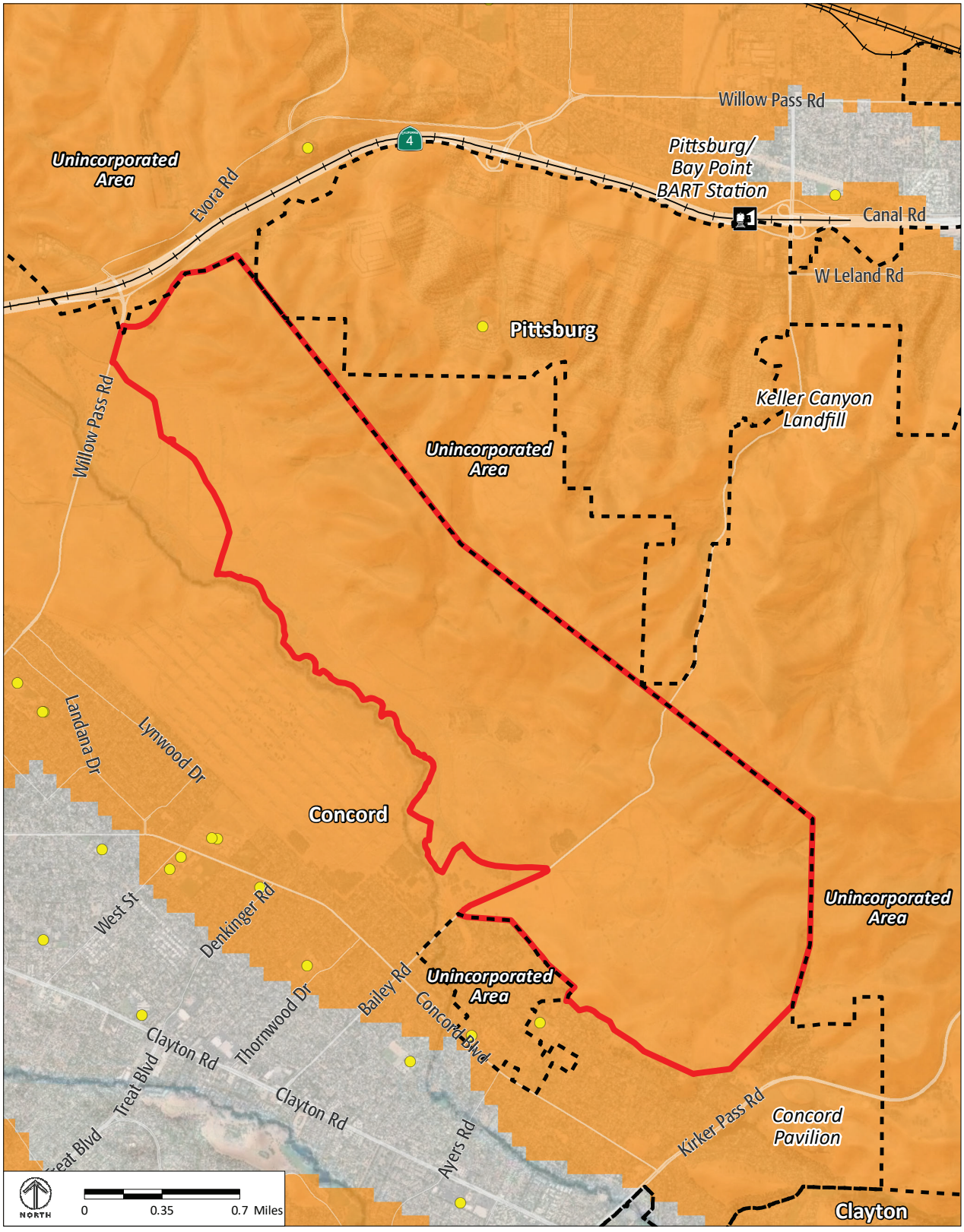
Figure 4.16-2
CAL FIRE Fire Hazard Severity Zone Map within the LRA, Contra Costa County



Source: CAL FIRE, 2007.

Figure 4.16-3
CAL FIRE Fire Hazard Severity Zone Map within the SRA, Contra Costa County

WILDFIRE



Source: PlaceWorks, 2016; CalFIRE, 2019; ESRI 2015

Project Site
Wildland Urban Interface
City Limit
Schools
BART Station
Railway

Figure 4.16-4
Wildland Urban Interface

City of Concord

The Safety and Noise Element of the Concord General Plan states that the majority of surface fuels in the city are grassy, urban, or barren areas that are considered to have a low to moderate fire hazard. Figure 7-5 of the General Plan (shown in Figure 4.16-5) identifies areas with low to moderate fire hazard and generally classifies the project site as having a moderate fire hazard.

California Public Utilities Commission

The CPUC's Fire-Threat Map identifies areas considered to be within Tier 2 (elevated fire threat) and Tier 3 (extreme fire threat) where power line fires cause an elevated risk of fires igniting and spreading rapidly. As shown in Figure 4.16-6, the project site is within Tier 2 and is therefore considered to have an elevated risk of fires caused by power lines and aerial communication facilities.

Project Site Characteristics

The Fire Danger Operating Plan identifies the project site as being located within the North-East FDRA. The Fire Danger Operating Plan describes the North-East FDRA as located in the Mt. Diablo foothills and less influenced by marine intrusion moisture than the West and North-Central FDRAs. The North-East FDRA receives wind flowing into the Central Valley along the Delta and through the Altamont pass.[35]

Vegetation

As described in more detail in Chapter 4.3, Biological Resources, of this Draft EIR, while the project site contains nine vegetation communities, nearly 90 percent of the project site is comprised of California annual grassland. The dominant vegetation types within the remaining 10 percent of the site are oak woodland/savannah and tree plantations.

Terrain

The project site elevations range from approximately 100 feet above mean sea level at the western border to 1,000 feet above mean sea level at the eastern border. The southwestern portion of the site is located in the Clayton Valley, which consists of gently sloping lowlands and hilly terrain ranging in elevation from sea level to 400 feet. The floor of the valley slopes gently toward the northwest. The northeast portion of the site is located within the Los Medanos Hills, which have peak elevations ranging from 800 feet in the lower hills to greater than 1,400 feet. The Los Medanos Hills have significant topographic relief including steep hill slopes of over 50 percent.

Prevailing Winds

Much of the western continental United States is located within the Federal Emergency Management Agency Wind Zone I, where wind speeds can reach up to 130 miles per hour.[36] Prevailing winds are

[35] East Bay Regional Park District, 2012, East Bay Regional Parks Fire Danger Operating Plan and Procedures, page 21.
[36] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page 11-10.

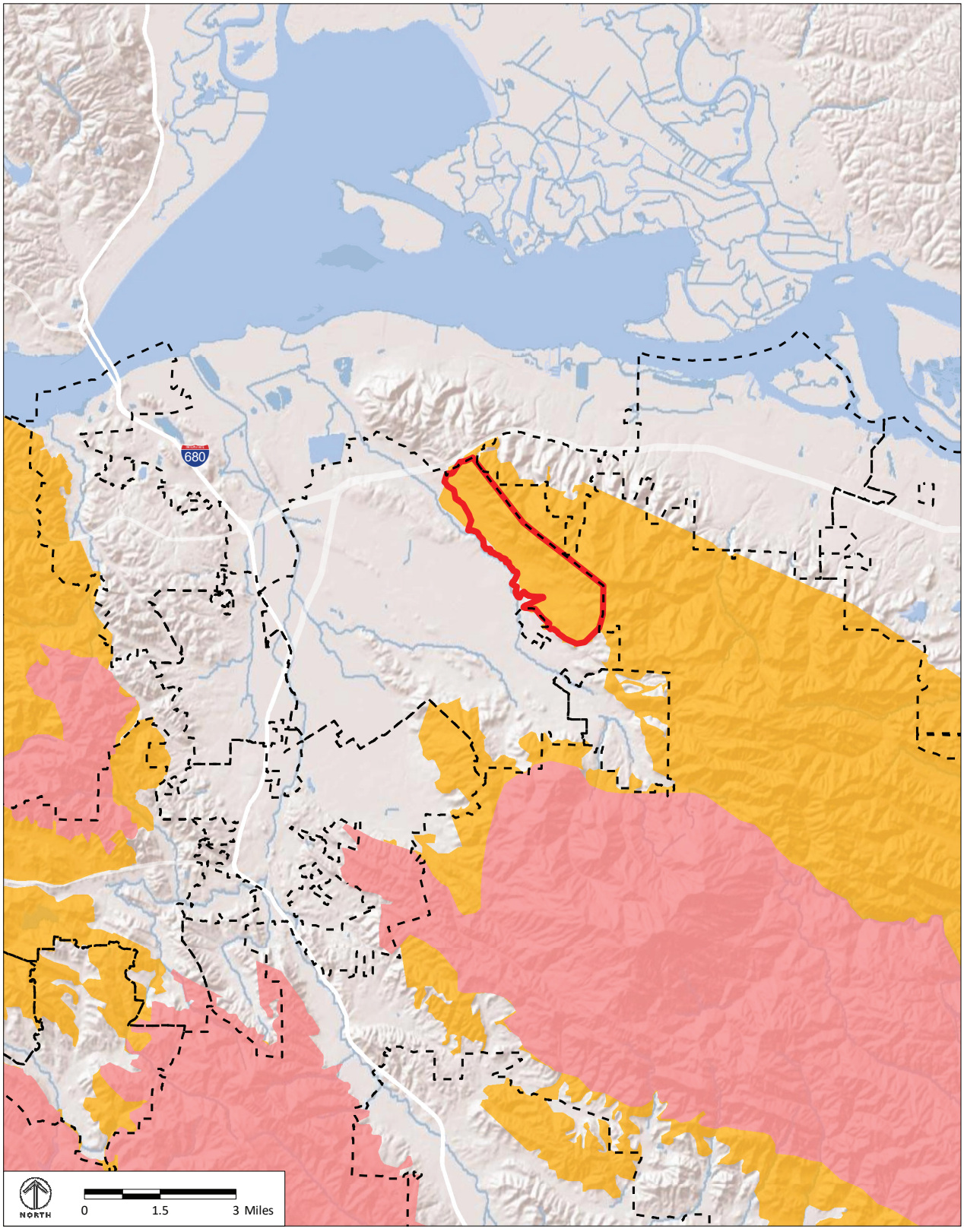
WILDFIRE



Source: Concord General Plan; California Department of Forestry and Fire Protection, 2000.

Project Site

Figure 4.16-5
City of Concord Wildfire Hazards Map



Source: PlaceWorks, 2016; CPUC, 2018; ESRI 2015.

Project Site
City Limit
Tier 2- Elevated
Tier 3 - Extreme

Figure 4.16-6
California Public Utilities Commission Fire-Threat Map

considered the wind pattern from the direction that is predominant at a place or season. Prevailing wind patterns in Concord consist of wind from the west from February to November, and winds from the north from November to February. The windier part of the year is from April to September, with average wind speeds of over 8.4 miles per hour, and the calmer part of the year is from September to April. The calmest day of the year is January 21, with an average hourly wind speed of 6.7 miles per hour.[37]

Debris Flow Hazards

Debris flows are considered a type of landslide, which is defined as the sliding movement of masses of loosened rock and soil down a hillside of slope.[38] Debris flows occur when dense mixtures of water-saturated debris move down-valley, with the appearance and behavior very similar to flowing concrete. Debris flows form when loose masses of unconsolidated material are saturated, become unstable, and move down slope.[39] Areas with steep slopes are typically within debris flow areas. The terrain of the project site is varied, ranging from relatively flat to hilly. Landslides, earthflows, and debris flows are relatively common features along the ridges and hillsides of the Los Medanos Hills within the site boundaries. Figures 4.16-7 and 4.16-8 show existing on-site landslide areas and potential debris flow sources, respectively.

District Fire Weather and Fire Danger Information

The District maintains fire danger information signs at a number of its parks. The signs explain fire danger levels and corresponding restrictions for park users, park employees, and contractors.[40]

In 1994 to 1995, the District and Oakland Fire Department purchased Remote Automatic Weather Stations (RAWS) and placed them at the direction of the National Weather Service Fire Weather Forecasters. Since that time, several fire and water agencies in Alameda and Contra Costa Counties have deployed RAWS for fire suppression and rainfall and evaporation monitoring. As of 2010, there were eleven NFDRS-compatible RAWS sites in Alameda and Contra Costa Counties reporting hourly weather observations.[41]

The District uses a Weather Information Management System Special Interest Group using data from its Briones, Black Diamond, Altamont, and Calaveras Roads RAWS sites to sample weather elements and season-situational fuels status. The samples allow the District to make decisions and set restrictions for all of its parks.

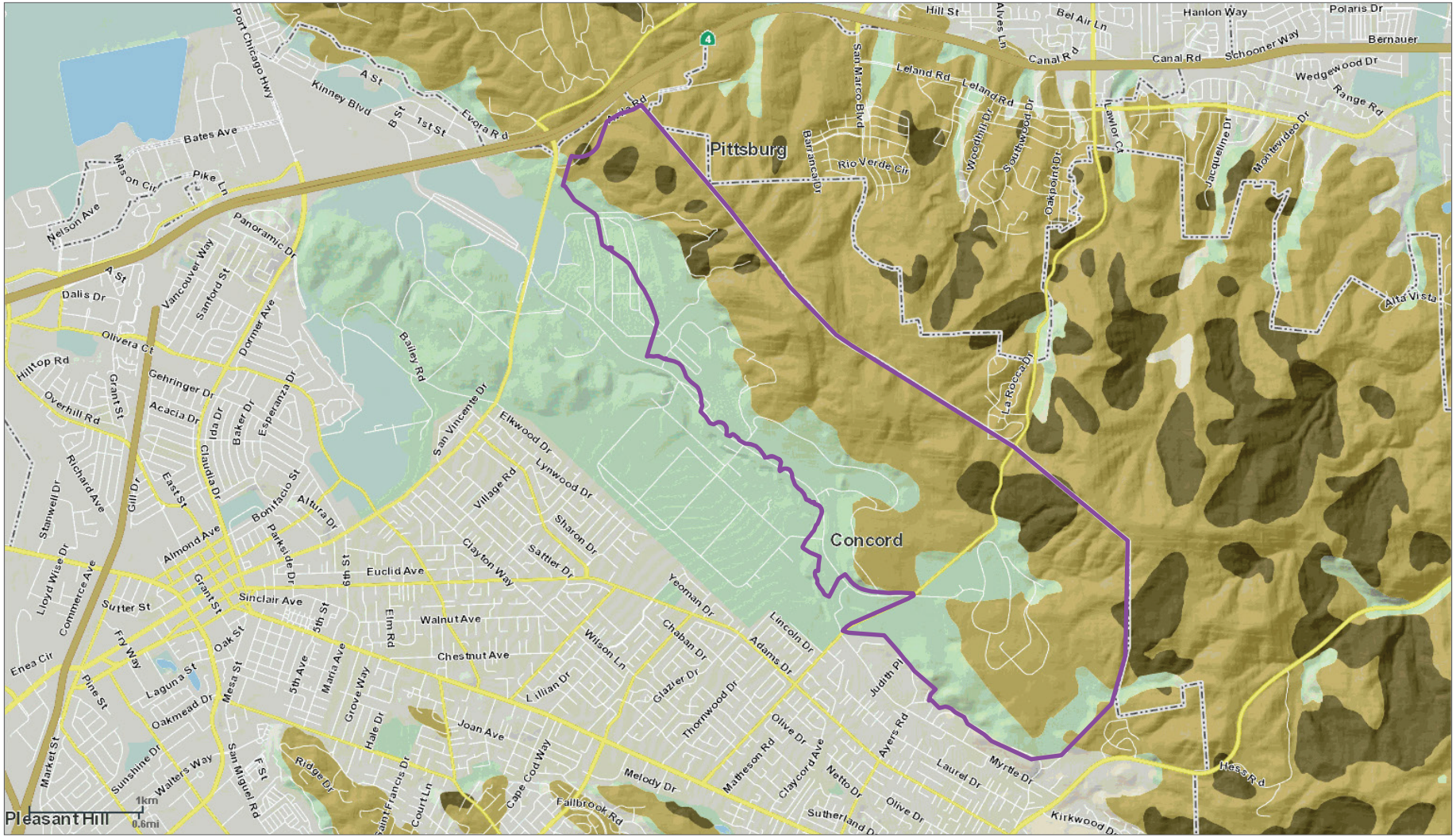
[37] Weather Spark, Average Weather in Concord California, United States, https://weatherspark.com/y/502/Average-Weather-in-Concord-California-United-States-Year-Round, accessed on May 1, 2019.

[38] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page Glossary-6.

[39] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan, page Glossary-4.

[40] East Bay Regional Park District, Fire Weather Information, https://www.ebparks.org/about/fire/fire_weather_information.htm, accessed on July 23, 2019.

[41] East Bay Regional Park District, 2010, East Bay Parks Fire Danger Operating Plan and Procedures, revised 2012, page 3.



Source: ABAG Resilience Program, 2019.

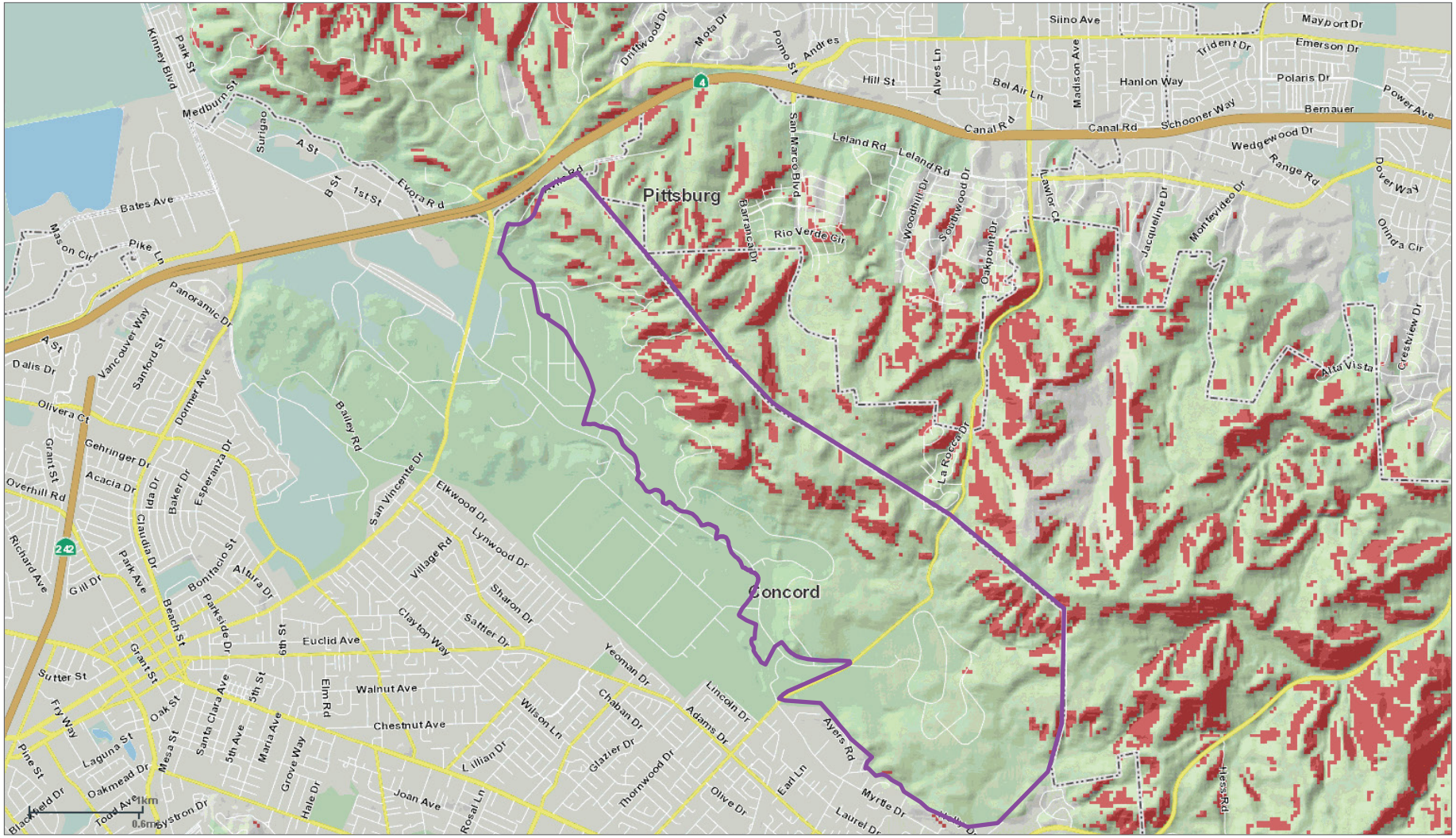
Mostly Landslides

Few Landslides

Approximate Project Site

Figure 4.16-7
Existing Landslide Distribution

WILDFIRE



Source: ABAG Resilience Program, 2019.

Potential Debris Flow Source

Approximate Project Site

Figure 4.16-8
Potential Debris Flow Sources

Fire Protection Services

Fire protection services on and near the project site are provided by the CCCFPD and District. Both agencies are described in further detail in Chapter 4.13, Public Services and Recreation, of this Draft EIR.

Contra Costa County Fire Protection District

The CCCFPD provides fire and emergency medical services (EMS) to nine cities, including Concord, and the adjacent unincorporated areas within Contra Costa County. In addition to services provided by CCCFPD personnel, the District also maintains automatic mutual aid agreements with all fire agencies in Contra Costa County including the East Contra Costa Fire Protection District, the East Bay Regional Parks District, CAL FIRE, and private industrial companies located within its jurisdiction. These agreements provide the CCCFPD with emergency response assistance on an as-needed basis.[42] Proposed development would be subject to review by the CCCFPD for compliance with adopted emergency response plans. CCCFPD requires adequate access roads and building markings to facilitate emergency response.

East Bay Regional Park District Fire Department

The District provides fire prevention and protection services to visitors to all 65 District parks. The District employs 46 firefighters and staff. Fire protection facilities in the District are managed by the park operations department and are headquartered at Lake Chabot Road in Castro Valley, with nine substations located in various parks under the District's jurisdiction. The facilities are staffed during the fire season. The District maintains fire engines, as well as helicopters with water dropping capabilities to serve larger-scale wildfire emergencies. The nearest stations to the site are Station Number 3, located at 700 Carquinez Scenic Drive in Martinez, and the Briones Station Number 6, located at 53/63 Alhambra Valley Road in Martinez. The District Fire Department maintains automatic aid agreements with all of its neighboring agencies and participates in the State mutual aid response system in coordination with the California Emergency Management Agency. In addition to fire prevention and protection services, the District Fire Department manages emergency medical services, a hazardous materials program and a search and rescue task force.

First Responder Training Center

The Concord Reuse Project Area Plan includes the provision of an 89-acre First Responder Training Center which would include training grounds and other facilities required to support regional first responders, which may include the Contra Costa County Sheriff and Fire Departments.

[42] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

4.16.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant wildfire impact if it would be located in or near a State Responsibility Area (SRA) or lands classified as Very High Fire Hazard Severity Zone (VHFHSZ) and it would:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan.
2. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
3. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.16.3 IMPACT DISCUSSION

The standards of significance listed in Section 4.16.2 above apply to projects that are within or near lands within the SRA or lands that are within a VHFHSZ. As shown in Figure 4.16-3, the project site is adjacent to lands to the east and north that are within the SRA. Therefore, the standards of significance in Section 4.16.2 apply to the proposed project.

FIRE-1	**The project would be located near a State Responsibility Area but it would not substantially impair an adopted emergency response plan or emergency evacuation plan.**

The proposed project would create a significant impact if it would substantially impair an emergency response plan or emergency evacuation plan.

Impact discussion HAZ-6 in Chapter 4.8, Hazards and Hazardous Materials, of this Draft EIR evaluates whether the proposed project would impair implementation of or physically interfere with an emergency response plan or emergency evacuation plan. As described under impact discussion HAZ-6, emergency response issues are addressed by the CCCFPD, which requires adequate access roads and building markings to facilitate emergency response.[43] The proposed project would convert existing roads into maintenance roads and emergency response vehicle access. In addition, the proposed project would include dedicated space within the Park Operations and Support Facility (Corporation Yard or Corp Yard) for park patrol and wildfire response teams. Emergency responders with four-wheel drive capacity would be able to utilize the roads and trails in the project site. Additionally, overlooks would be located in flat areas that could accommodate emergency landing of helicopters, if needed. These points would be spaced along the ridge, providing emergency responders access to much of the higher elevations of the

[43] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

project site within a short distance. Therefore, there would be a *less-than-significant* impact to emergency response or evacuation.

Significance without Mitigation: *Less than significant*.

FIRE-2	**The project would be located near a State Responsibility Area but it would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.**

Pursuant to the 2015 CBIA v. BAAQMD case, CEQA applies to a project's impacts on the environment and not the environment's impacts on the project, unless the project would exacerbate the environmental hazard.[44] The proposed project would result in a significant impact if it would exacerbate wildfire risks due to site characteristics such as slope, prevailing winds, or vegetation. This analysis focuses on the following potential impacts that the proposed project could create:

- Project grading would have the potential to create new sloped areas.
- The proposed project would not change prevailing winds, but aspects of the proposed project that have the potential to exacerbate wildfire hazards may increase wildfire hazards if prevailing winds would allow the spread of a wildfire.
- As the project site is largely comprised of grasslands, vegetation plantings and management would affect whether or not the proposed project could exacerbate existing wildfire hazards.

Slope

While the proposed project has been largely designed to minimize extensive grading, site preparation would be necessary for the development of most of the proposed project's recreational facilities. Both paved and unpaved parking lots would require site grading and site preparation to ensure adequate drainage and compaction for vehicular staging. Similarly, grading and site preparation would be necessary at all picnic areas with parking. Minimal site grading would also be needed for picnic areas without parking to ensure adequate access from adjacent trails and flat space for picnic facilities. The demolition of Buildings IA-55, 97, and 87 and their replacement with the new multi-purpose room, Diablo Center, and Caretaker's Residence, respectively, would not require extensive grading as the new buildings would utilize the existing building sites; however, these sites would require grading and site preparation for the new facilities and construction staging. The construction of the new archive building, the amphitheater, and the plaza near the Visitor Center would require similar treatment. Substantial site grading may be required within the Corporation Yard area to fulfill District maintenance needs. It is anticipated that grading would likely occur within the entire area, including the future native plant nursery. Although almost 80 percent of the roads and trails within the proposed Regional Park (project site) would follow existing roads, trails,

[44] California Supreme Court, 2015, California Building Industry Association v. Bay Area Air Quality Management District, Opinion No. S213478, date filed December 17, 2015.

or rail lines, some new alignments would be necessary. New segments of roads and trails would require site grading and compaction.

The project site contains hilly areas and steep slopes, and the creation of project facilities—including parking lots, picnic areas, construction staging areas, a Corporation Yard, roadways, and trails—would require grading that could create new slopes within the project site. Detailed grading plans and construction drawings for the implementation of the proposed Plan have not yet been developed. Figure 3-7 in Chapter 3, Project Description, of this Draft EIR shows an overview of the proposed Regional Park with existing topographical lines. Figure 3-7 illustrates that trails, roadways, and project features would be located in areas of the project site with steep slopes. In these areas, the grading required to install project features could create new steep sloped areas.

New slopes would not be expected to exacerbate the spread of wildfires within or beyond the project site as they would be limited to the areas directly adjacent to project features. Given the size of the project site and the existing terrain, the newly graded areas would be limited to specific areas as described above and would not change the overall characteristics of the project site. The portion of the project site abutting a SRA is located at the eastern edge, where the project site is dominated by a hilly terrain. The proposed project does not involve the creation of substantial new slopes, but would rather involve grading through areas that are already sloped to create flat spaces for project features and for access throughout the site. In other words, the proposed project would not create new slopes in areas that are currently flat; thus, exacerbating potential runoff conditions. As described above, the proposed Regional Park is designed to minimize the need for extensive grading, as building sites would largely utilize previously developed areas and 80 percent of roadways and trails would follow existing accessways.

Therefore, the significant risk of loss, injury, or death due to slopes would be *less than significant*.

Prevailing Winds

The windier part of the year is from April to September, with average wind speeds of over 8.4 miles per hour. During this time of year, prevailing winds are from the west. During the calmer part of the year, from September to April, the winds are from the west until November, then are from the north until February, and are from the west from February to April. Given prevailing wind patterns, the windier part of the year aligns with the months of driest precipitation; during this time, prevailing winds are blowing from the west.

As stated above, the proposed project would not change prevailing winds. However, wildfires and fire-related air pollution hazards that could be exacerbated by the proposed project could be spread by prevailing winds. Figure 4.16-3 shows that the project site is adjacent to lands to the east and north that are within the SRA and designated as being within the Moderate and High Fire Hazard Severity Zone. Of particular concern would be on-site wildfire that could occur during the dry season and spread eastward due to prevailing winds toward the SRA.

Section 4.16.1.1 describes plans, policies, regulations, and procedures that help to reduce wildfire risks. The CCCFPD's fire and emergency medical services, the Area Plan principles and policies, and the Concord General Plan policies, Concord Municipal Code requirements, and the Contra Costa County/City of

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Concord Local Hazard Mitigation Plan would reduce wildfire hazards to structures and/or residents and visitors. The District's fire services, Master Plan, Ordinance 38, general conditions, Wildfire Hazard Reduction and Resources Management Plan, in addition to the Fire Danger Operating Plan and Procedures will further reduce the risk of wildfire.

Furthermore, recognition of the growing threat that wildfire smoke poses to public health and safety has resulted in a response led by the United States Forest Service and enhanced through partnership with many other agencies, such as the National Park Service. The Wildland Fire Air Quality Response Program was created to directly assess, communicate, and address risks posed by wildfire smoke to the public as well as fire personnel. The program depends on four primary components: specially trained personnel called Air Resource Advisors), air quality monitoring, smoke concentration and dispersion modeling, and coordination and cooperation with agency partners. Air Resource Advisors are technical specialists that are trained to work on smoke issues from wildland fire. They are deployed nationwide during large smoke events. Air Resource Advisors are dispatched to an incident to assist with understanding and predicting smoke impacts on the public and fire personnel. They analyze, summarize, and communicate these impacts to incident teams, air quality regulators, and the public.[45]

In addition, the Bay Area Air Quality Management District offers air quality alerts, advisories, and forecasts by email through http://baaqmdsparetheair.enviroflash.info/. The Bay Area Air Quality Management District also maintains an interactive online map to view current air quality conditions in the region.

Prevailing regulatory requirements and policies, in addition to air quality response programs would minimize the exposure of people to a significant risk of loss, injury, or death due to prevailing winds and impacts would be *less than significant*.

Vegetation

Nearly 90 percent of the project site is comprised of California annual grassland. The dominant vegetation types within the remaining 10 percent of the site are oak woodland/savannah and tree plantations. Grassland fires are easily ignited, and during the late summer and fall, natural vegetation is extremely flammable, and wildfire is a serious hazard in undeveloped areas and sites with extensive areas of un-irrigated vegetation.

Although the project site is largely comprised of grasslands, the proposed Plan would introduce management activities through the District that would reduce wildfire hazards from on-site vegetation characteristics. The proposed project would also include several provisions for vegetation management. The proposed project includes a targeted grazing approach to maintain habitat values while controlling vegetation growth. The proposed project would also introduce irrigation to some areas of the project site, in compliance with the California Model Water Efficient Landscape Ordinance. Furthermore, the proposed project includes Management Prescription ACCESS 21, which calls for the District to "Reduce the risk of wildfire by implementing fuels modification projects to mitigate hazards to nearby exposures, following

[45] US Forest Service, 2018, Wildland Fire Air Quality Response Program, United States Department of Agriculture, https://www.wildlandfiresmoke.net/, accessed on August 1, 2019

best management practices and procedures outlined in the East Bay Regional Park District's Fire Danger Operating Plan and Procedures (2012) and Wildfire Hazard Reduction and Resource Management Plan (2010)."

Furthermore, the District's Wildfire Hazard Reduction and Resource Management Plan includes long-term strategies for reducing fuel loads and managing vegetation within District lands. The District's Fire Danger Operating Plan and Procedures assess weather and fuel status and sets corresponding restrictions to mitigate impacts from vegetation likely to act as fuel for fires. The District also uses data from its RAWS sites to monitor weather elements and season-situational fuels status. This allows the District to make decisions and set restrictions for all of its parks.

Prevailing regulatory requirements and policies, in addition to proposed project design features would minimize the exposure of people to a significant risk of loss, injury, or death due to vegetation and impacts would be less than significant.

Significance without Mitigation: *Less than significant.*

FIRE-3	**The project would be located near a State Responsibility Area and would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) but would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.**

The project would result in a significant impact if it would involve the installation or maintenance of infrastructure that has the potential to exacerbate wildfire risks (such as roads, power lines and gas lines) or if it would involve the installation or maintenance of risk-reduction infrastructure (such as fuel breaks or emergency water sources), that could create an impact to the environment.

Implementation of the proposed Plan would result in the development of new paved roadways, multi-use trails, and parking areas. Paved areas create an opportunity for vehicles to create accidental wildfires, as dragging chains, dragging vehicle parks, worn brakes, and exposed wheel rims have the potential to create sparks on the roadway. On-site roadways and trails, whether paved or unpaved, could also lead to wildfires as they would provide people with access throughout the project site. Human activities are the leading cause of wildfire, with the three most common types of human-caused wildfires being debris burning, arson, and equipment use. The proposed Plan includes Management Prescription ACCESS 7 which calls for the District to "Close staging areas and public access roads based on seasonal or extended closures, as necessary due to extreme fire danger or other hazards."

The District's Fire Danger Operating Plan and Procedures set restrictions on motorized vehicle travel off designated roads based on the growth, drying, and curing cycle of grass. Grass is the principle fuel in which vehicle fires start and spread, and vehicle travel is restricted when drought conditions increase the hazards of grass igniting. Furthermore, the District maintains fire danger levels and corresponding restrictions (as detailed under Section 4.16.1.1). When fire danger levels are "Very High" or "Extreme" vehicles are restricted to driving only on designated roadways. The District closes its parks when both the

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District Fire Department has limited resources to fight fires and the National Weather Service has declared a Red Flag Warning and maintains fire danger information signs at a number of its parks. The signs explain fire danger levels and corresponding restrictions. Furthermore, the District uses data from RAWS sites to make decisions and set restrictions for all of its parks.

On-site agricultural, gardening, and maintenance activities would involve equipment use that could pose an accidental fire hazard. While smoking would be prohibited within the project site (proposed Regional Park), on-site use of grills would be permitted on days when fire risks are not high and on days that are not "Spare the Air" days.

The District measures fuel conditions to assess fire behavior and the effort to contain a fire and sets smoking restrictions in wildland areas based on these conditions. Fire danger levels are also used to set restrictions. When fire levels are "Very High":

- Smoking is only allowed inside of enclosed vehicles, designated day-use picnic areas, campgrounds, or developed recreational areas.
- Campfires or barbeques are allowed only inside of designated day-use picnic areas, campgrounds, or developed recreational areas. Gas-fueled stoves are permitted in all areas.
- Gasoline-powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) are not allowed outside of irrigated areas, designated campgrounds, or developed recreational areas, unless extra protection fire safety measures approved by the Fire Chief are implemented.

When the fire level is "Extreme":

- Smoking is only allowed inside enclosed vehicles.
- Open fires, campfires, or barbeques of any type are not allowed. Gas-fueled stoves are permitted in all areas.
- Gasoline powered equipment (e.g., mowers in rough areas, weed eaters, chain saws, welders and generators) are not allowed outside of irrigated areas, designated campgrounds, or developed recreational areas. Maintenance of irrigated areas is permitted. Road grading is permitted provided extra protection fire safety measures approved by the Fire Chief are implemented.
- Contractors may continue working on District lands provided they institute extra protection fire safety measures approved by the Fire Chief. Contractor operations must be directly supervised by a District representative to ensure specified extra protection fire safety measures are implemented.

The proposed Regional Park would provide cooking grills at small picnic areas, and gas stoves would be allowed in designated day-use picnic areas and campgrounds. Based on the District's existing fire danger restrictions, cooking grills would not be permitted to be used during periods of "Extreme" fire danger. The proposed Regional Park would not include any open fires or campfire pits at any picnic or campsites.

Implementation of the proposed Plan would also require the installation of new electrical connections. Power lines could ignite wildfires if overhead lines fall down and come into contact with vegetation. The District's Master Plan, Policy PRPT28, recommends that power lines within the Regional Park be relocated

underground. The District, in cooperation with the utility companies, will work to place existing overhead utilities underground (unless so doing conflicts with applicable codes). The District will also seek to avoid the construction of high voltage power lines within all of its parklands.

Operating, and maintaining overhead powerlines would be required to comply with fire safety regulations pertaining to electric utilities including CCR Title 14 Sections 1250 et seq.; and CPUC fire safety regulations.

Implementation of the proposed Plan is also expected to include new gas lines. There will likely be natural gas connection for the Visitor Center Complex, the Diablo Center, the Caretaker's Residence, and the Corporation Yard. It is anticipated that buildings would utilize natural gas for heating and indoor cooking facilities. As described in Chapter 4.15, Utilities and Service Systems, of this Draft EIR, gas service would be provided by Pacific Gas & Electric (PG&E), whose gas transmission pipeline system is operated under an inspection and monitoring program.[46] The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. The PG&E Pipeline 2020 program, created in 2010, aims to expand the use of automatic or remotely-operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.[47] Compliance with industry standards to ensure safety would be expected to reduce the potential for new gas lines to create a substantial wildfire risk.

The proposed project would maintain the existing water storage tanks on the site for use for fire suppression in the event of wildfire. These tanks would be retained and upgraded as needed to meet or exceed minimum recommendations of the CCCFPD. Although activities to upgrade water storage tanks could create short-term construction-related environmental effects (e.g., noise, dust, traffic, erosion), the work would be subject to compliance with applicable local and regional regulations and standard conditions for new construction related to water lines. In addition, as described in Chapter 4.15, Utilities and Service Systems, of this Draft EIR, Mitigation Measure UTIL-2 would ensure that all water supply utilities are constructed to meet the Contra Costa Water District's requirements and standards. These regulations and best management practices would require the water line construction to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors and use modern equipment to limit emissions.

The proposed Plan includes measures to create defensible space around structures. Fire-prone plantings would be minimized on-site and would not be planted in proximity to any structures. The roadways and trails throughout the project site would be managed as fire breaks, including Kinne Boulevard, which could be utilized as a fire break between the project site (proposed Regional Park) and potential future adjacent residential uses within the Concord Reuse Project. The potential environmental impacts associated with future construction on the project site, including roadway and trail construction, are

[46] Pacific Gas & Electric, 2018, Learn about the PG&E natural gas system, https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page, accessed on March 2, 2018.

[47] Pacific Gas & Electric, 2010, News Releases: PG&E Aims to Advance Industry Best Practices, October 12, 2010, https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20101012_pge_announces_pipeline_2020_program_for_enhancing_natural_gas_pipeline_safety_and_reliability, accessed on March 2, 2018.

evaluated in Chapter 4.2, Air Quality, Chapter 4.7, Greenhouse Gas Emissions, Chapter 4.11, Noise, and Chapter 4.14, Transportation and Traffic, of this Draft EIR.

With the implementation of the District's Fire Danger Operating Plan and Procedures, fire restriction levels, and Master Plan policies, in addition to the Contra Costa Water District's requirements, industry standards, and State regulations impacts from the installation or maintenance of associated infrastructure would be *less than significant*.

Significance without Mitigation: *Less than significant.*

FIRE-4	**The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.**

Catastrophic wildfire can create favorable conditions for other hazards, such as flooding and landslides during the rainy season. The proposed project would result in a significant impact if—due to slopes, drainage patterns, or post-fire slope instability—it would expose people or structures to significant risks from landsides, debris flows, or flooding.

As shown in Figures 4.16-7 and 4.16-8, the project site does contain areas susceptible to landslides and debris flows. The project site varies from relatively flat to hilly. Landslides, earthflows, and debris flows are relatively common features along the ridges and hillsides of the Los Medanos Hills within the project site boundaries. A number of proposed project features, including trails, staging areas, campsites, the Diablo Center, the Corporate Yard, the Caretaker's Residence, and the Visitor Center Complex would be located downslope of potential debris flow sources. The closest offsite structures to a debris flow source on the project site are residential single-family homes located adjacent to the proposed project at Oakridge Court. However, these offsite structures are generally about a mile away from debris sources onsite. Furthermore, a number of proposed trails, staging areas, campsites, the Caregiver's Residence, and the Diablo Center are located in areas that have experienced many landslides.

With respect to flooding, the proposed trails, staging areas, campsites, the Diablo Center, the Corporation Yard, the Caretaker's Residence, and the Visitor Center Complex would be located downstream of runoff flowing down the slopes of the Los Medanos Hills. Residences off-site are located 0.8 miles downstream of the foothills of Los Medanos Hills.

In addition to fire hazard regulations and policies described under impact discussion FIRE-2, regulations and programs are in place to avoid the risk from flooding and landslides. Furthermore, the areas of improvement as described in impact discussion FIRE-2 would not create new slopes thus exacerbating any potential post-fire slope instability.

The purpose of the National Resource Conservation Service's Emergency Watershed Protection program is to undertake emergency measures for runoff retardation and soil erosion prevention to safeguard lives and property from floods and the products of erosion on any watershed whenever a wildfire causes or has caused a sudden impairment of the watershed. Emergency Watershed Protection program funds address erosion related watershed impairments by supporting activities such as removing debris from stream

channels, road culverts, and bridges; reshaping and protecting eroded banks; correcting damaged drainage facilities; repairing levees and structures; and reseeding damaged areas to establish vegetative cover on critically eroding lands.[48]

Furthermore, any structure developed on the project site would be designed and constructed in accordance with the CBC in effect at the time of construction. For example, Section 1803.2 of the current 2016 CBC requires a geotechnical investigation that must assess existing landslide susceptibility on the site. Recommendations of the geotechnical investigation, as they pertain to structural design and construction recommendations for earthwork, grading, slopes, foundations, pavements, and other necessary geologic considerations, must be incorporated into the design and construction of the development.

The primary purpose the wildfire hazard policies, prevailing regulatory requirements, and the National Resource Conservation Service's Emergency Watershed Protection program, is to minimize risks from downslope or downstream flooding or landslides as a result of post fire slope instability. As such, implementation of these policies and regulatory requirements would ensure impacts from post fire instability would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.16.4 CUMULATIVE IMPACTS

FIRE-5	The project would not contribute to significant cumulative wildfire impacts.

The areas considered for cumulative impacts related to wildfires are the SRA to the east and north of the project site and the wildfire urban interface or WUI area shown in Figure 4.15-4. Future projects may be proposed within these areas, which could subject people and structures to wildfire hazards. As discussed previously, future development under the proposed project would not interfere with implementation of emergency response plans or result in significant wildfire-related impacts. Potential impacts associated with wildfires would be reduced through compliance with proposed policies and existing local, regional, State, and federal regulations. Cumulative development in adjacent jurisdictions would be subject to the same federal, State, and regional regulations, as well as regional safety plans, such as the Contra Costa County/City of Concord Local Hazard Mitigation Plan. Specifically, with respect to the implementation of the Concord Reuse Project Area Plan, hazards related to the wildfire and the interface between the project site and future buildings are addressed in the Area Plan Policy SHN-3.1, which requires that future projects 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 Area Plan site. Cumulative projects would also be required to comply with the requirements of the CBC Chapter 7A, CFC Chapter 49, PRC Sections 4291

[48] Natural Resources Conservation Service, Disaster Recovery Assistance, https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=nrcseprd1361073, accessed August 1, 2019.

et seq. and the SRA Fire Safe regulations for areas in the SRA. Furthermore, overhead powerlines would be required to comply with the CCR Title 14 Sections 1250 et seq. and CPUC fire safety regulations.

Compliance with these requirements would reduce cumulative, development-related impacts that relate to wildfire hazards and emergency response. Accordingly, the cumulative development would not result in a cumulatively significant impact to wildfire hazards and impacts from the proposed project would not be cumulatively considerable. The proposed project would not contribute to a cumulative increase in wildland fire hazards in the immediate vicinity of the project site or throughout the region and the potential for cumulative impacts associated with wildfire hazards would be *less than significant*.

Significance without Mitigation: *Less than significant.*

5. Alternatives to the Proposed Project

5.1 INTRODUCTION

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed project that would avoid or substantially lessen any significant effects of the proposed project.

The CEQA Guidelines set forth the intent and extent of alternatives analysis to be provided in an EIR. Section 15126.6(a) of the CEQA Guidelines states that:

> *An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.*

The alternatives evaluated in this Draft EIR were developed consistent with Section 15126.6(b) of the CEQA Guidelines, which states that:

> *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

Section 15126.6(c) of the State CEQA Guidelines states:

> *The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

5.2 OVERVIEW OF PROJECT ALTERNATIVES

The alternatives to the proposed project are described below:

- No Project Alternative. Under the No Project Alternative, the proposed Plan would not be adopted, the future Regional Park would not be developed, and the project site would remain largely in its existing use, with the exception that the remediation activities planned by the United States Navy would occur. The site may still be used as grazing land, as it is currently, but would largely remain unutilized and closed to the public. The East Bay Regional Park District (District) would not manage the project site. It is expected that the City would pursue utilizing the site for mitigation for the Area Plan (and the Specific Plan). However, because the future Regional Park would not be developed, the site would not be placed under a restrictive covenant pursuant to the Biological Opinion,[1] and it is therefore possible that the project site could be made available for urban development.
- Limited Footprint Alternative. Under Limited Footprint Alternative, proposed Plan would be amended such that future Regional Park uses would be scaled back to focus the intensity of use in the previously developed areas of the project site. North of Bailey Road, proposed facilities and trails within the western portion of the site would be maintained. South of Bailey Road, the inner loop of proposed trails would be maintained, but the trails and roadways extending out from this loop and South Park Road would not be developed. Under this alternative, areas where features or improvements of the proposed Plan would not be constructed would be left in their existing conditions undisturbed. Under this alternative, the park would accommodate fewer visitors and fewer employees, and would provide less programming. With its smaller footprint, it is unknown whether the future park would be created and managed by the District. It is assumed that this alternative would adhere to the Biological Opinion within the park area; however, the portions of the project site that would not be included in a future park would not be managed to the same level as they would be under the proposed project.

5.3 ALTERNATIVES CONSIDERED AND REJECTED AS BEING INFEASIBLE

As described above, Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in and EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. The following is a discussion of alternatives that were considered and rejected, along with the reasons they were not included in the analysis.

[1] On May 30, 2017, the United States Fish and Wildlife Service issued a Biological Opinion for the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project, including the East Bay Regional Park District's proposed development of a Regional Park, which is the designated conservation area for the Concord Reuse Project Area Plan.

5.3.1 EXPANDED PARK FACILITIES ALTERNATIVE

Based on park uses and facilities requested by some members of the public, the District considered an alternative in which the future Regional Park would include active recreational uses (such as ball fields, a disc course, a playground, equestrian facilities, and/or a splash pad), as well as more developed park facilities (more public buildings and/or more educational/interpretive facilities). However, this alternative was removed from further consideration because it may conflict with the Biological Opinion, which was issued by the United States Fish and Wildlife Service in 2017 and with which the future Regional Park shall comply as the designated conservation area for the City's Area Plan. The proposed Plan has been developed in compliance with the Biological Opinion, and an alternative that involves an expansion of the developed areas of the future Regional Park may not adequately account for the biological resource constraints of the project site and would be expected to increase rather than decrease the physical impacts of the proposed project.

5.3.2 OFF-SITE ALTERNATIVE

Section 15126.6(f)(2) of the CEQA Guidelines states that "The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location." The District considered whether any alternative locations are available for the creation of a park that would achieve the basic objectives of the proposed project. The project site is unique as a large (over 2,500-acre) site that is accessible via public transit and adjacent to urban neighborhoods, and no other similar open space areas are available in the Bay Area that would provide this combination of size, characteristics, and ability to achieve the objectives of the project. Developing a park the size of the future Regional Park in a location not accessible by transit would result in greater traffic impacts, vehicle miles traveled, and associated impacts (e.g., air quality, greenhouse gas [GHG], and noise impacts).

5.4 OBJECTIVES ASSESSMENT

As stated above, the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the proposed project. The proposed project addresses planned recreation facilities and conservation areas, where those land uses should be located, how those land uses may be accessed and connected, and how development of those uses should be managed so as to minimize impacts and maximize benefits to visitors and will seek to accomplish the following objectives:

- Biological Resources. Develop and manage the Regional Park for the protection, enhancement, and restoration of natural resources.
- Cultural and Historic Resources. Develop and manage the Regional Park to benefit the overall landscape character of the parklands and specific cultural and historic resources.
- Circulation and Trails. Develop and manage the Regional Park to complete gaps in regional trails networks, provide a range of recreational trails throughout the Regional Park, and facilitate and encourage multi-modal access to the site (e.g., bike, pedestrian, vehicular, public transit).

- Recreation and Education Facilities. Develop and manage recreational and educational facilities that offer a range of opportunities to experience the unique natural, cultural, social, and military history of the CNWS and the Central Contra Costa County region.
- Interpretive Facilities. Establish a historical interpretation program and visitor center in partnership with the National Park Service, Friends of Port Chicago, and others which honors the veterans who served at the CNWS, conveys the significance of the events at Port Chicago, provides displays on the history of Concord and the Diablo Valley region, and facilitates access to the National Park Service's Port Chicago Naval Magazine National Memorial.

5.4.1 NO PROJECT ALTERNATIVE

The No Project Alternative would not adopt the proposed Plan, would not develop a future park on the project site, and would not ensure that the project site would be managed and maintained to protect, enhance, restore, or benefit biological, historical, or cultural resources. Therefore, the No Project Alternative would not meet any of the project objectives.

5.4.2 LIMITED FOOTPRINT ALTERNATIVE

Under Limited Footprint Alternative, the proposed Plan would be adopted and a smaller park would be developed. Therefore, some of the proposed recreational, educational, and interpretive facilities would be provided. In addition, park areas would be managed to protect biological, historical, and cultural resources. However, the District would not manage the portions of the project site that would not be included in the park, so it is unknown how those areas would be managed to protect biological, historical, and cultural resources. Therefore, this alternative would only partially achieve all of the project objectives.

5.5 IMPACT ASSESSMENT

The alternatives analysis assumes that all applicable mitigation measures recommended for the proposed project would apply to each alternative. The following analysis compares the potentially significant environmental impacts of each alternative with those of the project-related impacts for each of the environmental topics analyzed in detail in Chapter 4, Environmental Evaluation, of this Draft EIR. The impacts of each alternative are classified as a substantial deterioration, slight deterioration, similar impact, slight improvement, or substantial improvement to the level of impacts associated with the proposed project. Table 5-1 below, summarizes the relative impacts of each of the alternatives compared to the proposed project.

TABLE 5-1 COMPARISON OF IMPACTS FROM PROJECT ALTERNATIVES AND THE PROPOSED PROJECT

Topic	Proposed Project[a]	No Project Alternative	Limited Footprint Alternative
Aesthetics	LTS	<	<
Air Quality	LTS	=	=
Biological Resources	LTS/M	<	=
Cultural Resources and Tribal Cultural Resources	LTS/M	>	=
Energy	LTS	=	=
Geology and Soils	LTS/M	>	=
Greenhouse Gas Emissions	LTS	<	=
Hazards and Hazardous Materials	LTS	<	=
Hydrology and Water Quality	LTS/M	>	=
Land Use and Planning	LTS	<<	<<
Noise	LTS	=	=
Population and Housing	LTS	=	=
Public Services and Recreation	LTS	<	<
Transportation and Traffic	LTS/M	>	=
Utilities and Service Systems	LTS/M	>	>
Wildfire	LTS	<	>

a. The impacts listed in this column represent the highest significance determination for each respective threshold.

LTS Less than Significant
LTS/M Less than Significant with Mitigation

<< Substantial deterioration in comparison to the proposed project
< Slight deterioration in comparison to the proposed project
= Similar impacts in comparison to the proposed project
> Slight improvement in comparison to the proposed project
>> Substantial improvement in comparison to the proposed project

5.5.1 NO PROJECT ALTERNATIVE

Pursuant to CEQA Guidelines Section 15126.6(e)(1), the No Project Alternative is required as part of the "reasonable range of alternatives" to allow decision makers to compare the impacts of approving the proposed project with the impacts of taking no action or not approving the proposed project. Per CEQA Guidelines Section 15126.6(e)(3)(C), the District, acting as the lead agency, should analyze the impacts of the No Project Alternative by projecting what would reasonably be expected to occur in the foreseeable future if the proposed Plan were not approved, based on current plans.

Under the No Project Alternative, the District anticipates that the future Regional Park would not be developed and the project site would remain largely in its existing use, with the exception that the remediation activities planned by the United States Navy would occur. Because the future Regional Park would not be developed, the District would not manage the project site. It is expected that the City would pursue utilizing the site for mitigation for the Area Plan (and the Specific Plan). However, under this alternative, because a future Regional Park would not be developed, the site would not be placed under a restrictive covenant pursuant to the Biological Opinion, and it is therefore possible that the project site could be made available for urban development. This alternatives analysis does not speculate as to what urban uses may occur at the project site, and assumes that the site would remain its current, largely vacant, use. The site may still be used as grazing land, as it is currently, but would largely remain unutilized and closed to the public. The potential environmental impacts associated with the No Project Alternative when compared to the proposed project are described below.

5.5.1.1 AESTHETICS

As described in Chapter 4.1, Aesthetics, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

The Concord, Pittsburg, and Contra Costa County General Plans do not designate scenic vistas or roads in the project vicinity, and there are no officially designated scenic highways within the project site or vicinity. Under the No Project Alternative, no new structures would be built that could block scenic vistas, damage scenic resources, degrade the existing visual character of the project site, or introduce new sources of light and glare. However, the No Project Alternative would not involve the strategies proposed by the proposed project to further the protection of scenic resources in the project vicinity. These strategies include removing unutilized utility lines and infrastructure that obstructs long-range views and/or detracts from the character of this site, installing native vegetation and utilizing the existing topography would be used to frame views and screen undesirable features, and reducing the overall road density within the hills and focusing recreation and staging units in the lower elevations of the site. Therefore, views within and across the project site would be of a lower visual quality than under the proposed project. This alternative would also provide fewer opportunities for the public to enjoy scenic areas of the project site and access scenic overlooks. Overall, this alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.1.2 AIR QUALITY

As described in Chapter 4.2, Air Quality, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

Under the No Project Alternative, no new structures would be built and no site preparation activities would occur that could generate construction-related emissions. In addition, the future Regional Park would not be developed, and thus no operational emissions would be generated. Overall, neither the No Project Alternative nor the proposed project would result in significant air quality impacts. Therefore, the No Project Alternative would be *similar* to the proposed project.

5.5.1.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed project would result in several significant-but-mitigable impacts. Mitigation measures would require surveys, buffers, relocation, avoidance, alternative roosts, and the implementation of management prescriptions to ensure that impacts would be reduced to less-than-significant levels.

Under the No Project Alternative, no new structures would be built and no site preparation activities would occur on the project site. Therefore, the No Project Alternative would not have the potential to disturb existing California annual grassland, habitat for on-site animal species, foraging land for golden eagles, or bat roosts. Unlike the proposed project, the No Project Alternative would not involve the removal of any trees. In addition, because the No Project Alternative would not open up the project site for public access, this alternative would not result in the potential for western pond turtles, Alameda whipsnake, or coast horned lizards to be inadvertently harmed by vehicle or foot traffic. Therefore, the No Project Alternative would avoid these significant-but-mitigable impacts that would occur under the proposed project. However, the No Project Alternative would not involve the management prescriptions contained in the proposed Plan, such as monitoring, managing, and enhancing breeding habitat, and controlling the spread of non-invasive plant species.

Neither the proposed project nor the No Project Alternative would result in impacts to riparian habitat or interfere with wildlife movement.

Although the No Project Alternative would avoid several of the significant-but-mitigable impacts of the proposed project, under the No Project Alternative it is unknown how the use of the project site as mitigation would be implemented if the District does not manage the land and it is possible that the site would not be preserved in compliance with the Biological Opinion. Therefore, overall the No Project Alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.1.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

As described in Chapter 4.4, Cultural Resources and Tribal Cultural Resources, of this Draft EIR, the proposed project would result in three significant-but-mitigable impacts. Mitigation measures would require preconstruction training, monitoring, and inadvertent discovery procedures to ensure that impacts would be reduced to less-than-significant levels.

Under the No Project Alternative, no new structures would be built and no site preparation activities would occur on the project site. Therefore, this alternative would not have the potential to result in the accidental discovery of buried cultural resources.

None of the buildings or structures in the project site are eligible for listing in either the National or California Registers. Therefore, neither the No Project Alternative nor the proposed project would have the potential to cause a substantial adverse change in the significance of a historical resource.

Overall, because the No Project Alternative would avoid the significant-but-mitigable impacts of the proposed project, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.1.5 ENERGY

As described in Chapter 4.5, Energy, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

Under the No Project Alternative, the construction of new structures as well as site preparation activities would not occur. Therefore, there would be no energy consumption related to construction vehicles and equipment, bound energy in construction materials, and electricity use for electricity-powered equipment. In addition, the future Regional Park would not be developed, and thus no operational energy consumption would be generated.

Overall, neither the No Project Alternative nor the proposed project would result in significant air quality impacts. Therefore, the No Project Alternative would be *similar* to the proposed project.

5.5.1.6 GEOLOGY AND SOILS

As described in Chapter 4.6, Geology and Soils, of this Draft EIR, the proposed project would result in one significant-but-mitigable impact to paleontological resources.

Under the No Project Alternative, no new structures would be built and the project site would not be opened to the public. Thus, no people or structures would be exposed to geologic hazards. Neither the proposed project nor the No Project Alternative would exacerbate existing geologic hazards, result in substantial soil erosion, or involve soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems.

Under the No Project Alternative, no new structures would be built and no site preparation activities would occur on the project site. Therefore, this alternative would not have the potential to result in the accidental discovery of buried paleontological resources.

Overall, because the No Project Alternative would avoid the significant-but-mitigable impacts of the proposed project, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.1.7 GREENHOUSE GAS EMISSIONS

As described in Chapter 4.7, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

Under the No Project Alternative, no new structures would be built and no site preparation activities would occur that could generate construction-related GHG emissions. In addition, the future Regional Park would not be developed, and thus no operational emissions would be generated.

The No Project Alternative would not implement the open space and conservation strategy envisioned in the City's Area Plan, which is identified by the Association of Bay Area Governments (ABAG) as a Planned Development Area (PDA). While the proposed project is not within a PDA, the future Regional Park was envisioned as a key piece within the Area Plan development, balancing the planned adjacent development and providing partial mitigation for impacts of the City's development under the Area Plan. Therefore, the No Project Alternative may hinder the City's ability to achieve the sustainable vision for the Bay Area outlined by ABAG and Metropolitan Transportation Commission (MTC) in the Plan Bay Area 2040. As such, the No Project Alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.1.8 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.8, Hazards and Hazardous Materials, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

As described in Chapter 4.8, before transfer of the property, the Navy and regulatory agencies must ensure that all applicable statutory and regulatory requirements have been satisfied. The Navy prepared a Finding of Suitability to Transfer for the transfer of title to real property by deed to non-federal entities. The project site contains sites that could pose a potential hazard due to past on-site activities. In addition, existing buildings may contain asbestos-continuing materials, lead-based paints, and other hazardous materials. The No Project Alternative would not involve site preparation or demolition activities that would have the potential to disturb existing on-site hazardous materials. In addition, this alternative would not involve the use of hazardous materials associated with construction and operation of the future Regional Park. However, the proposed project would comply with existing regulations and deed restrictions and would therefore not create any significant impacts due to construction or operation of the future Regional Park.

Neither the proposed project nor the No Project Alternative would result in impacts associated with airport hazards or conflict with an emergency response plan or evacuation plan.

Under the No Project Alternative, the project site would not be managed by the District and therefore the District's existing wildfire reduction plans and procedures and proposed management prescriptions would not apply.

The No Project Alternative could create a new impact associated with wildland fires; therefore, overall this alternative would be a *slight deterioration* in comparison to the proposed project.

5.5.1.9 HYDROLOGY AND WATER QUALITY

As described in Chapter 4.9, Hydrology and Water Quality, of this Draft EIR, the proposed project would result in five significant-but-mitigable impacts.

The No Project Alternative would not involve construction or operation activities that would have the potential to degrade water quality, deplete groundwater supplies, alter drainage patterns, or increase stormwater runoff.

Neither the proposed project nor the No Project Alternative would place housing or structures within a flood hazard area; create hazards associated with the failure of a levee or dam; or result in inundation by seiche, tsunami, or mudflow.

As described in Chapter 4.9, the proposed project would reduce the total impervious area on the site by approximately 41 acres, or 33 percent, thus improving groundwater recharge and reducing runoff. The No Project Alternative would maintain the existing impervious surfaces on the project site.

Overall, because the No Project Alternative would avoid the significant-but-mitigable impacts of the proposed project, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.1.10 LAND USE AND PLANNING

As described in Chapter 4.10, Land Use and Planning, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

The proposed project would have a positive impact because it would enhance, rather than hinder, connectivity through and across the project site. Under the No Project Alternative, the future Regional Park's trail connections would not be developed and the project site would not be opened to the public. Therefore, this alternative would not provide the increased connectivity planned by the proposed project and tie into the planned community planned in the Area Plan. However, since no new barriers would be created and the Area Plan has not yet been developed, this alternative would not create a negative impact associated with the physical division of an established community.

The No Project Alternative would not redevelop the project site into a future Regional Park and therefore would conflict with District and City land use plans and policies intended to develop, manage, and maintain the site in a manner than avoids environmental effects. The No Project Alternative would also be inconsistent with the proposed project site's current land use designation of CRP-OS, which intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the site. This could result in a new significant and unavoidable impact associated with conflicts with existing plans and policies intended to avoid environmental impacts.

As discussed in Section 5.5.1.6, the No Project Alternative, the No Project Alternative may hinder the City's ability to achieve the sustainable vision for the Bay Area outlined by ABAG/MTC's *Plan Bay Area*.

Neither the proposed project nor the No Project Alternative would conflict with a habitat conservation plan.

Overall, because the No Project Alternative would conflict with applicable plans and policies intended to guide the conversion of the project site into a well-managed open space and park setting, the No Project Alternative would result in a *substantial deterioration* in comparison to the proposed project.

5.5.1.11 NOISE

As described in Chapter 4.11, Noise, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Under the No Project Alternative, no future site preparation or construction activities would occur and no construction related noise impacts would occur.

Under this alternative, the project site would largely remain in its existing conditions. Therefore, as under the proposed project, no operational noise impacts would occur.

Neither the proposed project nor the No Project Alternative would result in impacts associated with traffic-related or airport noise.

Overall, neither the No Project Alternative nor the proposed project would result in significant noise impacts. Therefore, the No Project Alternative would be *similar* to the proposed project.

5.5.1.12 POPULATION AND HOUSING

As described in Chapter 4.12, Population and Housing, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

With the exception of the caretaker's residence included in the proposed Plan, neither the proposed project nor the No Project Alternative would involve new housing on the project site. Therefore, neither scenario would have the potential to exceed growth projections.

Neither the proposed project nor the No Project Alternative would remove existing housing or displace people.

Overall, the impacts related to population and housing would be *similar* than that of the proposed project.

5.5.1.13 PUBLIC SERVICES AND RECREATION

As described in Chapter 4.13, Public Services and Recreation, of this Draft EIR, impacts to fire protection services, police services, and parks, under the proposed project, were found to be less than significant and no mitigation measures are required.

As discussed in Chapter 4.13, Public Services and Recreation, the proposed project would not require the expansion of Contra Costa County Fire Protection District or Concord Police Department facilities. The No Project Alternative would not increase the use or population of the project site and therefore would not increase demands for fire or police services. However, because the No Project Alternative would not involve the District's management and oversight of the project site, it is possible that under this alternative the project site could become a result in wildland fire hazards or public safety and security concerns.

Because the proposed project would facilitate the development of a future publicly accessible park, the project would not increase demands for park services that would require existing facilities to be expanded or new facilities to be built. Under the No Project Alternative, the future Regional Park would not be developed. Therefore, the project site would not be available to balance the proposed new development under the Area Plan.

Overall, the No Project Alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.1.14 TRANSPORTATION AND TRAFFIC

As discussed in Chapter 4.14, Transportation and Traffic, of this Draft EIR, the proposed project would result in one significant-but-mitigable impact associated with temporary impacts due to construction activity.

The No Project Alternative would not involve construction activities and would not temporarily impact the circulation system.

As described in Chapter 4.14, the traffic generated by the proposed project would not exceed the City's peak-hour vehicle trip threshold for a full traffic impact analysis. Under the No Project Alternative, the project site would not be redeveloped or opened for public use, and therefore no new vehicle traffic impacts would occur.

The No Project Alternative would not provide any transit, bicycle, or pedestrian connections. However, since none are currently planned on the project site, this would not create a new impact associated with plan conflicts.

Neither the proposed project nor the No Project Alternative would cause impacts related to inadequate emergency access and hazards, or result in a change in air traffic patterns.

Overall, because the No Project Alternative would avoid the significant-but-mitigable impact of the proposed project, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.1.15 UTILITIES AND SERVICE SYSTEMS

As described in Chapter 4.15, Utilities and Service Systems, of this Draft EIR, impacts to water supply services were found to be significant but mitigatable. Under Mitigation Measure UTIL-2, the District would require all required water infrastructure to be constructed to meet Contra Costa Water District requirements in order to ensure that impacts would be less than significant. Impacts to sanitary wastewater services, stormwater infrastructure, solid waste services, and energy conservation were found to be less than significant and no mitigation measures are required.

Under the No Project Alternative, the project site would remain in its existing use and would not require the construction of new water infrastructure . Therefore, this alternative would avoid the significant-but-mitigable impact that would occur under the proposed project.

Although the proposed project would increase wastewater, solid waste, stormwater, and energy utility demands, it would not require new facilities that would result in a significant impact. Under the No Project Alternative, the project site would remain in its existing use and these service demands would not be increased. Therefore, as under the proposed project, under the No Project Alternative no significant impacts would occur.

Overall, because the No Project Alternative would avoid the significant-but-mitigable impact of the proposed project, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.1.16 WILDFIRE

As described in Chapter 4.16, Wildfire, of this Draft EIR, the proposed project would result in less-than-significant impacts.

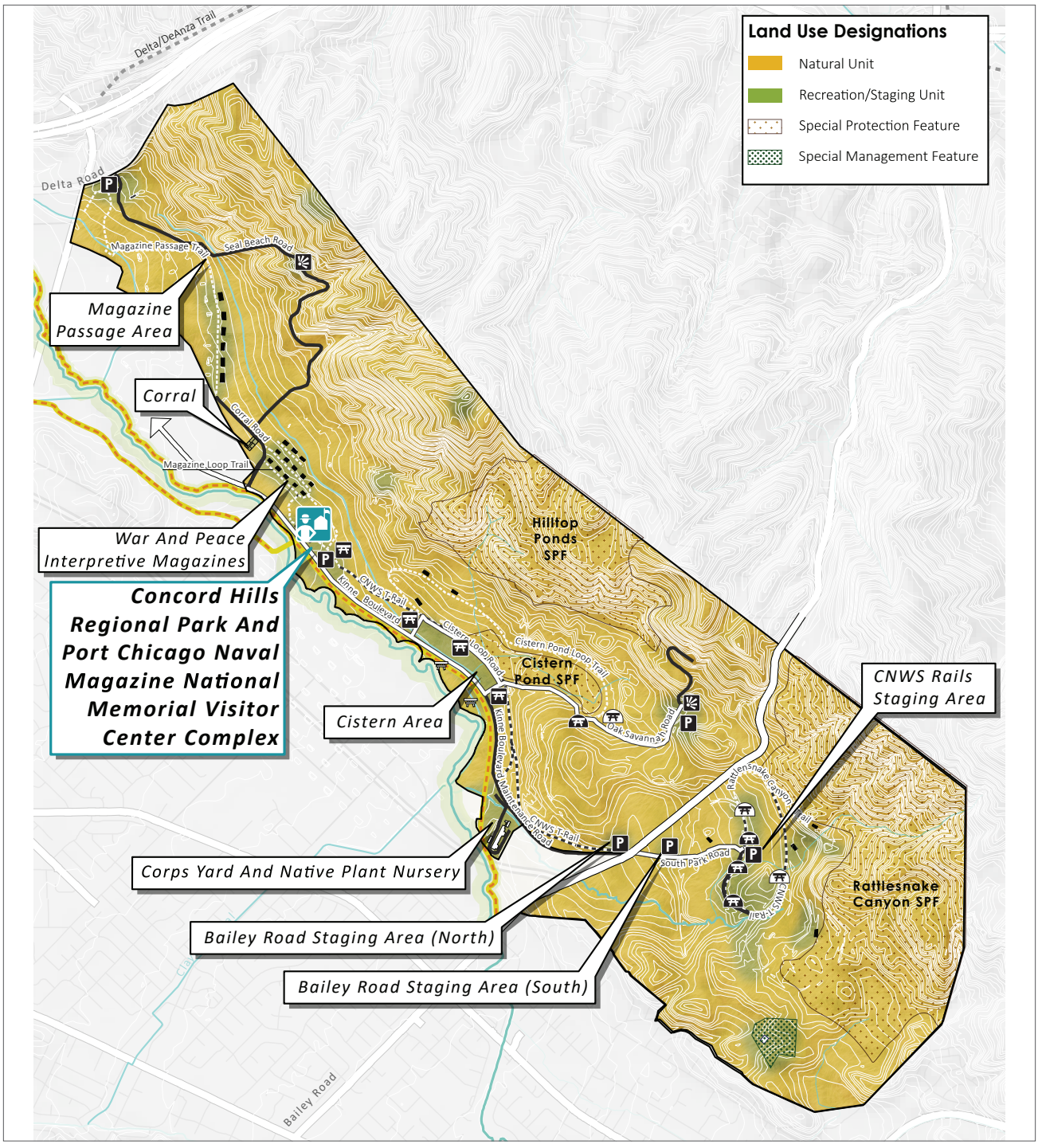
Under the No Project Alternative, no new structures would be built that would exacerbate wildfire risks, require the installation and maintenance of new infrastructure, or expose people or structures to downslope and downstream flooding or landslides as a result of post-fire effects. However, Under the No Project Alternative, the project site would not be managed by the District and therefore the District's existing wildfire reduction plans and proposed management prescriptions would not apply.

Overall, neither the No Project Alternative nor the proposed project would result in significant wildfire impacts. However, since the No Project Alternative would not fall under the District's wildfire reduction plans, the No Project Alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.2 LIMITED FOOTPRINT ALTERNATIVE

Under Limited Footprint Alternative, proposed park uses would be scaled back to focus the intensity of use in the previously-developed areas of the project site. North of Bailey Road, proposed facilities and trails within the western portion of the site would be maintained. South of Bailey Road, the inner loop of proposed trails would be maintained, but the trails and roadways extending out from this loop and South Park Road would not be developed. Where proposed features of the proposed Plan have been removed, under this alternative these areas would be left in their existing conditions or restored to a more natural state. This alternative would not include the proposed community orchard, Diablo Center, Rancho Monte Group Campsite, Eagle's Nest Backcountry Campsite, Port Chicago Overlook, Delta Vista Overlook, Water Tank Overlook, or Concord Overlook. Several picnic areas would also be removed. It is assumed that the caretaker's residence would be relocated to a new site within the western portion of the site. An overview of this alternative is shown in Figure 5-1.

It is assumed that, under this alternative, the park would accommodate fewer visitors and fewer employees, and would provide less programming, due to the removal of several miles of trail, the proposed orchard and Diablo Center, two campsites, and several picnic areas and overlooks. With its smaller footprint, it is unknown whether the park would be created and managed by the District or whether it would become a City or National Park Service park instead.



Source: Concord Hills Regional Park Land Use Plan, 2017.

- overlook
- picnic area with parking
- picnic area with parking at existing magazines
- picnic area without parking
- picnic area at existing magazines without parking
- staging area with parking
- campsite
- magazine incorporated into park programming
- irrigation canal
- 10' contour line
- hiking-only trail (narrow natural surface)
- multi-use trail (narrow natural surface)
- paved multi-use trail
- rail to multi-use trail conversion
- multi-use trail along Mount Diablo Creek and connection to N. Concord BART (rail to trail conversion where appropriate)
- existing regional trail
- public road
- maintenance road (hikers, bikers, and equestrians permitted)

0 2,000
Scale (Feet)

SPF = Special Protection Feature

Figure 5-1
Limited Footprint Alternative Overview

However, it is assumed that the same or similar management prescriptions would apply to a City- or National Park Services-managed park. It is also assumed that this alternative would adhere to the Biological Opinion within the park area. However, the portions of the project site that would not be included in the park may not be managed to the same level as they would be under the proposed project.

The potential environmental impacts associated with the Limited Footprint Alternative when compared to the proposed project are described below.

5.5.2.1 AESTHETICS

As described in Chapter 4.1, Aesthetics, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

As described in Section 5.5.1.1, there are no officially-designate scenic vistas, roadways, or highways within the project site or vicinity. Under the Limited Footprint Alternative, fewer structures would be renovated or reconstructed than under the proposed project. In areas of the project site that would not be incorporated as part of the park, it is assumed that some structures would be demolished and others would remain in their existing conditions. This alternative would involve less removal of unutilized utility lines and infrastructure that obstruct long-range views and/or detracts from the character of the project site. Therefore, for park visitors, views within and across the project site would be of a lower visual quality than under the proposed project. This alternative would also provide fewer opportunities for the public to enjoy scenic areas of the project site and access scenic overlooks. Overall, this alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.2.2 AIR QUALITY

As described in Chapter 4.2, Air Quality, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and a smaller portion of the project site would be improved. Therefore, fewer construction-related emissions would be generated in comparison to the proposed project. In addition, because the park would host less programming and accommodate fewer visitors and employees, operational emissions would be reduced due to the reduced vehicular travel associated with the project. Overall, neither the Limited Footprint Alternative nor the proposed project would result in significant air quality impacts. Therefore, Limited Footprint Alternative would be *similar* to the proposed project.

5.5.2.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed project would result in several significant-but-mitigable impacts. Mitigation measures would require surveys, buffers, relocation, avoidance, alternative roosts, and the implementation of management prescriptions to ensure that impacts would be reduced to less-than-significant levels.

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and fewer site preparation activities would occur on the project site. Therefore, the Limited Footprint Alternative would disturb fewer acres of existing California annual grassland, habitat for on-site animal species, foraging land for golden eagles, bat roosts, and trees. Because this alternative would still open up parts of the project site for public access, this alternative would result in the same potential for western pond turtles, Alameda whipsnake, and coast horned lizards to be inadvertently harmed by trail construction, vehicle or foot traffic as would occur under the proposed project.

It is assumed that, the Limited Footprint Alternative would involve the same management prescriptions and Biological Opinion requirements that would be involved in the proposed project. However, under this alternative, large portions of the project site would not be included in the park. These excluded areas would not receive foot traffic and would not have roads or trails enabling District staff to regularly patrol the areas. These restricted areas would be more vulnerable to trespassing, vandalism, and undiscovered impacts to resources under the Limited Footprint Alternative than under the proposed project.

Neither the proposed project nor the Limited Footprint Alternative would result in impacts to riparian habitat or interfere with wildlife movement.

Overall, the Limited Footprint Alternative would reduce the scope of, but not entirely avoid, the significant-but-mitigable impacts of the proposed project, and it would add the potential for increased impacts due to lack of patrol and supervision of the entirety of the project site. Therefore, overall the Limited Footprint Alternative would represent *similar* impacts in comparison to the proposed project.

5.5.2.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

As described in Chapter 4.4, Cultural Resources and Tribal Cultural Resources, of this Draft EIR, the proposed project would result in three significant-but-mitigable impacts. Mitigation measures would require preconstruction training, monitoring, and inadvertent discovery procedures to ensure that impacts would be reduced to less-than-significant levels.

Under the Limited Footprint Alternative, fewer structures would be redeveloped and fewer areas of the project site would be subject to site preparation activities. However, implementation of the Limited Footprint Alternative could also result in the discovery of cultural resources, and this alternative would also require mitigation to reduce impacts to less than significant. None of the buildings or structures in the project site are eligible for listing in either the National or California Registers. Therefore, neither the Limited Footprint Alternative nor the proposed project would have the potential to cause a substantial adverse change in the significance of a historical resource.

Overall, since both the proposed project and the Limited Footprint Alternative require the same mitigation measures to reduce impacts to less than significant, impacts of the Reduced Footprint Alternative would be *similar* when compared to the proposed project.

5.5.2.5 ENERGY

As described in Chapter 4.5, Energy, of this Draft EIR, the proposed project would result in less-than-significant impacts. and no mitigation measures are required.

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and a smaller portion of the project site would be improved. Therefore, construction energy consumption would be reduced. In addition, because the future park would host less programming and accommodate fewer visitors and employees, vehicular travel would be reduced and therefore operational energy consumption would be reduced.

Overall, neither the Limited Footprint Alternative nor the proposed project would result in significant energy. Therefore, the Limited Footprint Alternative would be *similar* to the proposed project.

5.5.2.6 GEOLOGY AND SOILS

As described in Chapter 4.6, Geology and Soils, of this Draft EIR, the proposed project would result in one significant-but-mitigable impact to paleontological resources

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and a smaller portion of the project site would be open to the public. Thus, fewer people or structures would be exposed to geologic hazards. Neither the proposed project nor the Limited Footprint Alternative would exacerbate existing geologic hazards, result in substantial soil erosion, or involve soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems.

As described in Chapter 4.6, implementation of the proposed project could result in the accidental discovery of paleontological resources. Implementation of the Limited Footprint Alternative could also result in the discovery of paleontological resources, and this alternative would also require mitigation to reduce impacts to paleontological resources to less than significant.

Overall, since both the proposed project and the Limited Footprint Alternative require the same mitigation measures to reduce impacts to less than significant, impacts of the Reduced Footprint Alternative would be *similar* when compared to the proposed project.

5.5.2.7 GREENHOUSE GAS EMISSIONS

As described in Chapter 4.7, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and a smaller portion of the project site would be improved. Therefore, fewer construction-related GHG emissions would be generated. In addition, because the future park would host less programming and accommodate fewer visitors and employees, operational emissions would be reduced due to the reduced vehicular travel associated with the project. Overall, neither the Limited Footprint Alternative nor the

proposed project would result in significant air quality impacts. Therefore, Limited Footprint Alternative would be *similar* to the proposed project.

5.5.2.8 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.8, Hazards and Hazardous Materials, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

As described in Section 5.5.1.8, the Navy has prepared a Finding of Suitability to Transfer that identifies several sites within the project site that could pose a potential hazard due to past on-site activities. In addition, existing buildings may contain asbestos-continuing materials, lead-based paints, and other hazardous materials. The Limited Footprint Alternative would involve fewer site preparation or demolition activities that would have the potential to disturb existing on-site hazardous materials. In addition, this alternative would involve a reduced use of hazardous materials associated with construction and operation of the future park. However, by concentrating park activities and users within the previously-disturbed areas of the project site, this alternative would potentially involve a more intensive use of these areas, which are the areas of the project site with a greater potential for existing hazards (such as volatile organic compounds and arsenic) to occur. It is expected that, as under the proposed project, compliance with existing regulations and deed restrictions would ensure that any significant impacts due to construction or operation of the future Regional Park would be avoided.

Neither the proposed project nor the Limited Footprint Alternative would result in impacts associated with airport hazards or conflict with an emergency response plan or evacuation plan.

It is assumed that under the Limited Footprint Alternative, the project site would be managed by similar wildfire reduction plans and procedures and management prescriptions as would apply under the proposed project.

The Limited Footprint Alternative would reduce the use and potential disturbance of some potentially hazardous areas but could increase the use of other areas of concern. Therefore, overall this alternative would be *similar* to the proposed project.

5.5.2.9 HYDROLOGY AND WATER QUALITY

As described in Chapter 4.9, Hydrology and Water Quality, of this Draft EIR, the proposed project would result in five significant-but-mitigable impacts.

The Limited Footprint Alternative would involve fewer construction or operation activities that would have the potential to degrade water quality, deplete groundwater supplies, alter drainage patterns, or increase stormwater runoff. The Limited Footprint Alternative would however require the same mitigation measures as the proposed project to reduce impacts to less than significant.

Neither the proposed project nor the Limited Footprint Alternative would place housing or structures within a flood hazard area; create hazards associated with the failure of a levee or dam; or result in inundation by seiche, tsunami, or mudflow.

As described in Chapter 4.9, the proposed project would reduce the total impervious area on the site by approximately 41 acres, or 33 percent, thus improving groundwater recharge and reducing runoff. Although, the Limited Footprint Alternative would involve fewer miles of roads and trails than the proposed project, it may also not include the same extent of site restoration as the proposed project. Therefore, it is possible that this alternative would not decrease impervious surfaces by the same extent that would occur under the proposed project.

Overall, since both the proposed project and the Limited Footprint Alternative require the same mitigation measures to reduce impacts to less than significant, impacts of the Reduced Footprint Alternative would be *similar* when compared to the proposed project.

5.5.2.10 LAND USE AND PLANNING

As described in Chapter 4.10, Land Use and Planning, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

The proposed project would have a positive impact because it would enhance, rather than hinder, connectivity through and across the project site. Under the Limited Footprint Alternative, many of the proposed trail connections would not be developed and large portions of the project site would not be opened to the public. Therefore, this alternative would not provide the same level of increased connectivity planned by the proposed project. However, since no new barriers would be created, this alternative would not create a negative impact associated with the physical division of an established community.

The Limited Footprint Alternative would create a future park but due to its smaller size it may not be managed as a regional park and would not be of the same scale previously planned by the District and City. Large portions of the project site would not be included in the park and would not be managed for the same level of resource protection as they would be under the proposed project. Therefore, this alternative would conflict with District and City land use plans and policies intended to develop, manage, and maintain the site in a manner than avoids environmental effects.

The Limited Footprint Alternative may also create inconsistencies in portions of the project site excluded from the park with the project site's current land use designation of CRP-OS, which intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the entire site. This could result in a new significant and unavoidable impact associated with conflicts with existing plans and policies intended to avoid environmental impacts.

Neither the proposed project nor the Limited Footprint Alternative would conflict with a habitat conservation plan.

Overall, because the Limited Footprint Alternative may conflict with applicable plans and policies intended to guide the conversion of the entire project site into a well-managed open space and park setting, the Limited Footprint Alternative could result in a *substantial deterioration* in comparison to the proposed project.

5.5.2.11 NOISE

As described in Chapter 4.11, Noise, of this Draft EIR, the proposed project would result in less-than-significant impacts

Under the Limited Footprint Alternative, fewer site preparation and construction activities would occur. However, the Limited Footprint Alternative, similar to the proposed project, would not result in construction noise impacts.

Under this alternative, a larger portion of the project site would remain in its existing conditions. Therefore, as under the proposed project, no operational noise impacts would occur.

Neither the proposed project nor the Limited Footprint Alternative would result in impacts associated with traffic-related or airport noise.

Overall, neither the Limited Footprint Alternative nor the proposed project would result in significant noise impacts. Therefore, the Limited Footprint Alternative would be *similar* to the proposed project.

5.5.2.12 POPULATION AND HOUSING

As described in Chapter 4.12, Population and Housing, of this Draft EIR, the proposed project would result in less-than-significant impacts and no mitigation measures are required.

With the exception of the caretaker's residence, neither the proposed project nor the Limited Footprint Alternative would involve new housing on the project site. Therefore, neither scenario would have the potential to exceed growth projections.

Neither the proposed project nor the Limited Footprint Alternative would remove existing housing or displace people.

Overall, the impacts related to population and housing would be *similar* than that of the proposed project.

5.5.2.13 PUBLIC SERVICES AND RECREATION

As described in Chapter 4.13, Public Services and Recreation, of this Draft EIR, impacts to fire protection services, police services, and parks, under the proposed project, were found to be less than significant and no mitigation measures are required.

As discussed in Section 5.5.1.13, the proposed project would not require the expansion of Contra Costa County Fire Protection District or Concord Police Department facilities. The Limited Footprint Alternative would result in a lower level of use of the project site and therefore would result in lower demands for fire or police services in comparison to the proposed project. However, under this alternative, large portions of the project site would not be included in the future park and may not be managed to the same level as they would be under the proposed project. Since much of the project site adjacent to these areas would be included in the park and open to the public, it is likely that some visitors will venture off of trails and

access portions of the site that are not intended for public use. This activity could result in public safety and security issues, including the potential for wildfires to be started by unsanctioned campfires or similar activities. This could create a new impact that would not occur under the proposed project.

Like the proposed project, this alternative would create a publicly accessible park and would therefore not increase demands for park services that would require existing facilities to be expanded or new facilities to be built.

Overall, the Limited Footprint Alternative would represent a *slight deterioration* in comparison to the proposed project.

5.5.2.14 TRANSPORTATION AND TRAFFIC

As discussed in Chapter 4.14, Transportation and Traffic, of this Draft EIR, the proposed project would result in one significant-but-mitigable impact associated with temporary impacts due to construction activity. As described in Chapter 4.14, construction activity associated with the proposed Regional Park could result in temporary impacts to the circulation system. Although the Limited Footprint Alternative would involve fewer construction related trips, this alternative would also require mitigation to reduce this impact to a less-than-significant level.

As described in Chapter 4.14, the traffic generated by the proposed project would not exceed the City's peak-hour vehicle trip threshold for a full traffic impact analysis. Under the Limited Footprint Alternative, the project site would accommodate fewer park visitors and employees. Therefore, traffic levels would be lower than under the proposed project.

The Limited Footprint Alternative would provide fewer transit, bicycle, and pedestrian connections than the proposed project. However, since none are currently planned on the project site, this would not create a new impact associated with plan conflicts.

Neither the proposed project nor the Limited Footprint Alternative would cause impacts related to inadequate emergency access and hazards, or result in a change in air traffic patterns.

Overall, since both the proposed project and the Limited Footprint Alternative require the same mitigation measures to reduce impacts to less than significant, impacts of the Reduced Footprint Alternative would be *similar* when compared to the proposed project.

5.5.2.15 UTILITIES AND SERVICE SYSTEMS

As described in Chapter 4.15, Utilities and Service Systems, of this Draft EIR, impacts to water supply services were found to be significant but mitigatable. Under Mitigation Measure UTIL-2, the District would require all required water infrastructure to be constructed to meet Contra Costa Water District requirements in order to ensure that impacts would be less than significant. Impacts to sanitary wastewater services, stormwater infrastructure, solid waste services, and energy conservation were found to be less-than-significant and no mitigation measures are required.

Although the proposed project would increase wastewater, solid waste, stormwater, and energy utility demands, it would not require new facilities that would result in a significant impact. Under the Limited Footprint Alternative, demands for these services would increase in comparison to existing conditions, but to a lesser level than under the proposed project. Therefore, as under the proposed project, under the Limited Footprint Alternative no significant impacts would occur.

Overall, the Limited Footprint Alternative would avoid the significant-but-mitigable impact of the proposed project. Therefore, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.5.2.16 WILDFIRE

As described in Chapter 4.16, Wildfire, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Under the Limited Footprint Alternative, fewer structures would be renovated or redeveloped and a smaller portion of the project site would be improved. With this alternative, a number of proposed trails, staging areas, the Corp Yard, and the Visitor Center Complex would be located downslope of potential debris flow sources and downstream of potential post-fire flooding. Since the Caregiver's Residence would not be developed, the risk of an on-site resident being exposed to wildfire risks is eliminated. With the reduced park site, it is expected that fewer visitors and contractors would utilize the project site and therefore the potential for accidental fires to be created from human activities would be reduced. Under this alternative, the project site would be managed by the District and therefore the District's existing wildfire reduction plans and proposed management prescriptions would apply.

Overall, the Limited Footprint Alternative would reduce the structures exposed to the risk of wildfires. Therefore, this alternative would represent a *slight improvement* in comparison to the proposed project.

5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an "environmentally superior" alternative be selected and the reasons for such a selection be disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the District. The project under consideration cannot be identified as the environmentally superior alternative, so the identification of the environmentally superior alternative does not mean that that alternative is superior to the proposed project, only that it is superior among the alternatives considered.

The No Project Alternative would result in a deterioration in relation to aesthetics, biological resources, GHG emissions, hazards and hazardous materials, land use and planning (for which the deterioration would be substantial), public services and recreation , and wildfire, and would result in an improvement in relation to cultural resources, geology and soils, hydrology and water quality, transportation, and utilities

and service systems. Overall, the No Project Alternative would result in worsened impacts in comparison to the proposed project.

As shown in Table 5-1, overall the Limited Footprint Alternative would result in a deterioration in relation to aesthetics, land use and planning (for which the deterioration would be substantial), and public services and recreation, and would result in an improvement in relation to wildfire and utilities and service systems. Overall, the Limited Footprint Alternative would be a slight deterioration in comparison to the proposed project in terms of its overall level of impact. The Limited Footprint Alternative would be the environmentally superior alternative.

Neither the Limited Footprint Alternative nor the No Project Alternative would result in an overall improvement in comparison to the proposed project.

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6. CEQA-Mandated Sections

This chapter provides an overview of the impacts of the proposed project based on the analyses presented in Chapter 4, Environmental Evaluation, and Chapter 5, Alternatives to the Proposed Project, of this Draft Environmental Impact Report (EIR). The topics covered in this chapter include impacts found not to be significant, unavoidable significant impacts, growth inducement, and significant irreversible changes. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Chapters 4.1 through 4.16 of this Draft EIR.

6.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

California Environmental Quality Act (CEQA) Guidelines Section 15128, Effects Not Found to be Significant, allows for no analysis of environmental issues for which there is no likelihood of significant impact. This section explains the reasoning by which it was determined that impacts to agriculture and forestry, and mineral resources, as a result of adoption and implementation of the proposed project, would be less than significant.

6.1.1 AGRICULTURAL AND FORESTRY RESOURCES

The proposed project is located within Concord, which is an urbanized city. Maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency categorize lands within Concord as Urban and Built-Up Land and Grazing Land.[1] There are no agricultural lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within Concord. In addition, the Contra Costa County Department of Conservation does not identify lands in Concord that are under Williamson Act contract.[2] Therefore, future development as a result of adoption and implementation of the proposed project would not conflict with farmlands of importance or lands under Williamson Act contract.

According to 2006 mapping data from the California Department of Forestry and Fire Protection, the City of Concord does not contain any woodland or forestland cover;[3] therefore, the City does not contain land

[1] California Resources Agency, Farmland Mapping and Monitoring Program, 2014, Contra Costa County Important Farmland 2014, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/con14.pdf, accessed May 2, 2018.

[2] Contra Costa County Department of Conservation and Development, 2013, 2012 Agricultural Preserves Map, Contra Costa County.

[3] California Department of Forestry and Fire Protection, 2006, Fire and Resource Assessment Program, Land Cover Map, http://frap.fire.ca.gov/data/frapgismaps/pdfs/fvegwhr13b_map.pdf, accessed May 2, 2018.

zoned for Timberland Production nor does the Concord Zoning Map identify any areas zoned for Timberland Production.[4] Consequently, there would be no impacts with regard to forestry resources.

6.1.2 MINERAL RESOURCES

Although implementation of the proposed project would result in future development within the project area, buildout would not result in the loss of known mineral resources or substantially limit the availability of mineral resources over the long term. Existing mineral resources within the Concord area include alluvial sand and gravel deposits; however, the site has not been evaluated for potential mineral resources by the California Department of Conservation, Geological Survey (CGS). Mineral exploration and development at the site included development of a natural gas production well by Chevron in 1980, and several plugged, abandoned gas wells are located on the project site.[5] Therefore, there would be no impact to mineral resources as a result of adoption and implementation of the proposed project.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

As detailed in Chapters 4.1 through 4.16 of this Draft EIR, the proposed project would not result in any significant and unavoidable impacts.

6.3 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth-inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development.

This section evaluates the proposed project's potential to create such growth inducements. As Section 15126.2(d) requires, "[it must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment." In other words, negative impacts associated with growth inducement can potentially occur even where the projected growth would cause significant adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct or indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary, growth-inducing impacts consist of growth induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

[4] City of Concord, 2012, Zoning Map effective August 23, 2012, http://www.menlopark.org/DocumentCenter/View/187, accessed on May 2, 2018.

[5] City of Concord, Community Reuse Plan Draft Environmental Impact Report, page 6-2.

6.3.1 DIRECT IMPACTS

The proposed project is a program-level document and does not propose any specific development; however, implementation of the proposed project would guide the development for regional park facilities within the project site as envisioned in the Concord Reuse Project Area Plan.

Implementation of the proposed project would induce minimal direct growth, as discussed in detail in Chapter 4.12, Population and Housing, of this Draft EIR, because the proposed project would include one caretaker's residence and would generate up to 52 full-time equivalent employees, which would likely come from the city of Concord or the greater Bay Area. The proposed project has the potential to generate 1,125 weekday and 2,716 weekend visitors; however, this level of visitors would come incrementally over a period of approximately 31 years as the proposed project is built out. Therefore, the proposed project would be consistent with the regional planning objectives established for the Bay Area and the proposed project would not exceed the current regional planning as projected by the Association of Bay Area Governments (ABAG). The project site is located in the Concord Reuse Project area. As described in Chapter 4.10, Land Use and Planning, the Economic Development Conveyance area of the Concord Reuse Project is designated as a Priority Development Area (PDA) under the *Plan Bay Area* with a future place type of Transit Neighborhood due to its proximity to North Concord BART, located adjacent to the western border of the project site. The vision for the Concord Reuse Project includes development of transit villages throughout the Concord Reuse Project area, as well as significant parks and open space. The project site is designated as Conservation Open Space under the Concord Reuse Project Area Plan. Approximately 2,417 acres, or 95 percent of the project site, would be designated as a conservation area and preserved for conservation and management of natural and cultural resources. The remainder of the property, approximately 126 acres, or 5 percent of the site, would be available for recreation and park facilities, primarily on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the United States Department of the Navy's (Navy) operation of the property). There is also the potential for transit providers (e.g., Central Contra Costa County Transit Authority and Tri Delta Transit) to provide bus connections to link the BART station and the Regional Park. Space would be provided along Kinne Boulevard in front of the Visitor Center for a bus/shuttle stop that could be used for public transit and private shuttle providers, and the regional park would provide public access throughout the site, where currently access is limited. However, the project is not growth inducing as a plan for recreation and open space uses that would not require supportive services such as housing, jobs, and schools. Therefore, the proposed project would not provide urban services to an undeveloped area.

6.3.2 INDIRECT IMPACTS

The proposed project is a plan for a future Regional Park. The future Regional Park would provide open space and recreational opportunities for nearby residents and visitors but would not generate land uses that would attract people to move to the project site vicinity.

At full buildout, the project site is expected to accommodate 52 full-time equivalent employees. Construction associated with implementation of the proposed Plan would generate temporary construction jobs. It is expected that on-site jobs could be filled with existing residents in the region.

Therefore, the proposed project does not create any indirect growth-inducing impacts related to new population and employees.

Indirect growth can be interpreted as a removal of major barriers to development. As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed Regional Park is the designated conservation area for the Concord Reuse Project Area. Therefore, the habitat restoration and conservation aspects of the proposed project help to indirectly enable the development planned for in the Area Plan. However, the District is analyzing the proposed project as a separate project under CEQA and will pursue the proposed Regional Park development regardless of the status of the Concord Reuse Project.

6.4 SIGNIFICANT AND IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed below.

6.4.1 CHANGES IN LAND USE THAT COMMIT FUTURE GENERATIONS

As described in detail in Chapter 3, Project Description, of this Draft EIR, the proposed project establishes a Land Use Plan for a new Regional Park with a buildout horizon year of 2050. The proposed project is consistent with the existing land use designation and zoning at the project site. The proposed Regional Park would ensure resource protection and provide a range of recreational and educational opportunities that connect visitors to the landscape and stories of the site and region. Existing buildings on the project site would be evaluated for Regional Park use and renovated where possible. Some existing buildings would be expanded as part of the renovations. Once future development of Regional Park buildings occurs, it would not be feasible to return the developed land to its existing (pre-project) condition. Therefore, at least some of the development envisioned under the proposed project would most likely lead to irreversible changes in land use. However, the proposed project would result in a net increase overall in the amount of land that is restored to natural use rather than developed. The proposed project would also extend public access and enjoyment to a new generation of people on land that was previously restricted to military personnel and/or abandoned and inaccessible to the public in the past.

6.4.2 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Irreversible changes to the physical environment could occur from the accidental release of hazardous materials associated with development activities related to implementation of the proposed project; however, compliance with existing regulations and deed restrictions discussed in Chapter 4.8, Hazards and Hazardous Materials, of this Draft EIR, would ensure that significant impacts would be avoided. In addition, proposed park elements, including roads and trails, picnic areas, education and event spaces,

and campsites, would be concentrated in previously disturbed areas. Therefore, irreversible damage is not expected to result from the adoption and implementation of the proposed project.

6.4.3 LARGE COMMITMENT OF NONRENEWABLE RESOURCES

Future buildings on the project site would reuse existing building sites and materials to the extent feasible. Where some structures are not able to be fully renovated, some building materials or foundations may be reused for new facilities in order to reduce overall construction waste. Nevertheless, development activities associated with implementation of the proposed project would result in the commitment of limited, renewable resources such as lumber and water. In addition, development of the proposed Regional Park would irretrievably commit nonrenewable resources for the construction of building expansions, infrastructure, and roadway improvements. These nonrenewable resources include mined minerals such as sand, gravel, steel, lead, copper, and other metals. Implementation of the proposed Plan would also require a long-term commitment to the consumption of fossil fuels, natural gas, and gasoline. Increased energy demands would be used for construction, lighting, heating, and cooling of buildings, and transportation of people within, to, and from the proposed Regional Park. However, as shown in Chapter 4.5, Energy, and Section 4.15.1, Water and Section 4.15.3, Solid Waste, of Chapter 4.15, Utilities and Service Systems, of this Draft EIR, several regulatory measures and proposed Plan policies and strategies encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building practices.

Future park facility development resulting from the proposed project would be required to comply with all applicable building and design requirements, including those set forth in Title 24 relating to energy conservation. In compliance with CALGreen, the State's Green Building Standards Code, future development would be required to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. The proposed project envisions the creation of park and conservation open space development near transportation facilities and employment centers, and development of the Regional Park would implement energy and water conservation requirements, thereby minimizing commitment and consumption of non-renewable resources to the extent practicable.

Therefore, while the construction and operation of future park facility development would involve the use of nonrenewable resources, compliance with applicable standards and regulations and implementation of the proposed Plan policies would reduce the use of nonrenewable resources to the maximum extent practicable.

CEQA-MANDATED SECTIONS

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7. Organizations and Persons Consulted

This Draft EIR was prepared by the following consultants and individuals:

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ORGANIZATIONS AND PERSONS CONSULTED

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APPENDIX A

NOTICE OF PREPARATION (NOP) AND NOP COMMENTS

Appendix A1: NOP

NOTICE OF PREPARATION
OF AN
ENVIRONMENTAL IMPACT REPORT

2950 PERALTA OAKS COURT, PO BOX 5381, OAKLAND, CA 94605-0381

Notice is hereby given that the East Bay Regional Park District (District) is the Lead Agency and is preparing an Environmental Impact Report (EIR) for:

CONCORD HILLS REGIONAL PARK LAND USE PLAN

THE PURPOSE OF THIS NOTICE IS: (1) to serve as the Notice of Preparation (NOP) to provide potential Responsible Agencies, agencies involved in funding or approving the project, and Trustee Agencies responsible for natural resources affected by the project with sufficient information to provide meaningful responses as to the scope and content of the EIR, pursuant to Section 15082 of the CEQA Guidelines; and (2) to advise and solicit comments and suggestions regarding the preparation of the EIR, environmental issues to be addressed in the EIR, and any related issues from interested parties, including interested or affected members of the public.

NOTICE OF PREPARATION COMMENT PERIOD: The comment period for the NOP will close on **Wednesday July 26,** 2017 at 5:00 pm, which is 30 days after the mailing and posting of this document. Please note that while the comment period for the NOP has a closing date, interested parties are encouraged to contact the District at any time during the EIR process to receive updates on the process, to ask questions, and share information.

DISTRICT CONTACT: Please call or email Brian Holt, Principal Planner, to provide comments or ask questions regarding this NOP at bholt@ebparks.org or (510) 544-2623. Comments can also be submitted in writing to Brian Holt at PO Box 5381, Oakland, CA 94605-0381

PUBLIC SCOPING MEETING: The District will host a Public Scoping Meeting regarding the proposed Land Use Plan and EIR. The District will provide an overview of the planning process to date, the preferred alternative, and receive comments on the scope of the EIR. The Public Scoping Meeting is scheduled as follows:

Thursday, June 29th, 2017 @ 6:30pm-8:00pm
Concord Senior Center
2727 Parkside Circle
Concord, CA

In addition to the public scoping meeting, the District has held three community meetings. A summary of these meetings can be found on the District website at: http://www.ebparks.org/cnws. The project builds on the planning done by the by the City of Concord since 2005 in developing the Reuse Plan and Area Plan for the former Concord Naval Weapons Station. Information on these plans can be found at www.concordreuseproject.org

PROJECT LOCATION: The proposed project is located on approximately 2,516 acres in the eastern portion of the City of Concord, along the border with the City of Pittsburg and unincorporated Contra Costa County, approximately 35 miles east-northeast of San Francisco in northern Contra Costa County, California. The project is located on the eastern portion of the former Concord Naval Weapons Station. There are three highways in proximity to the northwest boundary of the Future Regional Park site, including Highways 4 and 242 and Interstate 680. Willow Pass Road and Bailey Road cross the site and connect to Highway 4. The primary entrance point to the site is through the Military Ocean Terminal of Concord off of Port Chicago Highway to the north of the Highway 4.



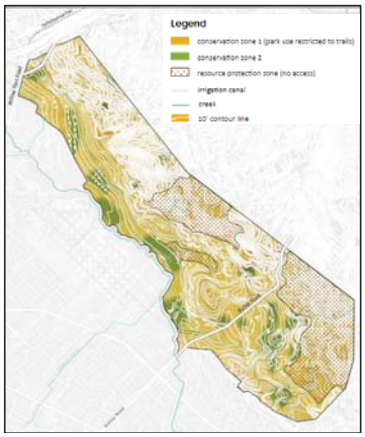
Project Location

PROJECT DESCRIPTION: The former Concord Naval Weapons Station closed in 2005. The City of Concord conducted an extensive planning process to develop a Reuse Plan, adopted in 2010, and an Area Plan, adopted in 2012, that identified a new regional park to be located on the eastern portion of the former military base. The East Bay Regional Park District commenced a land use planning process to prepare a long-term management plan for the new Regional Park covering 2,516 acres of property. Components of the proposed project are described below.

Park Use Areas and Facilities: The vast majority of the property**,** approximately 2,390 acres, or 95 percent of the site, is designated as Conservation Zone 1 where the primary focus is conservation and management of natural resources. Public access will be limited to passive recreation trails. Trail use will include on-trail hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education and interpretive displays.

The remainder of the property, approximately 126 acres, or 5 percent of the site, is designated as Conservation Zone 2, the zone that accommodates recreation and park facilities. Conservation Zone 2 will include development of facilities, primarily on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the Navy's operation of the property) that will be reused. Park use areas and facilities envisioned in Conservation Zone 2 include a 4-acre Visitor Center complex, a park operations and support facility, a native plant nursery, group and small picnic sites, reuse of existing developed magazines, backcountry campsite, and a hike-in group campsite.

Within the majority of Conservation Zone 2, which does not contain recreational and park facilities, public access will be limited to passive recreation trails and land will be managed for conservation consistent with Conservation Zone 1.



Conservation Zones

Ecological Restoration and Management: EBRPD will manage the park in perpetuity for the protection and benefit of special-status species according to an approved Long Term Management Plan, which will be prepared separately from the Land Use Plan and is not a part of the proposed project. The proposed project will identify specific management prescriptions that will ensure that public access will be permitted in a manner that is consistent with species protection.

Road and Trail Management and Improvements: Public access to the Primary Area of the park is provided by Willow Pass Road, Bailey Road, and Kinne Boulevard, and to the Southern Area by Bailey Road. There is no through-connection for the public from Bailey Road to Willow Pass Road, but maintenance roads do provide through-access for Park operations, emergency services and other non-public uses along Kinne Boulevard and also from the northern staging area to the Visitor Center. Maintenance roads also serve as multi-use trails for hikers, bikers, and equestrians. The proposed project includes 2.9 miles of public roads, 5.4 miles of service and emergency vehicle access roads, and up to 4 acres of parking utilizing existing roads and disturbed areas. The primary staging area will be located at the Visitor Center Complex and five secondary staging areas are anticipated at Willow Pass Road, Building 97, Bailey Road, and the magazine complex south of Bailey Road. In addition, the proposed project will plan for potential neighborhood access points at appropriate locations from public roadways.


Existing Developed Sites

Trails will be established primarily on existing roads and rail lines which will minimize the need for new ground-disturbing activities. Multi-use trails will generally be 10 feet wide with 2-foot shoulders, and single-use trails will be no more than 8 feet wide. Trail access will be limited to the hours between sunrise and sundown. Construction of new trails is planned in some areas to create sustainable alignments or access key destinations, while development outside of existing footprints will only be explored as a means of creating unique recreational experiences which are not possible in existing areas. The proposed project includes 5.2 miles of rail to trail conversion, 5.0 miles of wide multiuse trails, and 12.5 miles of narrow natural surface trails.

POTENTIAL ENVIRONMENTAL EFFECTS: Because the Lead Agency has determined that an EIR will be required, no Initial Study has been prepared for the proposed project. The EIR will address the potential physical environmental effects for each of the environmental topics outlined in the CEQA:

Aesthetic & Visual Impacts	Agricultural & Forestry Resources	Air Quality	Biological Resources
Cultural Resources	Geology, Soils & Seismicity	Greenhouse Gas Emissions	Hazards & Hazardous Materials
Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise
Population & Housing	Public Services	Recreation	Transportation/Traffic
Tribal Cultural Resources	Utilities & Service Systems		

The EIR will include a discussion of the existing conditions for each environmental issue and identify short-term and long-term environmental impacts associated with the project, and their levels of significance. Mitigation measures will be identified to reduce any potentially significant or significant impacts. The EIR will also examine a reasonable range of alternatives to the Project, including the CEQA-mandated No Project Alternative, and other potential alternatives. The level of analysis for these subject areas may be refined or additional subject areas may be analyzed based on responses to this NOP and/or any refinements to the proposed project that may occur after the publication of this NOP.

APPENDIX A2:
NOP COMMENTS

From: Jeremy Shannon <jshannon@contracostamosquito.com>
Date: July 6, 2017 at 11:21:34 AM PDT
To: Brian Holt <BHolt@ebparks.org>
Subject: Concord Hill Regional Park Scoping Comments

Good morning Brian,

Thanks for the informative meeting last week. Regarding the proposed park area, the Contra Costa Mosquito and Vector Control District is aware of mosquito sources that already exist on the property. There's rainwater ponds, canals, creeks, roadside ditches, and the magazines can retain water, too. I'm not sure if it would be included in the EIR, but the impact of these mosquito sources on the enjoyment of park facilities should be taken into account. If the intention of EBRPD is to create more ponds, water conveyance structures, or limit access to known sources, we'd definitely be concerned about them as they may produce mosquitoes and create a greater impact or possible public health hazard for those using the park as well as nearby neighborhoods. It seems the plan is to retain much of the site as is, which means our primary concern would just be access to sites we're already aware of for monitoring and treatment by District staff.

As the EIR and plan further develop, we may have more specific questions or comments that may arise. Please let us know if you have any questions or concerns.

Regards,

Jeremy

--

Mosquito control matters.

Jeremy Shannon
Vector Control Planner

Contra Costa Mosquito & Vector Control District
155 Mason Circle
Concord, CA 94520
925.771.6119 Direct
925.685.0266 Fax
925.685.9301 Main

www.ContraCostaMosquito.com
www.twitter.com/CCMosquito

Featured monthly stories. Helpful information. Your next click should be here: Mosquito Bytes Newsletter.

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CITY OF CONCORD
1950 Parkside Drive
Concord, California 94519-2578
FAX: (925) 798-0636

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CITY COUNCIL
Laura M. Hoffmeister, Mayor
Edi E. Birsan, Vice Mayor
Ronald E. Leone
Timothy A. McGallian
Carlyn S. Obringer

Valerie J. Barone, City Manager

July 27, 2017

VIA E-Mail: bholt@ebparks.org
Original sent via U.S. Mail

Mr. Brian Holt
Principal Planner
East Bay Regional Parks District
P.O. Box 5381
Oakland, CA 95605-0381

RE: Notice of Preparation of an Environmental Impact Report for the Concord Hills Regional Park Land Use Plan

Dear Mr. Holt: Brian

Thank you for the opportunity to review and comment on the Notice of Preparation (NOP) of a Draft EIR for the Concord Hills Regional Park proposed by the East Bay Regional Parks District (EBRPD). The City of Concord respectfully requests your consideration of the following comments on the NOP.

1. Overall comments

The City of Concord has undertaken over a decade of planning and environmental review for the reuse of the former Concord Naval Weapons Station (CNWS). The culmination of this work, the Reuse Plan, and its successor, the Area Plan, were adopted in 2010 and 2012, respectively, and both planned for conservation open space in the location of the proposed Concord Hills Regional Park. This land use is strongly supported by the City's planning and CEQA work and reflects the Concord community's vision as developed through extensive outreach efforts. The City completed and certified a Reuse Plan EIR and Area Plan EIR Addendum in 2010 and 2012, respectively, which determined that this regional open space land use will provide significant conservation benefits under CEQA.

The preferred alternative presented in the NOP includes greater specificity of land uses than previously studied, reflecting the EBRPD's additional work to refine its plan for the park. The preferred alternative retains many of the features originally identified in the City's planning and CEQA processes, but reflects some changes to the location and types of uses, as well as to the access points and internal circulation of the site. As a result, the

City's prior CEQA compliance should be reviewed to ensure that any new impacts resulting from these changes are well understood, and prior analyses are used to the greatest possible extent.

2. Park Use Areas and Facilities

Land uses and intensity: Although the Area Plan and Concord General Plan already designate the proposed project site as conservation open space for a regional park, previous environmental review has not contemplated the same types and locations of uses identified in the preferred alternative. As a result, it is important for the use types and activity generators to be studied for their impacts on topics such as biological resources and traffic.

Visual impacts: Due to the different locations of proposed land uses and activities in the preferred alternative, the environmental review process should examine whether the EBRPD's preferred alternative (and other alternatives) will result in new or greater environmental impacts than impacts identified by the City's Reuse Plan EIR or Area Plan EIR Addendum. For instance, uses near the ridgeline may result in new impacts not previously identified. The City requests visual simulations from the following locations:

- Willow Pass Road, from bridge on over Kinne Boulevard on the CNWS
- Newhall Park looking toward hills
- Panoramic Drive at Port Chicago Highway (North Concord BART Station)
- Highway 4 (crossing Kinne Boulevard, looking toward hills)
- Bailey Road, east of Myrtle Road and near the CNWS gate shack (both sides of the road)
- Bunker City area

3. Ecological Restoration and Management

CNWS Biological Opinion: The City and EBRPD participated jointly in the Endangered Species Act consultation between the U.S. Fish and Wildlife Service, Navy, and U.S. Army Corps of Engineers which resulted in the Fish and Wildlife Service's issuance of a Biological Opinion (BO) for the entire CNWS. The EIR should analyze the draft preferred alternative for consistency with the development in Concord Hills Regional Park anticipated by the BO. The BO is clear about the location and type of activities permitted consistent with its protections for key species.

Passive recreational users: While the NOP describes passive recreational trail uses as hiking, horseback riding, and so on, the long-term management plan the City and EBRPD are preparing jointly pursuant to the BO—which is subject to review and approval by the Fish and Wildlife Service—will determine the actual uses permitted within the park. Only those passive recreational uses that are consistent with protecting and managing habitat for the benefit of California tiger salamanders and California red-legged frogs will be allowed. Moreover, actual passive recreational uses may be subject to further limitations by one or more permits issued to the City by the California Department of

Fish and Wildlife pursuant to Section 2081 of the Fish and Game Code. The EIR should carefully evaluate the effect of any passive recreational land uses on special status species to ensure they are consistent with any existing or proposed state and federal wildlife permits and to make sure that they will not interfere with the primary focus of Conservation Zone 1, which is conservation and management of natural resources.

4. Road and Trail Management and Improvements

The EBRPD's preferred alternative provides different and more detailed information about how users will access the site compared to the plans analyzed by the City's Reuse Plan EIR and Area Plan EIR Addendum.

Site access: The preferred alternative identifies different locations for public access from those analyzed by the already certified environmental reviews, including vehicle, equestrian, pedestrian, and cyclist access points; public roadways; and restricted-access maintenance roads. The impact of all access points, parking areas, and traffic generated by the preferred alternative should be studied and contrasted with findings from the City's past environmental review. In particular, analysis of segments/intersections at newly-identified access points (such as Avila Road and Bailey Road) should be updated. In addition, the impact of the Visitor Center complex location should be studied, as its location has changed and the main access point is now via existing Kinne Boulevard.

Trails: The preferred alternative identifies different trail routes compared to those included in the Reuse Plan EIR and Area Plan EIR Addendum, and some trails suggest possible off-site connections (such as to Kirker Pass Road or hiking trails along the ridge line). The impact of the updated trail network on the surrounding environment should be studied.

Bicycle and pedestrian access: Pedestrian and bicycle connections to the surrounding community should be analyzed for their impact on the City's overall existing and planned bicycle network, as identified in Concord's 2016 Bicycle, Pedestrian, and Safe Routes to Transit Plan.

Should you have any questions, please feel free to contact me directly at either (925) 671-3076 or Guy.Bjerke@cityofconcord.org.

Sincerely,

Guy Bjerke
Director of Community Reuse Planning

cc: Joan Ryan, Community Reuse Area Planner
Laura Simpson, Planning Manager
Valerie Barone, City Manager
Margaret Kotzebue, Sr. Assistant City Attorney

Contra Costa County
Flood Control
& Water Conservation District

Julia R. Bueren,
ex officio Chief Engineer
Mike Carlson,
Deputy Chief Engineer

August 2, 2017

Brian Holt
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 95605

RE: Notice of Preparation (NOP), Concord Hills Regional Park Land Use Plan
Our File: 3123-06 111-010-014, -017

Dear Mr. Holt:

We received the Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for the Concord Hills Regional Park Land Use Plan, on June 27, 2017. We understand the plan consists of a new regional park that will be located on the eastern portion of the former Concord Naval Weapons Station closed in 2005. Future improvements of the park will include roads, trails and parking areas, and we submit the following comments:

1. The project is located within the Mt. Diablo Creek Watershed. Mt. Diablo Creek and its tributaries are natural channels that are unstable and subject to erosion and lateral migration. We recommend that all developments in the Mt. Diablo Creek Watershed be required to mitigate their adverse drainage and erosion impacts upon the natural creek and its tributaries.

2. The EIR should note that this project is located in Drainage Areas 123 and 33, unformed drainage areas, and therefore no drainage area fees are due at this time.

3. Previous improvements in the Mt. Diablo Creek Watershed were required to pay a mitigation fee at a rate of $0.25 per square foot of new impervious surface area created by new development; however, Mt. Diablo Creek mitigation fees are not being collected at this time. The EIR should discuss how the EBRPD will deal with the additional runoff generated by new roads and other impervious areas.

4. New paved roads and newly created impervious areas will increase the amount of runoff that enters Mt. Diablo Creek. We recommend that the EIR discuss the adverse impacts of the runoff from future development to the existing drainage facilities and drainage problems in the downstream areas, including those areas outside of the project site. The downstream drainage system is inadequate.

5. The EIR should discuss flooding along the downstream segment of Mt. Diablo Creek, north of Highway 4, which gets flooded from time to time. The downstream section of Mt. Diablo Creek is a private section, which is maintained by property owners, and among those owners are the United States Government, the City of Concord, Contra Costa Water District, and Tesoro. This is the lower section of the Mt. Diablo Creek Watershed with unimproved reaches and wetlands that silt up easily, and for this reason, they are regularly maintained by the private owners. However, when the area is not properly maintained, floods occur all the way to the adjacent Port Chicago Highway right-of-way, and become a problem for the residents of the unincorporated area of Clyde. There is a concern that future development of the former Concord Naval Weapons Station parcels will increase the downstream flows and could potentially flood Port Chicago Highway. The EIR should discuss this issue and identify measures to mitigate for the additional runoff. Contra Costa County (County) should be included in the list of stakeholders for this issue, as future flooding of Port Chicago Highway and Clyde will impact the residents.

6. The EIR should discuss that future construction projects should consider the proximity of Mt. Diablo Creek during construction and implementation of Best Management Practices to protect contaminants and silt from entering Mt. Diablo Creek, as well as not storing construction equipment or materials adjacent to the creek.

7. The EIR should address maintenance of Mt. Diablo Creek.

8. The EIR should discuss how the project will comply with the current NPDES (National Pollutant Discharge Elimination System) requirements under the County's Stormwater Management and Discharge Control Ordinances and the C.3 Guidebook.

9. Large areas of the future park, adjacent to Mt. Diablo Creek, are located in FEMA special flood hazard area Zone AE, subject to inundation by the 1% annual change flood. Mt. Diablo Creek is a Regulatory Floodway as well. Since future improvements of the plan include trails and parking areas to be used by the public, we recommend that the EIR addresses the issue of potential flooding and discuss a contingency plan should a flood event occur.

10. The EIR should mention that any construction or grading in the creek area, or inside any other watercourse within the park, will require permits from the environmental regulatory agencies, such as the U.S. Army Corps of Engineers, the State Department of Fish and Game, and the State Regional Water Quality Control Board. The EIR should list the permits, special conditions, and mitigation measures that may be required for future projects within the creek areas.

11. The EIR should address creek restoration and impact of any restoration of flood capacity.

We appreciate the opportunity to comment on this project in regards to drainage matters. If you have any questions, you may contact me at (925) 313-2308 or by e-mail at rene.urbina@pw.cccounty.us.

Sincerely,

Rene Urbina, P.E.
Civil Engineer
Contra Costa County Flood Control
& Water Conservation District

RU:cw
g:\fldctl\curdev\cities\concord\3123-06\apn 111-010-014,-017, concord hills regional park\comments to nop.docx

c: Mike Carlson, Deputy Chief Engineer
Tim Jensen, Flood Control
Teri E. Rie, Flood Control

CALIFORNIA
NATIVE PLANT SOCIETY

East Bay Chapter, www.ebcnps.org
PO Box 5597, Elmwood Station, Berkeley, CA 94705

July 26, 2017

Brian Holt, Principal Planner
East Bay Regional Park District
2950 Peralta Oaks Court
PO Box 5381
Oakland, CA 94605
Phone 510 544 2623

Submitted via email to bholt@ebparks.org

Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR): Concord Hills Regional Park Land Use Plan (LUP)

Dear Brian Holt,

The California Native Plant Society (CNPS) is a non-profit organization of more than 10,000 laypersons and professional botanists organized into 34 chapters throughout California. Our local East Bay chapter (EBCNPS) covers Alameda and Contra Costa Counties, and represents approximately 1,000 members. The mission of CNPS is to increase the understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, and conservation.

The East Bay Chapter of the California Native Plant Society recommends that comprehensive botanical surveys be conducted for the Environmental Impact Report on the Concord Hills Regional Park Land Use Plan. Additionally, we recommend that the Land Use Plan include a long term management plan for species protection.

The Concord Hills Regional Park encompasses 2,516 acres surrounded by Concord, Pittsburg, and Contra Costa County. Large sections of this project area are not currently open to recreation. Although not classified as a “preserve,” Concord Hills is mostly classified by the park district as Conservation Zone 1 “where the primary focus is conservation and management of natural resources” and public access is more limited, and the remaining acres as Conservation Zone 2. The property has had a long history of extensive land disturbance, but still holds potential for containing many special-status species, including rare and locally rare native plants. We appreciate the elevated protection status implied by the title of Conservation Zone (1&2), and request a definition of this term.

Perform comprehensive botanical surveys

Plant resource surveys throughout the entire planning area should be comprehensive and floristic in nature, conducted in the correct season for identification. The State of California, Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (2009) states the following:

> "Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be floristic in nature, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status… Include a list of plants and natural communities detected on the site for each botanical survey conducted."

Surveys should identify special-status native plant species, locally rare native plants, and sensitive natural communities, as protected under California Environmental Quality Act (CEQA) Guidelines §15125 (c) and §15380.

Comprehensive biological surveys should examine all regions of this large project area. Proposed development areas (staging areas, trails, parking lots) deserve detailed surveys, but surveys should not be limited to these areas. Surveys should be conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas (CNPS Botanical Survey Guidelines, 2001).

We recommend the below listed resources be referenced for the botanical surveys:

- CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (2009)
- California Natural Diversity Database (CNDDB)
- Manual of California Vegetation (2nd ed, Sawyer et al, 2009)
- CNPS Botanical Survey Guidelines (2001)
- CNPS Inventory of Rare and Endangered Plants
- EBCNPS Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties (Lake, 2017)
- A Guidebook to Botanical Priority Protection Areas of the East Bay (Bartosh, 2010)

The park district should perform comprehensive surveys and formulate an accompanying species management plan simultaneously along with preparations for public access. Or, a species management plan should be prepared before progressing with permits and plans for public access. But not after. This is because the process for documenting the occurrences of special-status species on the project site and preparing for their long term needs will necessarily inform appropriate options for placement of park facilities such as roads, trails, buildings, and parking lots.

Land Use Plan should include Long Term Management Plan

The NOP for the Concord Hills EIR briefly describes a strategy for "Ecological Restoration and Management" that proposes a separation of process for the LUP and a future "approved Long Term Management Plan." The Master Plan defines Land Use Plans, but does not define a Long Term Management Plan, nor how a Long Term Management Plan would substantially differ from a Land Use Plan. The NOP briefly describes the difference like this:

> "Ecological Restoration and Management: EBRPD will manage the park in perpetuity for the protection and benefit of special-status species according to an approved Long Term Management Plan, which will be prepared separately from the Land Use Plan and is not a part of the proposed project. The proposed project will identify specific management prescriptions that will ensure that public access will be permitted in a manner that is consistent with species protection."

We request the park district clarify whether "the proposed project" in the above excerpt refers to the LUP or a Long Term Management Plan.

In these few sentences, the park district appears to define a trackable policy change through an approach which is not yet analyzed in the Master Plan or by the public. We request the park district provide an explanation and analysis of this possible policy change, before proceeding with separation of the management plan processes for a project currently undergoing CEQA.

The NOP for Concord Hills may be describing a planning process which favors establishing recreational and public access before determining management and protection for special-status species. The EIR should instead evaluate impacts for a Land Use Plan that encompasses a Long Term Management Plan for species protection (especially but not limited to protection for special-status species and sensitive natural communities) within its analysis.

By definition, species protection (especially of special-status species) and management are integral pieces of the Land Use Plan which "(provides) recommendations for managing resources" (NOP) and "(evaluates) park resources" (Master Plan, 2013). It is unclear how "public access will be permitted in a manner that is consistent with species protection" (NOP) without jointly designing a Long Term Management Plan designed for such species protection.

The East Bay Regional Park District Master Plan (2013) chapter on Resource Management and Land Use Planning, describes two points (among many) regarding Land Use Plans within the section on Planning for Regional Parks and Trails (PRPT12 & PRPT13).

> PRPT13: "Land Use Plans will identify future resource management strategies and recreational use for entire parks and establish appropriate Land Use Designations. The District will continue to prepare Land Use Plans for new parks and will amend existing Land Use Plans as needed to accommodate growth and change."

The Pleasanton Ridge Regional Park Land Use Plan, finalized in 2012 using an EIR process, defines a Land Use Plan in this way:

> "The function of a Land Use Plan (LUP or 'Plan') is to: evaluate park resources and facilities; document agreements and restrictions related to park use; provide recommendations for managing resources; and identify future recreation uses, programs and service facilities."

We request the park district describe precedent for this type of planning separation at other properties throughout the park district, and address whether the separation would amount to an inappropriate deferral of analysis of environmental impacts as defined by CEQA.

If the park district continues with separate processes for these two plans, the EIR should clarify whether a Long Term Management Plan will be introduced through a separate EIR process, such as part of a LUP Amendment (LUPA), will be adopted outright. We request the park district describe whether there will be a public review process for the Long Term Management Plan, and if not, then why.

Consider project proposals nearby Concord Hills

EBCNPS provided comments to the City of Pittsburg on April 7, 2017 regarding an NOP of a Draft EIR for a Proposed Faria/ Southwest Hills Annexation Project. In that letter, we provided additional specific concerns on potential impacts of that project proposal on the future Concord Hills Regional Park. We hope the park district is considering the impacts that project proposal would have on land use plans and special-status species conservation and management at Concord Hills Regional Park.

Additional definitions requested

We also request the park district define these terms and their possible overlap: passive recreation trails, active recreation trails, multi-use trails, single-use trails. We request the park district explain how these definitions are part of a consistent overarching trail use policy.

Thank you for the opportunity to participate in this important proceeding. We look forward to being active participants in upcoming review processes on this project. If you have any questions, please contact me at conservation@ebcnps.org or 510-734-0335.

Sincerely,



Karen Whitestone
Conservation Analyst
East Bay California Native Plant Society

From: John Mercurio [mailto:johnmercurio@astound.net]
Sent: Friday, June 23, 2017 12:49 PM
To: Brian Holt <BHolt@ebparks.org>
Subject: RE: Concord Hills Regional Park - Scoping Meeting 6/29

Brian,

Thanks for this notice. It is like catnip to me, maybe a barrel full!

I have a few comments and questions which I will bulletize below:

1. "Connection to Delta De Anza Trail" and "Connection to Contra Costa Canal Trail" are shown but it is not clear if these are to be district trails or Concord trails.
2. There is no mention of any accommodations for active railroad activities. I know there has been much advocacy for this given the many miles of rails present. They are seen as a resource to be utilized. We need to provide some preservation of rails that can be used by rail enthusiasts.
3. We need to add acquisitions to the east and southeast (south of Bailey Road) to enable the ridge trail to be continued to the south and also to provide a potential loop all around the park.
4. Any bridges built over the creek where there is a trail below must be built high enough to permit the trail to pass comfortably below. This is an opportunity that cannot be missed!
5. Are the "Mt. Diablo Creek" and "Connection to North Concord BART" trails shown on the map regional trails? They need to be, and should be shown more clearly as such on future maps.
6. In the central east area, acquisitions need to be added to allow a continuous ridge trail. The ridge trail will be a huge asset to this park.
7. The "kink" in the CC Canal trail west of WP Road could be straightened if the canal is put into a pipe as planned by CCWD over the next 5-10 years. This would affect the routing of the trail alignment that will close the gap with the De Anza trail. This probability needs to be addressed soon so proper planning can occur.

Thanks for the opportunity to comment on this plan. We are looking forward to having a top notch trail in Concord!

These comments are being submitted as an unaffiliated Concord resident.

John

Concord Hills Regional Park – LUP Scoping Meeting Notes

Thursday June 29, 2017 6:30p.m.

Park Access & Road Network

1. Will the amphitheater be accessible via vehicle?
2. Will homes that align with the park be allowed to create a personal access gate?
3. How will people on Myrtle access the park?
4. Where would the vehicular access points be?
5. Where will be the access on Bailey Road?
6. How long is the stretch of Bailey Road through the park?
7. How does the district plan on managing traffic on Bailey Road?
8. When/where will the Holly Dr. connection be established?

Park Connectivity

1. What will we do about wildlife crossing at on Bailey Road?
2. Are there under crossings for cattle on Bailey Road?
    a. Will the future crossings be under or over?
3. Suggestion of using existing rail lines for transportation – with trains not just for hiking/walking.
    a. Community member suggested the District reach out to train aficionados for help
    b. Niles Canyon Railway may be interested in helping

Park Features & Use

1. What will be in place of the orchard?
2. What will be done with the Eucalyptus and Coulter Pines?
3. What will happen to the 40 bunkers/magazines that are not used?
4. One community member suggested including a water feature or a splash pad.
5. What portion of Diablo Creek is under the purview of the park?
    a. Are there sensitive species in the creek?
6. What does a caretaker residence entail?
7. Will students be able to conduct resource conservation research in the park?

Maintenance

1. How long will the clean-up of the site take?
2. Will any contaminated land be sealed?
3. Who will manage illegal dumping on Bailey Road?
4. Will there be prescribed burning in the park?
5. What will the District do to ensure the park is maintained secure?

From: milwroad [mailto:milwroad@sbcglobal.net]
Sent: Friday, June 30, 2017 1:17 PM
To: Brian Holt <BHolt@ebparks.org>
Subject: CNWS East Bay Regional Park comment

Thank you for the opportunity to comment on the developing plans for the new East Bay Regional Park. You too have an opportunity here by recognizing assets that can be put to new positive uses. I would like to submit the following comments:

There is in place now railroad track infrastructure that could be utilized to:

- Attract numerous tourists from across the country to ride a natural-gas, or battery powered, rail-bus into the Park hills, which have scenic vistas, military and natural history. There are two points of entry for these lines at Bailey Road.

- The rail-buses can make accessible these beautiful California hills to local families, children, seniors, disabled people, veterans and tourists, while at the same time providing people with the thrill of experiencing what it was like to ride a train. Why should families have to travel with their children all the way to Santa Cruz, Ardenwood, or Napa to ride the rails when it can be done right here in Contra Costa County?

- I am well versed with tourist railroads all across this country. This would be one of the most unique railroads to ride anywhere, given the way the tracks wind around the beautiful California prairie hills, with their views of Mt. Diablo and the Carquinez Straits.

- We already have tons of trails available around Contra Costa County. How many do we have with a railroad ride? None! It is a grievous error to ignore the value of this railroad's history. The Concord Naval Railroad was key to winning World War II. It also played a vital role in many other conflicts. We should not turn our backs on it by destroying a turn-key asset that could be utilized not only by the Park, but also the city of Concord and the County to draw new revenue, to the benefit of businesses and the local economy here.

- One selling point of the Lennar development is its "Transit Center" theme. This rail line into hills reinforces that concept – fuel efficient and enjoyable mobility.

- The other rail line that should be retained is the historic Bay Point & Clayton main line that could serve as a crucial trolley or rail-bus line connecting the Commercial end of the Lennar development with the residential end, affording residents and visitors ease of travel within the development and to the visitors center.

- Partial rail line preservation of a main line within the Development and a rail line up into the hills may be a perfect adjunct to the Port Chicago National Park, which is difficult to get to and is the least visited of Parks. It might be possible for the California State Railroad Museum to have some kind of relationship to the new Park.

- There are tourist railroads all across this country. The communities hosting them all recognized and have benefited from those attractions. All have overcome potential obstacles – EPA regulations, financing and so forth. We can do the same by thinking with an open mind and in the interim rail-

banking these important and irreplaceable assets while planning unfolds. Let's make Concord and the new East Bay Park a real national destination. Let's remember that once the Delta King, Ghirardelli Square, and the current San Francisco streetcars were once also decrepit eye sores, and now are economic engines – all because those who held their fate had imagination, fortitude and perseverance.

Again, thank you for this opportunity. I hope the Park Authority seizes upon it.

Respectfully,

Bruce Feld
Clayton, CA

APPENDIX B

AIR QUALITY AND GREENHOUSE GAS DATA

CalEEMod Inputs (Construction Run)

Name: Concord Hills Regional Park Land Use Plan
Project Location: Concord
County/Air Basin: Contra Costa
Climate Zone: 4
Land Use Setting: Urban
Operational Year: 2050
Utility Company: Pacific Gas and Electric

	Acreage
Total Site Area:	2516.00
Total Area Disturbed:	126.00

Components	SQFT	Acres
Conservation Area	N/A	2,390
Active Park Facilities	N/A	126
Caretakers residence	1,200	0.03
New Paved Roads	12,672	0.29
Vehicular Parking	130,680	3.00
Paved Trail	88,704	2.04
Back Country Campsite	11,979	0.28
Group Campsites	47,916	1.10
Visitor Center	30,108	4.00
Diablo Center	15,442	0.60
Community Orchard	52,000	1.19
Corporation Yard & Staff Offices	40,561	0.93
Staging Area	156,816	3.60
Picnic Area and Outdoor Classroom Areas	107,223	2.46

Key	
	Phase 1
	Phase 2/3

Phase	Staff	Visitors - Weekday	Visitors - Weekend	Average Daily Visitors
Opening Day	8	220	736	366
Buildout	52	1,074	2,665	1,524

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
City Park	Recreational	City Park	2.46	acre	2.46	107,223
Visitor Center, Offices, Corp. Yard	Commercial	Government Office Building	86.11	1000 sqft	5.54	86,111
Parking	Parking Lot	Parking Lot	130.68	1000 sqft	3.00	130,680
Caretakers Residence	Residential	Single-Family Residential	1.20	1000 sqft	0.03	1,200
					11.02	**193,334**

Trip Generation - Buildout

	Weekday	Saturday	Sunday	
ADT	587.17	1,303	1,303	
Trip Rate	**238.54**	**529.43**	**529.43**	*trips/acre*

**ADT based on visitation rates provdided by the District and trip generation from Environmental Science Associates (ESA), 2018*

Electricity

Land use Type	Title 24 Electricity Intensity kWhr/size/Yr	Nontitle 24 Electricity Intensity kWhr/size/Yr	Lighting Energy Intensity (kWh/size/yr)	Total kWh/Year
Visitor Center, Offices, Corp. Yard	6.11	7.84	3.88	1535.35
Caretakers Residence	325.76	6,155.97	1,608.84	9708.68
Parking Lot	0.00	0.00	0.35	45.74

CalEEMod 2016.3.2 Defaults

Solid Waste

Land use Type	Units	CalEEMod Default Solid Waste Generation (TPY)
City Park	acre	0.21
Visitor Center, Offices, Corp. Yard	1000 sqft	80.08
Caretaker's Residence	1000 sqft	0.42
	Total Solid Waste	**80.71**

CalEEMod 2016.3.2 Defaults

Water Use

		CalEEMod Defaults	Adjusted CalEEMod Inputs		
Land Use Type	Unit	Indoor Water Use (GPY)	Outdoor Water Use (GPY)	Indoor Water Use (GPY)	Outdoor Water Use (GPY)	Total Water Use
City Park	acre	0.00	2,931,044.12	**0**	**7,712,544**	7,712,544
Visitor Center, Offices, Corp. Yard	1000 sqft	17,106,585.55	10,484,681.47	**17,106,586**	**10,484,681**	27,591,267
Caretakers Residence	1000 sqft	65,154.03	41,075.36	**65,154.03**	**41,075.36**	106,229.39
						35,410,041

Additional Water Usage	GPD Per Unit	GPY
Campsite	100	401,500
Orchard	120	4380000

Septic Tank	30%
Aerobic	70%
Facultative Lagoons	0%

See Chapter 4-14, Utilities and Service Systems. Based on similar park projects and CalEEMod defaults. Assumes 70% of Park toilets would be connected to sanitary sewer and 30% would be environmental toilets.

Architectural Coating

BAAQMD Regulation 8 Rule 3

Interior Paint VOC content:	100
Exterior Paint VOC content:	150

Non-Residential Architectural Coating

Percentage of Buildings' Interior Painted:	100%
Percentage of Buildings' Exterior Painted:	100%

Structures	Land Use Square Feet	CalEEMod Paintable Surface Area Multiplier	Total Paintable Surface Area[2]	Paintable Interior Area[1]	Paintable Exterior Area[1]
New Paved Roads	143,352	0.06	8,601	0	8,601
Visitor Center and Buildings	86,111	2	172,221	129,166	43,055
Caretakers Residence	1,200	2	2,400	1,800	600

Notes:
1 calculates the paintable interior and exterior areas by multiplying the total
2 Methodology in calculating

Water Mitigation

Install Low Flow Bathroom Faucet	32	% Reduction in flow
Install Low Flow Kitchen Faucet	18	% Reduction in flow
Install Low Flow Toilet	20	% Reduction in flow
Install Low Flow Shower	20	% Reduction in flow
Use Water Efficiency Irrigation System	6.1	% Reduction in flow

CalEEMod Inputs (Construction Run)

Name: Concord Hills Regional Park Land Use Plan
Project Location: Concord
County/Air Basin: Contra Costa
Climate Zone: 4
Land Use Setting: Urban
Operational Year: 2023
Utility Company: Pacific Gas and Electric

	Acreage
Total Site Area:	2516.00
Total Area Disturbed:	126.00

Components	SQFT	Acres
Trails	88,704	2.04
Staging	156,816	3.60
Group Campsite	47,916	1.10
Community Orchard	52,000	1.19

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
City Park	Recreational	City Park	2.46	acre	2.46	107,223
Paved Trails	Parking	Asphalt - Other	88.70	1000 sqft	2.04	0
					4.50	**107,223**

Trip Generation

	Weekday	Saturday	Sunday	
ADT	124.84	382.53	382.53	
Trip Rate	**50.72**	**155.41**	**155.41**	*trips/acre*

**ADT based on visitation rates provdided by the District and trip generation from Environmental Science Associates (ESA), 2018*

Solid Waste

Land use Type	Units	Solid Waste Generation (TPY)
City Park	acre	0.21
Paved Trails	1000 sqft	0

**Solid Waste Generation Rates Reflect CalEEMod Defaults*

Water Use

		CalEEMod Defaults		CalEEMod Inputs	
Land Use Type	Unit	Indoor Water Use (GPY)	Outdoor Water Use (GPY)	Indoor Water Use (GPY)	Outdoor Water Use (GPY)
City Park	acre	0.00	2,931,044.12	0.00	7,712,544.12
Paved Trails	1000 sqft	0	0.00	0.00	0.00

**Water Use Rates Reflect CalEEMod Defaults*

Additional Water Usage	GPD Per Unit	GPY
Campsite	100	401,500
Orchard	120	4380000

Septic Tank	30%
Aerobic	70%
Facultative Lagoons	0%

See Chapter XXX, Utilities and Service Systems.

Changes to the CalEEMod Defaults - Fleet Mix 2023

					Trips	383								
Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.5907	0.037535	0.185105	0.11829	0.015611	0.005013	0.010768	0.024764	0.001635	0.001742	0.005351	0.002726	0.000802	100%
Trips	226	14	71	45	6	2	4	9	1	1	2	1	0	383
Percent	82%			12%	6%									100%
without buses/MH*	0.590657	0.037535	0.185105	0.118290	0.015611	0.005013	0.010768	0.024764	0	0	0.005351	0.0000000	0	99%
Percent	82%			12%	6%									99%
Adjusted without buses/MH	0.590657	0.037535	0.185105	0.118290	0.017531	0.005629	0.012092	0.027809	0.000000	0.000000	0.006009	0.000000	0.000000	
Percent check	82%			12%	6%									100%
Assumed Mix	97.0%			2.00%	1.00%									100%
adjusted with Assumed	0.699296	0.044439	0.219151	0.020000	0.002780	0.000893	0.001918	0.004410	0.000000	0.000000	0.007114	0.000000	0.000000	100%
Trips	268	17	84	8	1	0	1	2	0	0	3	0	0	383
Check	*371*			*8*	*4*									

Changes to the CalEEMod Defaults - Fleet Mix 2049

					Trips	1,303								
Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.6109	0.034103	0.184115	0.105098	0.01025	0.004842	0.011067	0.028522	0.00171	0.001425	0.005016	0.002345	0.000606	100%
Trips	796	44	240	137	13	6	14	37	2	2	7	3	1	1,303
Percent	83%			11%	6%									100%
without buses/MH*	0.610901	0.034103	0.184115	0.105098	0.010250	0.004842	0.011067	0.028522	0	0	0.005016	0.0000000	0	99%
Percent	83%			11%	5%									99%
Adjusted without buses/MH	0.610901	0.034103	0.184115	0.105098	0.011391	0.005381	0.012299	0.031697	0.000000	0.000000	0.005574	0.000000	0.000000	
Percent check	83%			11%	6%									100%
Assumed Mix	97.0%			2.00%	1.00%									100%
adjusted with Assumed	0.709930	0.039631	0.213961	0.020000	0.001875	0.000885	0.002024	0.005216	0.000000	0.000000	0.006478	0.000000	0.000000	100%
Trips	925	52	279	26	2	1	3	7	0	0	8	0	0	1,303
Check	*1,264*			*26*	*13*									

Campfire Emissions - Concord Regional Park

Assumptions

2 buddle of wood/pit 32 lbs

0.016 tons

Source: SCAQMD Staff Report - Amendment to Rule 444 for Regulating Beach Bonfires. http://www.aqmd.gov/hb/attachments/2011-2015/2013Jul/2013-Jul5-030.pdf

Emission Rates

AP 42. Chapter 1. Table 1.9-1

Source http://www.epa.gov/ttnchie1/ap42/ch01/bgdocs/b01s09.pdf

	ROG	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$	Biogenic CO_2
lbs/ton	229	2.6	252.6	0.4	34.6	34.3	3400
lbs/campsite	4	0.04	4	0.01	1	1	54

# of Firepits 2

assumes 100% occupancy year round

	ROG lbs/day	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$	Biogenic CO_2 MT/day
Campfire	7	0	8	0	1	1	0
BAAQMD Daily Threshold	54	54	NA	NA	85	54	NA
Exceeds Annual Threshold	No	No	No	No	No	No	No

	ROG tons/yr	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$	MT/yr
Total	1	0	1	0	0	0	18
BAAQMD Annual Threshold	10	10	NA	NA	15	10	1100
Exceeds Annual Threshold	No	No	No	No	No	No	No

While Campsites may include other sources of emissions, such as campstoves (propane and butane), campfires are assumed to be the greatest source of emissions associated with campgrounds. Consequently, these other minor sources of emissions are nominal in comparison. Other sources of energy use are included in the CalEEMod inventory and include natural gas use from the general park facilities.

Criteria Air Pollutant Emissions Summary - Operations

Proposed Project on Opening Day (2023)

Tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Mobile	0.04	0.06	0.45	0.00	0.16	0.00	0.16	0.04	0.00	0.04
Waste						0.00	0.00		0.00	0.00
Water						0.00	0.00		0.00	0.00
Total	0.04	0.06	0.45	0.00	0.16	0.00	0.16	0.04	0.00	0.04
BAAQMD Threshold (Annual)	10.00	10.00	NA	NA	NA	NA	15.00	NA	NA	10.00
Exceeds Threshold	No	No	NA	NA	NA	NA	No	NA	NA	No

Proposed Project at Buildout (2050)

Tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	0.41	0.00	0.02	0.00		0.00	0.00		0.00	0.00
Energy	0.01	0.07	0.06	0.00		0.01	0.01		0.01	0.01
Mobile	0.07	0.13	0.83	0.00	0.62	0.00	0.62	0.16	0.00	0.17
Waste						0.00	0.00		0.00	0.00
Water						0.00	0.00		0.00	0.00
Campfires	1.34	0.02	1.48	0.00		0.00	0.20		0.00	0.20
Total	1.82	0.21	2.38	0.01	0.62	0.01	0.83	0.16	0.01	0.37
BAAQMD Threshold (Annual)	10.00	10.00	NA	NA	NA	NA	15.00	NA	NA	10.00
Exceeds Threshold	No	No	NA	NA	NA	NA	No	NA	NA	No

Criteria Air Pollutant Emissions Summary - Operations

Annual emissions divided by 365 days/year to obtain average daily emissions.

Proposed Project on Opening Day (2023)

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area Sources	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Sources	0.22	0.31	2.44	0.01	0.85	0.01	0.86	0.23	0.01	0.23
Waste Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Wastewater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.22	0.31	2.44	0.01	0.85	0.01	0.86	0.23	0.01	0.23
BAAQMD Threshold (Daily)	54	54	NA	NA	NA	NA	82	NA	NA	54
Exceeds Threshold	No	No	NA	NA	NA	NA	No	NA	NA	No

Proposed Project at Buildout (2050)

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area Sources	2.23	0.00	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01
Energy Use	0.04	0.39	0.32	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Mobile Sources (Trucks)	0.37	0.70	4.53	0.02	3.40	0.01	3.41	0.90	0.01	0.91
Mobile Sources (Passenger)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offroad	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Campfire	7.33	0.08	8.08	0.01	0.00	0.00	1.11	0.00	0.00	1.10
Total	9.97	1.17	13.04	0.04	3.40	0.04	4.55	0.90	0.04	2.04
BAAQMD Threshold (Daily)	54	54	NA	NA	NA	NA	82	NA	NA	54
Exceeds Threshold	No	No	NA	NA	NA	NA	No	NA	NA	No

Greenhouse Gas Emissions Summary

Operation

Proposed Project - Opening Year 2023

MT/yr	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	**CO2e**	
Area Sources	0	1.63E-03	1.63E-03	0.00E+00	0.00E+00	1.74E-03	0%
Energy Use	0	0	0	0	0.00E+00	0	0%
Mobile Sources	0	123.05	123.05	3.91E-03	0	123.15	94%
Waste Generation	0.0426	0	0.0426	2.52E-03	0	0.1056	0%
Water/Wastewater	0	7.3738	7.3738	3.30E-04	7.00E-05	7.4027	6%
Total	0.0426	130.4262	130.4688	0.00676	0.00007	130.66	100%

BAAQMD Screening Threshold	**1,100**
Exceeds Threshold	**No**
Service Population	**374**
Year 2023 Forecasted Efficiency Metric Threshold	**6.56**
MTCO2E per Service Pop	**0.35**
Exceeds Threshold	**No**

Proposed Project - Buildout 2050

MT/yr	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	**CO2e**	
Area Sources	0.1271	0.0475	0.1746	2.60E-04	1.00E-05	0.1833	0%
Energy Use	0	539.0815	539.0815	0.0224	5.73E-03	541.3492	54%
Mobile Sources	0	338.6077	338.6077	8.62E-03	0	338.8231	34%
Waste Generation	16.3834	0	16.3834	0.9682	0	40.5892	4%
Water/Wastewater	3.4022	39.0616	42.4638	0.9495	0.0109	69.4601	7%
Campfires		18				18	2%
Total	20	935	937	2	0	1008	100%

BAAQMD Screening Threshold	**1,100**
Exceeds Threshold	**No**
Service Population	**1,576**
Year 2050 Forecasted Efficiency Metric Threshold	**1.22**
MTCO2E per Service Pop	**0.64**
Exceeds Threshold	**No**

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

2020 Scoping Plan Emissions Inventory

Source: CARB 1990 Inventory. California Air Resources Board. 2007, November. California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — Summary by Economic Sector.

1990 End Use Sector	MTCOe2	MMTCO2e	Notes
Electricity	96,100,000	96	Removed Industrial
Transportation	137,990,000	138	On-Road Only
Landfills	6,260,000	6	Landfill Extracted from Industrial
Wastewater	3,170,000	3	Wastewater Treatment Extracted from Industrial
Commercial	13,860,000	14	Removed National Security
Residential	29,660,000	30	Includes all
TOTAL LAND USE	**287,040,000**	287	

2017 Scoping Plan Emissions Inventory

Source: Pathways Main Outputs Final (Dec 2017). California Air Resources Board. 2017, December. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

End Use Sector 2030	MMTCO2e				
	Reference Scenario	Scoping Plan Scenario	Change	Percent Change	Sector Definition
Residential	46.5	41.4	-5.1	-11.0%	Residential final energy consumption
Commercial	36.00	30.1	-5.90	-16.4%	Commercial final energy consumption
Transportation	123.1	105.1	-18	-14.6%	Transportation energy consumption
Industrial*	33.8	30.7	-3.1	-9.2%	Industrial manufacturing final energy consumption,
Oil & Gas Extraction*	19.5	19.4	-0.1	-0.5%	Energy used in the extraction of oil and gas
Petroleum Refining*	32.6	32.5	-0.1	-0.3%	Energy used in petroleum Refining
Agriculture	7.7	6.8	-0.9	-11.7%	Energy use of physical infrastructure of agriculture, like buildings and pumps
Transportation Communications and Utilities	5.5	5	-0.5	-9.1%	Transportation Communications and Utilities (TCU) energy supports public infrastructure, like street lighting and waste treatment facilities
Non-Energy GHGs*	84.3	49.4	-34.9	-41.40%	Examples of non-energy GHG emissions include methane and N2O emissions from agriculture and waste, refrigerant F-gases, and emissions from cement production
Solid Waste Non-Energy GHGs	10.7	9.1	-1.6	-14.95%	Isolated the Solid Waste Subsector
Unspecified	0	0	0	n/a	
	389	320.4	-68.6	-17.63%	
Target	260	260			
Gap	-129	-60.4			

CARB 2017 Scoping Plan Assumes GAP from the Scoping Plan Scenario is closed by the Cap-and-Trade

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

STATEWIDE SERVICE POPULATION CALCULATIONS

Population

2020	40,619,346
2023	41,659,526
2030	44,085,600
2035	45,747,645
2040	47,233,240
2050	49,779,362

California Department of Finance. 2014, December. Report P-1 (County): State and County Total Population Projections, 2010-2060 (5 -year increments). http://www.dof.ca.gov/Forecasting/Demographics/Projections/

CALIFORNIA SERVICE POPULATION (ESTIMATE)

Employment

	Total Employment	Farm Employment	Natural Resources and Mining Employment	Manufacturing Employment	Employment w/o Industrial and Agricultural Sectors
2020	17,511,810	417,750	25,690	1330860	15,737,510
2023	18,036,110	418,172	25,960	1341835	16,250,143
2030	19,210,760	420,010	25,790	1370380	17,394,580
2035	20,027,660	421,330	25,980	1388630	18,191,720
2040	20,848,900	422,660	26,180	1407190	18,992,870
2050	22,595,640	425,320	26,590	1445270	20,698,460

California Department of Transportation. 2016. Long-Term Socio-Economic Forecasts by County. http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html

Service Population (SP)

	Total Employment	Employment w/o Industrial and Agricultural Sectors
2020	58,131,156	56,356,856
2023	59,695,636	57,909,669
2030	63,296,360	61,480,180
2035	65,775,305	63,939,365
2040	68,082,140	66,226,110
2050	72,375,002	70,477,822

Project Horizon Year Estimate	2023
2040 population	41,659,526
2023 employment (w/o industrial & Ag)	16,250,143
2023 GP	57,909,669

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

2030 Scoping Plan - Efficiency Metric

Year 2020 Plan-Level			
2020 Target (Plan-Level)	MMTCO2e	431	
2020 Per Capita Target	MTCO2e/pc	10.6	
2020 Per Service Population Target (Plan-Level)	MTCO2e/sp	7.6	
Year 2020 Project-Level			
2020 Target (Project-Level)	MMTCO2e	287.0	
2020 Per Capita Target	MTCO2e/pc	7.1	
2020 Per Service Population Target (Project-Level)	MTCO2e/sp	5.1	
Year 2030 Plan-Level			
2030 Target (Plan-Level)	MMTCO2e	260	
2030 Per Capita Target	MTCO2e/pc	5.9	
2030 Per Service Population Target (Plan-Level)	MTCO2e/sp	4.2	
Year 2030 Project-Level			
Land Use Inventory (Project-Level)	MMTCO2e	190.7	
2030 Per Capita Target	MTCO2e/pc	4.3	
2030 Per Service Population Target (Project-Level)	MTCO2e/sp	3.1	
Year 2050 Plan-Level			
2050 Target estimated (Plan-Level)	MMTCO2e	86	
2050 Per Capita Target	MTCO2e/pc	1.7	
2050 Per Service Population Target (Plan-Level)	MTCO2e/sp	1.2	
Year 2050 Project-Level			
2050 Target estimated (Plan-Level)	MMTCO2e	57	
2050 Per Capita Target	MTCO2e/pc	1.2	
2050 Per Service Population Target (Plan-Level)	MTCO2e/sp	0.8	
Project Horizon Year Estimate	2023		
Land Use Inventory (Plan-Level)	MMTCO2e	379.7	32%
2023 Per Service Population Target (Project-Level)	MTCO2e/sp	6.56	

EBRPD Operation Buildout Year - Contra Costa County, Annual

EBRPD Operation Buildout Year

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	86.11	1000sqft	2.96	86,110.00	0
Other Asphalt Surfaces	12.67	1000sqft	0.29	12,670.00	0
Parking Lot	130.68	1000sqft	3.00	130,680.00	0
City Park	2.46	Acre	2.46	107,157.60	0
Single Family Housing	1.00	Dwelling Unit	0.03	1,200.00	1

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2050
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See CalEEMod Assumptions

Vehicle Trips - See CalEEMod Assumptions

Woodstoves -

Area Coating - See CalEEMod Assumptions

Energy Use - See CalEEMod Assumptions

Water And Wastewater - See CalEMEod Assumptions

Solid Waste - See CalEEMod Assumptions

Water Mitigation -

Fleet Mix - See CalEEMod Assumptions

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.03	5.2160e-003
tblFleetMix	LDA	0.61	0.71
tblFleetMix	LDT1	0.03	0.04
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LHD1	0.01	1.8750e-003
tblFleetMix	LHD2	4.8420e-003	8.8500e-004
tblFleetMix	MCY	5.0160e-003	6.4780e-003
tblFleetMix	MDV	0.11	0.02
tblFleetMix	MH	6.0600e-004	0.00
tblFleetMix	MHD	0.01	2.0240e-003
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	SBUS	2.3450e-003	0.00
tblFleetMix	UBUS	1.4250e-003	0.00
tblLandUse	LandUseSquareFeet	1,800.00	1,200.00
tblLandUse	LotAcreage	1.98	2.96
tblLandUse	LotAcreage	0.32	0.03
tblLandUse	Population	3.00	1.00
tblVehicleTrips	ST_TR	22.75	529.43
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	16.74	529.43
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	1.89	238.54
tblVehicleTrips	WD_TR	68.93	0.00
tblVehicleTrips	WD_TR	9.52	0.00

tblWater	AerobicPercent	87.46	70.00
tblWater	AerobicPercent	87.46	70.00
tblWater	AerobicPercent	87.46	70.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	2,931,044.12	7,712,544.00
tblWater	SepticTankPercent	10.33	30.00
tblWater	SepticTankPercent	10.33	30.00
tblWater	SepticTankPercent	10.33	30.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4063	2.3000e-004	0.0181	2.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.1271	0.0475	0.1746	2.6000e-004	1.0000e-005	0.1833
Energy	7.7600e-003	0.0704	0.0586	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	539.0815	539.0815	0.0224	5.7300e-003	541.3492
Mobile	0.0678	0.1272	0.8275	3.7200e-003	0.6202	1.4400e-003	0.6217	0.1649	1.3300e-003	0.1663	0.0000	338.6077	338.6077	8.6200e-003	0.0000	338.8231
Waste						0.0000	0.0000		0.0000	0.0000	16.3834	0.0000	16.3834	0.9682	0.0000	40.5892
Water						0.0000	0.0000		0.0000	0.0000	4.2528	45.6005	49.8532	1.1867	0.0136	83.5859
Total	**0.4819**	**0.1978**	**0.9042**	**4.1600e-003**	**0.6202**	**8.0800e-003**	**0.6283**	**0.1649**	**7.9700e-003**	**0.1729**	**20.7633**	**923.3371**	**944.1004**	**2.1862**	**0.0194**	**1,004.5307**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4063	2.3000e-004	0.0181	2.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.1271	0.0475	0.1746	2.6000e-004	1.0000e-005	0.1833
Energy	7.7600e-003	0.0704	0.0586	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	539.0815	539.0815	0.0224	5.7300e-003	541.3492
Mobile	0.0678	0.1272	0.8275	3.7200e-003	0.6202	1.4400e-003	0.6217	0.1649	1.3300e-003	0.1663	0.0000	338.6077	338.6077	8.6200e-003	0.0000	338.8231
Waste						0.0000	0.0000		0.0000	0.0000	16.3834	0.0000	16.3834	0.9682	0.0000	40.5892
Water						0.0000	0.0000		0.0000	0.0000	3.4022	39.0616	42.4638	0.9495	0.0109	69.4601
Total	**0.4819**	**0.1978**	**0.9042**	**4.1600e-003**	**0.6202**	**8.0800e-003**	**0.6283**	**0.1649**	**7.9700e-003**	**0.1729**	**19.9127**	**916.7982**	**936.7110**	**1.9490**	**0.0167**	**990.4049**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.10**	**0.71**	**0.78**	**10.85**	**13.93**	**1.41**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0678	0.1272	0.8275	3.7200e-003	0.6202	1.4400e-003	0.6217	0.1649	1.3300e-003	0.1663	0.0000	338.6077	338.6077	8.6200e-003	0.0000	338.8231
Unmitigated	0.0678	0.1272	0.8275	3.7200e-003	0.6202	1.4400e-003	0.6217	0.1649	1.3300e-003	0.1663	0.0000	338.6077	338.6077	8.6200e-003	0.0000	338.8231

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	586.81	1,302.40	1302.40	1,689,229	1,689,229
Government Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	586.81	1,302.40	1,302.40	1,689,229	1,689,229

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.709930	0.039631	0.213961	0.020000	0.001875	0.000885	0.002024	0.005216	0.000000	0.000000	0.006478	0.000000	0.000000
Government Office Building	0.610901	0.034103	0.184115	0.105098	0.010250	0.004842	0.011067	0.028522	0.001710	0.001425	0.005016	0.002345	0.000606
Other Asphalt Surfaces	0.610901	0.034103	0.184115	0.105098	0.010250	0.004842	0.011067	0.028522	0.001710	0.001425	0.005016	0.002345	0.000606
Parking Lot	0.610901	0.034103	0.184115	0.105098	0.010250	0.004842	0.011067	0.028522	0.001710	0.001425	0.005016	0.002345	0.000606
Single Family Housing	0.610901	0.034103	0.184115	0.105098	0.010250	0.004842	0.011067	0.028522	0.001710	0.001425	0.005016	0.002345	0.000606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	462.3077	462.3077	0.0209	4.3300e-003	464.1192
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	462.3077	462.3077	0.0209	4.3300e-003	464.1192
NaturalGas Mitigated	7.7600e-003	0.0704	0.0586	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	76.7738	76.7738	1.4700e-003	1.4100e-003	77.2300
NaturalGas Unmitigated	7.7600e-003	0.0704	0.0586	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	76.7738	76.7738	1.4700e-003	1.4100e-003	77.2300

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Government Office Building	1.40962e+006	7.6000e-003	0.0691	0.0580	4.1000e-004		5.2500e-003	5.2500e-003		5.2500e-003	5.2500e-003	0.0000	75.2227	75.2227	1.4400e-003	1.3800e-003	75.6697
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29065.1	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
Total		**7.7600e-003**	**0.0704**	**0.0586**	**4.2000e-004**		**5.3600e-003**	**5.3600e-003**		**5.3600e-003**	**5.3600e-003**	**0.0000**	**76.7738**	**76.7738**	**1.4700e-003**	**1.4100e-003**	**77.2300**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Government Office Building	1.40962e+006	7.6000e-003	0.0691	0.0580	4.1000e-004		5.2500e-003	5.2500e-003		5.2500e-003	5.2500e-003	0.0000	75.2227	75.2227	1.4400e-003	1.3800e-003	75.6697
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29065.1	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
Total		**7.7600e-003**	**0.0704**	**0.0586**	**4.2000e-004**		**5.3600e-003**	**5.3600e-003**		**5.3600e-003**	**5.3600e-003**	**0.0000**	**76.7738**	**76.7738**	**1.4700e-003**	**1.4100e-003**	**77.2300**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Government Office Building	1.53534e+006	446.6484	0.0202	4.1800e-003	448.3985
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	45738	13.3057	6.0000e-004	1.2000e-004	13.3578
Single Family Housing	8090.57	2.3536	1.1000e-004	2.0000e-005	2.3629
Total		**462.3077**	**0.0209**	**4.3200e-003**	**464.1192**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Government Office Building	1.53534e+006	446.6484	0.0202	4.1800e-003	448.3985
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	45738	13.3057	6.0000e-004	1.2000e-004	13.3578
Single Family Housing	8090.57	2.3536	1.1000e-004	2.0000e-005	2.3629
Total		**462.3077**	**0.0209**	**4.3200e-003**	**464.1192**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4063	2.3000e-004	0.0181	2.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.1271	0.0475	0.1746	2.6000e-004	1.0000e-005	0.1833
Unmitigated	0.4063	2.3000e-004	0.0181	2.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.1271	0.0475	0.1746	2.6000e-004	1.0000e-005	0.1833

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.8900e-003	1.3000e-004	8.5700e-003	2.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.1271	0.0312	0.1583	2.4000e-004	1.0000e-005	0.1665
Landscaping	4.1000e-004	1.0000e-004	9.5100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0163	0.0163	2.0000e-005	0.0000	0.0168
Total	**0.4063**	**2.3000e-004**	**0.0181**	**2.0000e-005**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.1271**	**0.0475**	**0.1746**	**2.6000e-004**	**1.0000e-005**	**0.1833**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.8900e-003	1.3000e-004	8.5700e-003	2.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.1271	0.0312	0.1583	2.4000e-004	1.0000e-005	0.1665
Landscaping	4.1000e-004	1.0000e-004	9.5100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0163	0.0163	2.0000e-005	0.0000	0.0168
Total	**0.4063**	**2.3000e-004**	**0.0181**	**2.0000e-005**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.1271**	**0.0475**	**0.1746**	**2.6000e-004**	**1.0000e-005**	**0.1833**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	42.4638	0.9495	0.0109	69.4601
Unmitigated	49.8532	1.1867	0.0136	83.5859

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.71254	7.8528	3.6000e-004	7.0000e-005	7.8836
Government Office Building	17.1066 / 10.4847	41.8399	1.1819	0.0135	75.4139
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.1605	4.5000e-003	5.0000e-005	0.2884
Total		**49.8533**	**1.1867**	**0.0136**	**83.5859**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.24208	7.3738	3.3000e-004	7.0000e-005	7.4027
Government Office Building	13.6853 / 9.84512	34.9558	0.9456	0.0108	61.8208
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0521232 /	0.1342	3.6000e-003	4.0000e-005	0.2366
Total		**42.4638**	**0.9495**	**0.0109**	**69.4601**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.3834	0.9682	0.0000	40.5892
Unmitigated	16.3834	0.9682	0.0000	40.5892

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Government Office Building	80.08	16.2555	0.9607	0.0000	40.2724
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.42	0.0853	5.0400e-003	0.0000	0.2112
Total		**16.3834**	**0.9682**	**0.0000**	**40.5892**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Government Office Building	80.08	16.2555	0.9607	0.0000	40.2724
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.42	0.0853	5.0400e-003	0.0000	0.2112
Total		**16.3834**	**0.9682**	**0.0000**	**40.5892**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EBRPD Operation Opening Year

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	88.70	1000sqft	2.04	0.00	0
City Park	2.46	Acre	2.46	107,157.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Excluded for striping

Vehicle Trips - See CalEEMod Assumptions

Area Coating -

Energy Use -

Water And Wastewater - See CalEMEod Assumptions

Solid Waste -

Water Mitigation -

Fleet Mix - See CalEEMod Assumptions

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	4.4100e-003
tblFleetMix	LDA	0.59	0.70
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	2.7800e-003
tblFleetMix	LHD2	5.0130e-003	8.9300e-004
tblFleetMix	MCY	5.3510e-003	7.1140e-003
tblFleetMix	MDV	0.12	0.02
tblFleetMix	MH	8.0200e-004	0.00
tblFleetMix	MHD	0.01	1.9180e-003
tblFleetMix	OBUS	1.6350e-003	0.00
tblFleetMix	SBUS	2.7260e-003	0.00
tblFleetMix	UBUS	1.7420e-003	0.00
tblLandUse	LandUseSquareFeet	88,700.00	0.00
tblVehicleTrips	ST_TR	22.75	155.41
tblVehicleTrips	SU_TR	16.74	155.41
tblVehicleTrips	WD_TR	1.89	50.72
tblWater	AerobicPercent	87.46	70.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	2,931,044.12	7,712,544.12
tblWater	SepticTankPercent	10.33	30.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0900e-003	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0398	0.0566	0.4453	1.3600e-003	0.1555	1.0400e-003	0.1565	0.0413	9.6000e-004	0.0423	0.0000	123.0508	123.0508	3.9100e-003	0.0000	123.1486
Waste						0.0000	0.0000		0.0000	0.0000	0.0426	0.0000	0.0426	2.5200e-003	0.0000	0.1056
Water						0.0000	0.0000		0.0000	0.0000	0.0000	7.8528	7.8528	3.6000e-004	7.0000e-005	7.8836
Total	**0.0409**	**0.0566**	**0.4461**	**1.3600e-003**	**0.1555**	**1.0400e-003**	**0.1565**	**0.0413**	**9.6000e-004**	**0.0423**	**0.0426**	**130.9053**	**130.9479**	**6.7900e-003**	**7.0000e-005**	**131.1395**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0900e-003	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0398	0.0566	0.4453	1.3600e-003	0.1555	1.0400e-003	0.1565	0.0413	9.6000e-004	0.0423	0.0000	123.0508	123.0508	3.9100e-003	0.0000	123.1486
Waste						0.0000	0.0000		0.0000	0.0000	0.0426	0.0000	0.0426	2.5200e-003	0.0000	0.1056
Water						0.0000	0.0000		0.0000	0.0000	0.0000	7.3738	7.3738	3.3000e-004	7.0000e-005	7.4027
Total	**0.0409**	**0.0566**	**0.4461**	**1.3600e-003**	**0.1555**	**1.0400e-003**	**0.1565**	**0.0413**	**9.6000e-004**	**0.0423**	**0.0426**	**130.4263**	**130.4689**	**6.7600e-003**	**7.0000e-005**	**130.6586**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.37**	**0.44**	**0.00**	**0.37**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0398	0.0566	0.4453	1.3600e-003	0.1555	1.0400e-003	0.1565	0.0413	9.6000e-004	0.0423	0.0000	123.0508	123.0508	3.9100e-003	0.0000	123.1486
Unmitigated	0.0398	0.0566	0.4453	1.3600e-003	0.1555	1.0400e-003	0.1565	0.0413	9.6000e-004	0.0423	0.0000	123.0508	123.0508	3.9100e-003	0.0000	123.1486

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	124.77	382.31	382.31	423,455	423,455
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	124.77	382.31	382.31	423,455	423,455

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.699296	0.044439	0.219151	0.020000	0.002780	0.000893	0.001918	0.004410	0.000000	0.000000	0.007114	0.000000	0.000000
Other Asphalt Surfaces	0.590657	0.037535	0.185105	0.118290	0.015611	0.005013	0.010768	0.024764	0.001635	0.001742	0.005351	0.002726	0.000802

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0900e-003	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003
Unmitigated	1.0900e-003	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003
Total	**1.0900e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**0.0000**	**1.7400e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7400e-003
Total	**1.0900e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**0.0000**	**1.7400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.3738	3.3000e-004	7.0000e-005	7.4027
Unmitigated	7.8528	3.6000e-004	7.0000e-005	7.8836

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.71254	7.8528	3.6000e-004	7.0000e-005	7.8836
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.8528**	**3.6000e-004**	**7.0000e-005**	**7.8836**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.24208	7.3738	3.3000e-004	7.0000e-005	7.4027
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.3738**	**3.3000e-004**	**7.0000e-005**	**7.4027**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0426	2.5200e-003	0.0000	0.1056
Unmitigated	0.0426	2.5200e-003	0.0000	0.1056

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0426**	**2.5200e-003**	**0.0000**	**0.1056**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0426**	**2.5200e-003**	**0.0000**	**0.1056**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

On-Road Fuel Use - 2023

Annual VMT from CalEEMod	423,455

Vehicle type	Trips		Gasoline	Diesel	NG	ELEC	Gasoline	Diesel	ELEC	NG
	Fleet Mix %	Total VMT/Year	VMT/yr	VMT/yr	VMT/yr	VMT/yr	Gallons/yr	Gallons/yr	KwH/yr*	Gallons/yr
LDA	69.9%	296,120	285,576	3,147	0	7,397	8,699	63	2,959	0
LDT1	4.4%	18,818	18,645	7	0	166	667	572	66	0
LDT2	21.9%	92,801	91,077	671	0	1,052	3,500	18	421	0
LHD1	0.3%	1,177	1,177	0	0	0	42	0	0	0
LHD2	0.1%	378	127	251	0	0	17	15	0	0
MCY	0.7%	3,012	3,012	0	0	0	81	0	0	0
MDV	2.0%	8,469	8,469	0	0	0	325	0	0	0
MH	0.0%	0	0	0	0	0	0	0	0	0
OBUS	0.0%	0	0	0	0	0	0	0	0	0
SBUS	0.0%	0	0	0	0	0	0	0	0	0
T6	0.2%	812	0	812	0	0	0	160	0	0
T7	0.4%	1,867	0	1,867	0	0	0	238	0	0
UBUS	0.0%	0	0	0	0	0	0	0	0	0
Total	**100.00%**	**423,455**	**408,084**	**6,756**	**0**	**8,615**	**13,331**	**1,066**	**3,446**	**0**

* Assumes and average electricity efficiency of 0.40 Kwh/Mile

Source: U.S. Department of Transportation, Federal Highway Administration. 2017, September 25. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline. https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ev_deployment/page08.cfm

	Total Gas	Total DSL	Total NG	Total ELEC	TOTAL	Percent of Fleet Gasoline	Percent of Fleet Diesel	Percent of Fleet NG	Percent of Fleet Electric	Gasoline m/gal	Diesel m/gal	NG m/gal
LDA	1,949,195	21,478	0	50,489	2,021,162	96%	1%	0%	2%	0.03	0.02	0.00
LDT1	196,335	78	0	1,746	198,159	99%	0%	0%	1%	0.04	77.63	0.00
LDT2	635,180	4,680	0	7,340	647,200	98%	1%	0%	1%	0.04	0.03	0.00
LHD1	196,335	0	0	0	196,335	100%	0%	0%	0%	0.04	0.00	0.00
LHD2	18,877	37,210	0	0	56,086	34%	66%	0%	0%	0.13	0.06	0.00
MCY	40,119	0	0	0	40,119	100%	0%	0%	0%	0.03	0.00	0.00
MDV	635,180	0	0	0	635,180	100%	0%	0%	0%	0.04	0.00	0.00
MH	190	79	0	0	269	71%	29%	0%	0%	0.20	0.10	0.00
OBUS	5,924	0	0	0	5,924	100%	0%	0%	0%	0.21	0.00	0.00
SBUS	242	10,255	0	0	10,497	2%	98%	0%	0%	0.10	0.11	0.00
T6	0	38,143	0	0	38,143	0%	100%	0%	0%	0.00	0.20	0.00
T7	0	16,469	0	0	16,469	0%	100%	0%	0%	0.00	0.13	0.00
UBUS	101	809	594	0	1,504	7%	54%	39%	0%	0.12	0.16	0.48
Total	0	10,968	0	0	10,968	0%	100%	0%	0%	0.00	0.04	0.00

Source: EMFAC 2017 webdatabase. Contra Costa County, Year 2023, Annual, EMFAC2011 Categories. https://www.arb.ca.gov/emfac/2017/

On-Road Fuel Use - Full Buildout 2050

Annual VMT from CalEEMod 1,689,229

Vehicle type	Trips Fleet Mix %	Total VMT/Year	Gasoline VMT/yr	Diesel VMT/yr	NG VMT/yr	ELEC VMT/yr	Gasoline Gallons/yr	Diesel Gallons/yr	ELEC KwH/yr*	NG Gallons/yr
LDA	71.0%	1,199,234	1,111,291	13,856	0	74,088	25,330	210	29,635	0
LDT1	4.0%	66,946	64,316	9	0	2,621	1,684	347	1,048	0
LDT2	21.4%	361,429	341,812	3,548	0	16,069	8,890	71	6,428	0
LHD1	0.2%	3,167	3,167	0	0	0	83	0	0	0
LHD2	0.1%	1,495	453	1,042	0	0	49	50	0	0
MCY	0.6%	10,943	10,943	0	0	0	293	0	0	0
MDV	2.0%	33,785	33,785	0	0	0	879	0	0	0
MH	0.0%	0	0	0	0	0	0	0	0	0
OBUS	0.0%	0	0	0	0	0	0	0	0	0
SBUS	0.0%	0	0	0	0	0	0	0	0	0
T6	0.2%	3,419	0	3,419	0	0	0	524	0	0
T7	0.5%	8,811	0	8,811	0	0	0	1,152	0	0
UBUS	0.0%	0	0	0	0	0	0	0	0	0
Total	**100.00%**	**1,689,229**	**1,565,767**	**30,684**	**0**	**92,777**	**37,208**	**2,353**	**37,111**	**0**

* Assumes and average electricity efficiency of 0.40 Kwh/Mile

Source: U.S. Department of Transportation, Federal Highway Administration. 2017, September 25. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline. https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ev_deployment/page08.cfm

	Total Gas	Total DSL	Total NG	Total ELEC	TOTAL	Percent of Fleet Gasoline	Percent of Fleet Diesel	Percent of Fleet NG	Percent of Fleet Electric	Gasoline m/gal	Diesel m/gal	NG m/gal
LDA	2,850,760	35,543	0	190,055	3,076,358	93%	1%	0%	6%	0.02	0.02	0.00
LDT1	277,548	39	0	11,310	288,896	96%	0%	0%	4%	0.03	38.68	0.00
LDT2	840,784	8,727	0	39,526	889,037	95%	1%	0%	4%	0.03	0.02	0.00
LHD1	277,548	0	0	0	277,548	100%	0%	0%	0%	0.03	0.00	0.00
LHD2	26,123	60,053	0	0	86,175	30%	70%	0%	0%	0.11	0.05	0.00
MCY	54,153	0	0	0	54,153	100%	0%	0%	0%	0.03	0.00	0.00
MDV	840,784	0	0	0	840,784	100%	0%	0%	0%	0.03	0.00	0.00
MH	187	94	0	0	281	67%	33%	0%	0%	0.16	0.08	0.00
OBUS	6,408	0	0	0	6,408	100%	0%	0%	0%	0.16	0.00	0.00
SBUS	1,065	31,794	0	0	32,859	3%	97%	0%	0%	0.09	0.09	0.00
T6	0	47,923	0	0	47,923	0%	100%	0%	0%	0.00	0.15	0.00
T7	0	1,463	0	0	1,463	0%	100%	0%	0%	0.00	0.13	0.00
UBUS	0	685	870	0	1,555	0%	44%	56%	0%	0.00	0.14	0.72
Total	0	19,497	0	0	19,497	0%	100%	0%	0%	0.00	0.03	0.00

Source: EMFAC 2017 webdatabase. Contra Costa County, Year 2050, Annual, EMFAC2011 Categories. https://www.arb.ca.gov/emfac/2017/

Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website[32]

Vehicle	Model year	Electric consumption	Gasoline fuel economy	Number of kWh that are equivalent to 1 gallon
Ford Fusion Energi & Ford C-Max Energi	2013	0.34 kWh per mile	43 mpg	14.6
Chevrolet Volt	2013	0.35 kWh per mile	37 mpg	12.9
Chevrolet Volt	2012	0.36 kWh per mile	37 mpg	13.3
Fisker Karma	2012	0.62 kWh per mile	20 mpg	12.4
Toyota Prius	2013	0.29 kWh per mile & 0.2 gal	50 mpg	13.1
Average for five models	-	-	-	13.3 +/- 0.8

Table A 5: Average power consumption per mile traveled over time for different PEV categories

Year range	2012- 2020	2020-2030	2030-2040	2040-2050	2050
Efficiency improvement per year	0.3%	0.8%	0.9%	0.9%	
Year	2012	2020	2030	2040	2050
Relative energy efficiency	1.000	0.976	0.901	0.823	0.752

Model	Average Kwh/Mile	Average Kwh/Mile in 2020
Ford Fusion	0.34	
Volt	0.35	
Karma	0.62	
Prius	0.29	
AVERAGE	0.40	0.40

Source

U.S. Department of Transportation, Federal Highway Administration. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline.
https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm

APPENDIX C

BIOLOGICAL RESOURCES

Appendix C1: Detailed Descriptions of Special-Status Wildlife Species Potentially Occurring on the Project Site

Appendix C.1. Detailed Descriptions of Special-Status Wildlife Species Potentially Occurring on the Project Site

Federal or State Endangered and Threatened Species

California Tiger Salamander (*Ambystoma californiense).* Federal Listing Status: Threatened (Central Population); State Listing Status: Threatened. The California tiger salamander was listed as threatened in August 2004 (USFWS 2004), and critical habitat was designated in August 2005 (USFWS 2005a). However, critical habitat does not occur within or adjacent to the project site. The range of the California tiger salamander is restricted to the Central Valley and the South Coast Range of California, from Butte County south to Santa Barbara County.

The California tiger salamander's preferred breeding habitat consists of temporary (minimum of 3-4 months), ponded environments (e.g., vernal pool, ephemeral pool, or human-made ponds) surrounded by uplands that support small mammal burrows. California tiger salamanders will also utilize permanent ponds provided aquatic, vertebrate predators are not present. Such ponds provide breeding and larval habitat, while burrows of small mammals such as California ground squirrels and valley pocket gophers in upland habitats provide refugia for juvenile and adult salamanders during the dry season.

California tiger salamanders avoid desiccation during the dry months of summer and autumn by taking refuge in burrows excavated by ground squirrels and other burrowing mammals. After autumn rains commence, they emerge and begin nocturnal migrations, congregating at breeding sites. Eggs are deposited singly or in small groups of 2 to 4 in relatively shallow water (Storer 1925, Twitty 1941). Following breeding, adults move away from ponds to upland refugia. Eggs hatch two to four weeks after deposition (Storer 1925, Twitty 1941), and a minimum of approximately 10 weeks is required to complete development through metamorphosis (Anderson 1968 and Feaver 1971, as cited in Jennings and Hayes 1994). Thus, aquatic breeding sites must retain water for a minimum of three months. Following metamorphosis, juveniles leave the drying ponds in late spring or summer and move at night to upland refugia. Juveniles and adults emerge from refugia on cool, moist, or foggy nights to feed on a wide variety of invertebrate and small vertebrate prey (Shaffer et al. 1993).

Studies of upland habitat use by California tiger salamanders (e.g., Austin and Shaffer 1992, Trenham et al. 2001, USFWS 2004, Trenham and Shaffer 2005, Orloff 2007) suggest that dispersal distances may vary among populations and/or sites, that California tiger salamander abundance likely decreases with increasing distance from a breeding pond, and that a few individuals may disperse up to 1.3 miles from breeding areas.

Within the project site, California tiger salamanders are known to breed in a number of locations in the southeastern half of the site, including the Cistern Pond, Rock Quarry Pond, 5AT-1 Pond and adjoining marsh, 5AT-2 Pond, Rattlesnake Canyon Pond, lower Indian Springs Pond, north and south Hilltop Ponds, and other pools (Figure 5).

Resource surveys of the CNWS conducted from 1981 to 1982 (Jones and Stokes 1982) detected California tiger salamanders on the project site. On two occasions, adults were captured during small mammal pit fall trapping, in oak woodland habitat with rock outcrops in the 5AT area. In addition, during reptile and amphibian surveys, larvae were found in the Cistern Pond, a small seasonal pond next to the quarry, and in a seasonal pond north of the eagle's nest eucalyptus grove.

Downard et al. (1999) conducted surveys for amphibians and reptiles within all representative environments on the Tidal and Inland areas of the CNWS but gave special attention to areas considered likely to harbor the California tiger salamander, including ephemeral pools, ponds, and freshwater marshes. Tiger salamanders were observed at nine of the 22 fixed survey locations. California tiger salamander individuals were observed from March to May and September to December. The greatest number of individuals was observed at the upper Cistern Pond and lower Indian Springs Pond. Tiger salamander eggs were also observed at these two locations. In addition, larvae and juveniles were observed at the Rock Quarry, 5AT-2 Pond, Rattlesnake Canyon Pond, and the Hilltop Ponds, with the greatest number of individuals being observed at the Hilltop Ponds.

Smallwood and Morrison (2007) conducted focused California tiger salamander larval surveys in spring of 2005 and 2006, years of above-average rainfall, and conducted upland sampling using drift fences and pitfall traps. They detected California tiger salamander larvae in the Cistern Pond, Upper Cistern Pond, south Hilltop Pond, north Hilltop ponds (east and west), 5AT-I Pond (southeast and northwest), 5AT-2 Pond, Rock Quarry Pond, and Indian Springs Pond, as well as in ditches by 5ATX60 and 5ATX 59, by the rail track near Bailey Road, and in 5 ATX 47 south and north.

A study conducted by EDAW (2008a) considered previously identified breeding locations, the distribution of small mammal burrows, potential impediments to dispersal, and information concerning this species' dispersal capabilities to evaluate various areas on the site according to their upland habitat value. This study ranked the relative value of various sections of the Area Plan site as upland habitat for California tiger salamanders based on proximity to known breeding ponds, abundance of upland refugia, and location relative to impediments such as Mt. Diablo Creek and Willow Pass Road. The study concluded that the southern and eastern portions of the study area (i.e., proposed Concord Hills Regional Park) are of the highest potential value as upland habitat for California tiger salamander populations in in the Action Area.

Since 2010, Condor Country Consulting, Inc. (as a U.S. Navy subcontractor) has been performing wet-season, upland trapline surveys for California tiger salamanders around proposed remediation areas in a number of areas on the Area Plan site. Fifteen locations have been surveyed, with individual locations surveyed from one to six times since 2010. These trapping surveys have detected California tiger salamanders only on the northeast side of Mt. Diablo Creek from Site 24A/IA-100 West southeastward. Trapping in areas in Bunker City, northwest of Bunker City and Site 24A, and northwest of Willow Pass Road has not detected California tiger salamanders.

During these trapping efforts, Condor Country Consulting personnel observed California tiger salamander eggs in a portion of the Clayton Canal just east of the IA-100 West/IA-100 North trapping locations (S. Kehr, pers. comm.). Eggs were observed in two portions of the canal on December 8, 2014 and in one of those areas again on January 16, 2016. In both years (even during the wetter winter of 2015-2016) the canal dried up shortly after the eggs were observed, and no larvae were seen in either year. Given the hydroperiod of this canal that was observed, and the absence of tiger salamander larvae recorded during surveys of this canal in 2011, breeding potential in this canal is expected to be extremely low.

In 2011, H. T. Harvey & Associates (2011a) conducted California tiger salamander larval surveys on the Area Plan site, focusing primarily on areas where tiger salamanders had not been previously recorded. Ninety-six ponds, pools, and wetlands were surveyed, including six ponds north of Highway 4 within the Diablo Creek Golf Course and 90 ponds, pools, and wetlands south of Highway 4. California tiger salamander larvae were not detected in any of the ponded-water features sampled.

The collective results of the above-referenced survey efforts, as well as other records (e.g., from the CNDDB 2018) reveal a consistent pattern: California tiger salamanders are not present in the northwestern part of the Site. At best, individuals may disperse northwestward to areas near Willow Pass Road, but based on the survey results to date and locations of known and potential breeding areas, it is unlikely that the species would disperse even as far as Willow Pass Road. There is no expectation, based on this evidence, that the species is present northwest of Willow Pass Road.

California Red-legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern. The California red-legged frog was listed as threatened in June 1996 (USFWS 1996) based largely on a significant range reduction and continued threats to surviving populations. Revised critical habitat was designated in March 2010 (USFWS 2010). However, no critical habitat is located in the site vicinity (USFWS 2010). The historic distribution of California red-legged frogs extended from the city of Redding in the Central Valley and Point Reyes National Seashore along the coast, south to Baja California, Mexico. The species' current distribution includes isolated locations in the Sierra Nevada and the San Francisco Bay area, and along the central coast (USFWS 2002).

California red-legged frogs inhabit perennial freshwater pools, streams, and ponds throughout the Central California Coast Range as well as isolated portions of the western slopes of the Sierra Nevada (Fellers 2005). Their preferred breeding habitat consists of deep perennial pools with emergent vegetation for attaching egg clusters (Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). Embryos of California red-legged frogs hatch in 1–4 weeks, and the resulting larvae require 3–5 months to attain metamorphosis (Cook and Jennings 2007). Nonbreeding frogs may be found adjacent to streams and ponds in grasslands and woodlands.

California red-legged frogs do not have a distinct breeding migration. Some frogs remain at breeding sites all year while others disperse. Red-legged frogs are often found in summer months in foraging habitat that would not be suitable for breeding; these individuals presumably move seasonally between summer foraging habitat and winter breeding habitat. Movements may occur along riparian corridors, but some individuals move directly from one site to another through normally inhospitable habitats (e.g., heavily grazed pastures or oak-grassland savannas) (USFWS 2002, Fellers 2005, Fellers and Kleeman 2007). The distance moved is highly site-dependent, as influenced by the local landscape (Fellers and Kleeman 2007).

In its critical habitat designation, the USFWS (2010) considered 1 mile a typical dispersal distance for the species.

During a biological resources survey of the CNWS conducted from 1981 to 1982, Jones and Stokes (1982) noted California red-legged frogs only at the Cistern Pond, where the CDFW had introduced larvae in May 1982. Prior to this introduction, the species was not known to occur on the site. As described above for the California tiger salamander, Downard et al. (1999) conducted extensive surveys for amphibians on the Inland Area of the CNWS. Adult red-legged frogs were detected at the Cistern Pond, Mt. Diablo Creek, 5AT-1 Pond and adjoining freshwater marsh, Rattlesnake Canyon Pond, upper and lower 5AT-2 Pond and adjoining marsh, and in the lower and upper ponds and along the stream at Indian Springs. In addition, tadpoles and/or egg masses were detected at the upper Cistern Pond, 5AT-1 Freshwater Marsh, Rattlesnake Canyon, 5AT-2 Pond, 5AT-2 Lower Marsh, and Indian Springs lower and upper Ponds. Further random surveys at non-fixed locations detected red-legged frogs above the Indian Springs sampling area.

Smallwood and Morrison (2007) conducted focused California red-legged frog surveys on the project site in summer 2005. They detected California red-legged frogs at the Cistern Pond; however, they did not detect red-legged frogs at the Indian Springs drainage or the 5AT-2 Pond. A check of the Cistern Pond in March 2009 by H. T. Harvey & Associates revealed 17 or more egg masses in a limited portion of the pond, indicating a high population density here.

California red-legged frogs occur on the project site primarily in ponds and freshwater marsh habitat, which provide suitable breeding habitat, in the southeastern half of the site (Figure 4). Although Mt. Diablo Creek, just south of the project site does not provide suitable breeding habitat for red-legged frogs due to the lack of deep, long-lived pools (H. T. Harvey & Associates 2011a), red-legged frogs have been recorded at several locations in Mt. Diablo Creek, and at one location in the grassland west of the creek just south of State Route 4. These recorded sightings away from breeding habitat exemplify this species' dispersal capabilities, and red-legged frogs could occur virtually anywhere on the project site, especially during wet-season dispersal.

Alameda Whipsnake (*Masticophis lateralis euryxanthus*). Federal Listing Status: Threatened; State Listing Status: Threatened. On 5 December 1997, the Alameda whipsnake was officially listed as a threatened species under the auspices of the FESA (USFWS 1997). The USFWS designated critical habitat for the Alameda whipsnake on October 2, 2006 (USFWS 2006). However, critical habitat does not occur within or adjacent to the project site. The Alameda whipsnake is a subspecies of the California whipsnake that occurs mainly in the inner Coast Range of the East Bay counties of Contra Costa and Alameda, and parts of San Joaquin and Santa Clara counties. Its range is fragmented into five populations: the Tilden-Briones, Oakland-Las Trampas, and Mt. Diablo-Black Hills populations in Contra Costa County, the Hayward-Pleasanton Ridge population in Alameda County, and the Sunol-Cedar Mountain population largely in Alameda County with extensions into San Joaquin and Santa Clara counties.

The Alameda whipsnake is typically found in open and partially open, low-growing shrub communities such as coastal sage scrub and chaparral. Rock outcrops are an important feature of this type of habitat because they provide retreat opportunities for the whipsnake and support lizard populations, a primary prey item. The Alameda whipsnake is also frequently found in grasslands, oak savanna, and oak-bay open woodlands near coastal sage scrub and chaparral habitats (Swaim 1994). During a trapping and

radiotelemetry study conducted by Swaim (1994), most grassland and woodland locations were within 170 feet of scrub habitat, but distances of greater than 500 feet were also documented. Core use areas of the Alameda whipsnake most commonly occur on south, southwest, southeast, and east facing slopes (Swaim 1994). However, recent information indicates that whipsnakes do make use of north facing slopes in more open stands of scrub habitat (USFWS 2005b). Male Alameda whipsnake home ranges of 4.7 to 21.7 acre have been recorded (Swaim 1994).

Adult whipsnakes appear to have a bimodal seasonal activity pattern with peaks during the mating season in the spring and a second peak in late summer/early fall, possibly due to an increase in availability of prey items (i.e., hatchling lizards) (Swaim 1994). Courtship and mating occur from late-March through mid-June. During this time, males move around throughout their home ranges, while females appear to be more sedentary. Alameda whipsnakes generally retreat into hibernaculum in November, emerging in March; however short, above-ground movements may occur during the winter.

To date, there are no verified records of the Alameda whipsnake on the project site, and the closest verified records are from Black Diamond Mines Regional Preserve, 4 miles southeast of the site (CNDDB 2018). The nearest high-quality habitat for whipsnakes is 1.5 to 2.0 miles south of the site on the slope of Mt. Diablo (Contra Costa County 2006).

The habitat assessment performed by Ecology & Environment and Swaim Biological (2009) determined that the lack of extensive scrub, short-grazed nature of the grassland, and distance from potential source populations reduce the quality of habitat on the site for this species. However, they determined that the small patches of sage scrub in upper Rattlesnake Canyon and the grassland with rock outcrops in the areas east of Bailey Road provide potential whipsnake habitat (Figure 4). In addition, the authors concluded that the more extensive areas of scrub cover and rock outcrops present between Stoneman Park and the project site could support breeding populations of the Alameda whipsnake. Further, they concluded that if breeding populations did occur, they would be close enough to serve as a source population to colonize suitable habitat within the southeastern portion of the project site and/or result in suitable habitat within the project site being used by Alameda whipsnakes during dispersal.

If Alameda whipsnakes are present on the project site, they are expected to occur only in the area southeast of Bailey Road, in and around the patches of sage scrub in upper Rattlesnake Canyon and around larger rock outcrops, and in intervening grasslands.

California Species of Special Concern

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas

up to 0.25 mile from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 feet of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by adults may travel overland considerable distances to nest. Most movements on land are associated with nesting, aestivation, or overwintering. Aestivation (an inactive state) may occur during the hottest weeks of the year or during drought conditions, whereas overwintering (a period of reduced activity which may include periods of a hibernation-like state), may occur during the winter months (Hays et al. 1999).

The western pond turtle is known to occur at the Cistern Pond (CNDDB 2018) but has not been recorded at other locations on the project site. However, larger numbers have been recorded in the Tidal Area of the CNWS (Downard et al. 1999). As a result, pond turtles are expected to disperse to some extent between the two areas, most likely along Mt. Diablo Creek, but possibly also along the Contra Costa and Clayton canals. This species may also occur in other ponds on the project site, including temporary ponds as well as perennial ponds.

Coast Horned Lizard (*Phrynosoma blainvillii*); Federal status: None; State status: Special Concern. The coast horned lizard is a California endemic that is distributed along the coast from Contra Costa County in the north to San Diego County in the south, and in patches throughout the Central Valley (Jennings and Hayes 1994). Coast horned lizards occupy a variety of open habitats possessing sandy, loosely textured soils, including chaparral, coastal scrub, annual grassland, and clearings in riparian woodlands (Jennings and Hayes 1994). They are most strongly associated with loose soils free of plant debris, and with the presence of native ants (Fisher et al 2002). Coast horned lizards breed between April and August and disperse to overwintering habitats where they hibernate from November through March (Jennings and Hayes 1994).

The coast horned lizard has been reported only once on the CNWS: a single individual was reported by Kuenzi and Morrison (1994, as cited in Downard et al. 1999) in the Inland Area. No details concerning the 1994 record, including the location, are extant (A. Kuenzi, pers. comm. as reported in City of Concord 2010), but the most likely area of occurrence is in the area southeast of Bailey Road. This species is typically associated with loose, often sandy soils, which are completely absent from the project site. Thus, it is not expected to occur regularly or in large numbers on the project site, if present at all.

Burrowing Owl (*Athene cunicularia*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The burrowing owl is a small, terrestrial owl of open country. This owl prefers annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels; owls use the abandoned burrows of ground squirrels for shelter and nesting. The nesting season as recognized by the CDFW (2012) runs from 1 February through 31 August. After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or they may migrate (Rosenberg et al. 2007); young birds disperse across the landscape from 0.1 to 35 miles from their natal burrows (Rosier et al. 2006).

Burrowing owls have been observed in small numbers within grasslands on the project site, but it appears as though the species occurs primarily as a winter visitor. An individual was observed in the southeastern portion of the project site in 1981–1982 (Jones and Stokes1982). A burrowing owl was detected on the

project site in the area southeast of Bailey Road during site visits in 2007 (CH2M HILL 2007), but none were seen during general field surveys conducted throughout the site by H. T. Harvey & Associates between November 2008 and June 2009 (City of Concord 2010).

Short grassland with abundant ground squirrel burrows is present throughout much of the project site, providing ostensibly high-quality habitat for burrowing owls. However, the results of surveys of the site have consistently demonstrated this species to be present only in small numbers, and primarily during the nonbreeding season. If it breeds on the site, it does so only in very low numbers. The low number of burrowing owls using the site, relative to the abundance of high-quality habitat, suggests that habitat availability is not limiting on-site numbers of this species.

Loggerhead Shrike (*Lanius ludovicianus*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting). The loggerhead shrike is a predatory songbird associated with open habitats interspersed with shrubs, trees, poles, fences, or other perches from which it can hunt (Yosef 1996). Nests are built in densely foliated shrubs or trees, often containing thorns, which offer protection from predators and upon which prey items are impaled. The breeding season for loggerhead shrikes may begin as early as mid-February and lasts through July (Yosef 1996). Nationwide, loggerhead shrike populations have declined significantly over the last 20 years. Loggerhead shrikes are still fairly common in parts of the San Francisco Bay area, but urbanization has reduced available habitat, and local populations are likely declining (Cade and Woods 1997, Humple 2008). This species has been observed regularly and fairly commonly in grasslands during biological surveys of the site (Navy 2006), and the species may nest and forage throughout the project site.

San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (Scirpus and Juncus spp.), cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is comprised of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where populations of brown-headed cowbirds are low (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

Small numbers of San Francisco common yellowthroats nest in the project vicinity (Downard et al. 1999) and the species may nest and forage in freshwater marsh and in emergent vegetation and other wetland vegetation on the project site.

American Badger (*Taxidea taxus*). Federal Status: None; State Status: Species of Special Concern. American badgers, a California species of special concern, are highly specialized fossorial (adapted for burrowing or digging) mammals that occur in a range of habitats, such as annual grasslands, oak woodland savannas, and semi-arid shrub/scrubland, that contain friable soils and relatively open ground. They are primarily nocturnal, though they are often active during the day. Badgers dig burrows both in pursuit of prey (e.g.,

gophers, kangaroo rats, and chipmunks) and to create dens for cover and raising of young. They breed during late summer, and females give birth to a litter of young the following spring. Solitary animals, the home range of individuals varies by sex, season, and resource availability. A study conducted in northern Monterey County, California documented an average home range size of 479 acres for females and 2948 acres for males (Quinn 2008). American badgers have been recorded in the project vicinity on only a few occasions, but the species has the potential to occur in grassland habitat virtually anywhere on the site.

Pallid Bat (*Antrozous Pallidus*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The pallid bat occurs throughout California with the exception of the northwest corner of the state and the high Sierra Nevada (Zeiner et al. 1990b). Pallid bats are most commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting (Zeiner et al. 1990b, Ferguson and Azerrad 2004). Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in the crevices, hollows, and exfoliating bark of trees. Night roosts often occur in open buildings, porches, garages, highway bridges, and mines. Colonies can range in size from a few individuals to over a hundred (Barbour and Davis 1969), and usually consist of at least 20 individuals (Wilson and Ruff 1999). Pallid bats typically winter in canyon bottoms and riparian areas. After mating during the late fall and winter, females leave to form maternity colonies, often on ridge tops or other warmer locales (Johnston et al. 2006). Pallid bat roosts are very susceptible to human disturbance, and urban development has been cited as the most significant factor contributing to their regional decline (Miner and Stokes 2005).

Buildings, magazines, and large trees with cavities provide suitable roosting habitat for the pallid bat on the project site. However, the abundance, distribution, and species composition of bats using the site has not been well documented. During the multi-season University of Arizona studies (Downard et al. 1999), bats were detected acoustically at a pond at the base of Rattlesnake Canyon, freshwater marsh 5AT, and Indian Springs; however, the species of bat was not determined and mist netting at Rattlesnake Canyon pond and Indian Springs captured no bats.

Townsend's Big-eared Bat (*Corynorhinus townsendii*). Federal status: None; State status: Species of Special Concern. Pierson and Rainey (1998) identified 39 active Townsend's big-eared bat maternity colonies and 55 maternity roost sites scattered throughout California. The distribution is strongly correlated with the availability of roosting habitat and the absence of human disturbance at roost sites (Pierson and Rainey 1998, Sherwin and Piaggio 2005).

The Townsend's big-eared bat is associated with a variety of different habitat types including coniferous forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitats (Sherwin and Piaggio 2005). Although it is usually a cave dwelling species, known roost sites include limestone caves, lava tubes, and hollow trees, as well as anthropogenic structures such as the attics of buildings or old abandoned mines (Williams 1986, Sherwin and Piaggio 2005).

The Townsend's big-eared bat is a colonial species, with females aggregating in the spring at maternity colonies to begin their breeding season. Maternity colonies in California may be active from March to September (Pierson and Rainey 1998). Females typically give birth to one young, and both females and young show a high fidelity to their group and their specific roost site (Pearson et al. 1952). The Townsend's big- eared bat is easily disturbed while roosting in buildings, and females are known to abandon their

young when disturbed (Humphrey and Kunz 1976). They forage primarily upon small moths, and feeds both in-flight and by gleaning insects from foliage (Zeiner et al. 1990b).

Buildings, magazines, and large trees with cavities provide suitable roosting habitat for the Townsend's big- eared bat on the project site. However, the abundance, distribution, and species composition of bats using the site has not been well documented. During the multi-season University of Arizona studies (Downard et al. 1999), bats were detected acoustically at a pond at the base of Rattlesnake Canyon, freshwater marsh 5AT, and Indian Springs; however, the species of bat was not determined and mist netting at Rattlesnake Canyon pond and Indian Springs captured no bats.

State Fully Protected Species

Golden Eagle (*Aquila chrysaetos*). Federal status: None; State status: Species of Special Concern, Fully Protected. Golden eagles are most common in rugged, open country bisected by canyons where there are ample nesting sites and food. They nest on cliffs of all sizes or in the tops of large trees. The nests are very large, sometimes exceeding 10 feet across, and constructed of sticks (Zeiner et al. 1990a). The species forages on rabbits and larger rodents but may also take birds and reptiles; some also feed on carrion. The golden eagle is a rare permanent resident or migrant throughout California but is more common in the foothills surrounding the Sierra Nevada and Coast Ranges and in the southern California deserts.

A pair of golden eagles has nested within a eucalyptus grove located along the eastern boundary of the site, at least sporadically, since the early 1980s. This nest site has been enclosed with fencing and posted by the Navy with information regarding the provisions of the Bald Eagle and Golden Eagle Protection Act. Additionally, several nesting pairs of golden eagles occur on EBRPD lands to the south of the site. Eagles from one or more of these nest sites regularly forage in grasslands on the site, concentrating their activities predominantly in the areas east of Mt. Diablo Creek and southeast of Willow Pass Road.

White-tailed Kite (*Elanus leucurus*). Federal Listing Status: None; State Listing Status: Fully Protected. In California, white-tailed kites can be found in the Central Valley and along the coast, in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990a, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations, and snags, shrubs, trees, or other nesting substrates (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines as a result of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

Pine and eucalyptus plantations and oak woodlands on the project site provide suitable nesting habitat and the grasslands and other open habitats provide suitable foraging habitat throughout the site. The species has been recorded on the project site (City of Concord 2010) and breeding in the immediate project vicinity (Downard et al. 1999).

APPENDIX C.1

APPENDIX C2: CONSTRUCTION-RELATED AVOIDANCE AND MINIMIZATION MEASURES

Appendix C.2. Construction-Related Avoidance and Minimization Measures, as required by Conservation Measure 9 of the USFWS Biological Opinion

a) *SWPPP*. For all construction activity involving clearing, grubbing, or grading, the project proponent will implement a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) designed to prevent construction-related discharge into surface waters. BMPs for water quality shall be implemented during all construction activities within the bed and banks of Mt. Diablo Creek, Willow Pass Creek, and other drainages, and in upland areas where runoff could transport materials, to minimize mobilization of sediments and other harmful materials into downstream areas. These BMPs must consider not only mobilization of sediments during construction (which will likely occur primarily in dry conditions), but also the potential for sediments loosened by construction activities to be moved downstream during the following wet season. These BMPs must address at least the following items: mobilization of sediment due to gravity, erosion, or runoff during construction; potential spills of fuel or other chemicals into aquatic habitats; operation of equipment within flowing water; and stabilization (e.g., with vegetative cover) of any bare soils to prevent erosion and sedimentation.

b) *Restoration of Temporary Impacts*. Areas that are temporarily affected by project-related work and that are not proposed for subsequent development will be restored by the project proponent to pre-existing or better condition upon completion of work according to a Service-approved revegetation plan. Restored areas will be monitored for two years post-construction to determine whether restoration was successful as defined in the revegetation plan. The City will provide the results of post-construction monitoring to the Service. Areas that are impacted by project-related work and that will lie dormant (without further disturbance) for more than one year before development activities re-commence will be revegetated with an appropriate herbaceous seed mix to inhibit colonization of disturbed areas by invasive plants, followed by monitoring to ensure that no large infestations of invasive plants occur. Potential examples of the latter category include IR Site 22, where remediation may either be closely coordinated with redevelopment or precede redevelopment by a year or more, and areas where soil is stockpiled for subsequent development uses.

c) *Biologist Approval*. Prior to ground-disturbing activities, the project proponent shall submit the name(s) and credentials of biologist(s) that will conduct the activities specified in the following measures to the Service. No project-related work for the proposed activity will begin until written approval that the biologist(s) is qualified to conduct the work has been received from the Service. The biologist(s) shall be given the authority to stop any work that may result in the take of listed species. If the biologist(s) exercises this authority, the Service shall be notified by telephone and electronic mail within one (1) working day. The Service-approved biologist will be the contact for any employee or contractor who might inadvertently kill or injure a Central California tiger salamander,

California red-legged frog, or Alameda whipsnake or anyone who finds a dead, injured, or entrapped individual of these species. The Service-approved biologist shall possess a working cellular telephone whose number shall be provided to the Service.

d) *Worker Environmental Awareness Program*. The project proponent will ensure a Worker Environmental Awareness Program (WEAP) is given to all construction personnel before the commencement of vegetation clearing or ground-disturbing activities, such as grading. A Service-approved biologist shall explain to construction workers how best to avoid the accidental take of Central California tiger salamanders and California red-legged frogs; information regarding Alameda whipsnakes will be included in the WEAP training for any project-related activities in the portions of the EBRPD PBC southeast of Bailey Road. This training session shall be required as a mandatory informational field meeting for contractors and all construction personnel. Interpretation will be provided for non-English speaking workers. The field meeting shall include information on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis shall be placed on the importance of the habitat and life stage requirements within the context of relevant AMMs. Handouts, illustrations, photographs, and maps showing areas where minimization and avoidance measures must be implemented shall be included as part of this education program. The WEAP shall increase the awareness of the contractors and construction workers about existing federal and state laws regarding endangered species, as well as increase their compliance with all local, state, and federal permit conditions. When new personnel are added to the project, they will receive the mandatory training before starting work. Proof of worker attendance will be kept on file by the City, EBRPD, or the County as applicable.

e) *Listed Species Relocation Plan*. Prior to the initiation of any ground-disturbing activities, the project proponent will submit a relocation plan for listed species to the Service for approval. The plan will identify appropriate relocation methods and sites for any adult, juvenile, or larval Central California tiger salamander or California red-legged frog that may be observed during the pre-construction surveys (described below) or during construction monitoring and that may need to be relocated.

f) *Upland Work Window*. Ground-disturbing activities, including vegetation removal that results in soil disturbance (e.g., grubbing), site grading, utilities trenching, and outfall construction, will be performed between April 30 and October 15 (or the first measurable fall rain of 1 cm) to minimize the potential for impacts on California red-legged frogs and Central California tiger salamanders moving aboveground. Ground-disturbing activities may occur outside this work window only with Service approval. The following types of work may continue during the wet season within established work areas enclosed in exclusion fencing (Conservation Measure 9(h) below) without the need for additional Service approval: fine grading, placement of fill, planting, paving, concrete pouring, and structural construction.

g) *Aquatic Work Window*. Activities that directly impact habitat that is ponded at the time of construction (i.e., ponds or pools within creeks) shall occur during the July-October period to avoid the period when California red-legged frog and Central California tiger salamander larvae are most likely to be present. In-water work will take place as late as feasible within this work window. For seasonal waterbodies that are dry (i.e., that have no surface water) when construction occurs, the Upland Work Window described in Conservation Measure 9(f) applies.

h) *Wildlife Exclusion Fencing*. Prior to pre-construction surveys, all construction areas will be enclosed with a minimum of 3-foot-high (or taller) silt fence or similar material, of which approximately 6 inches will be buried underground, that will remain in place during construction in order to prevent Central California tiger salamanders and California red-legged frogs from entering the construction area. Escape ramps, funnels, or other features that allow animals to exit the fenced construction

area, but which will prohibit the entry of such animals, shall be provided in the exclusion fencing. Cover boards to provide cover for individuals will be spaced regularly along both sides of the exclusion fencing. The project proponent will provide a fencing plan detailing the locations and design/ materials for this exclusion fencing to the Service for review prior to fence installation. A qualified biologist shall conduct a pre-construction survey of the fence installation area immediately-prior to (i.e., the day of) the commencement of installation and shall monitor fence installation. Fencing will be maintained for the duration of construction for that activity /phase of work. For CERCLA remediation work at IR Site 22, the Navy (or City, in the case of an early transfer) will submit an exclusion fencing plan (in the Remedial Design or other appropriate CERCLA documentation) for Service review and approval prior to fence installation.

i) *Exclusion Fence Monitoring*. Within the EBRPD PBC Area, for the duration exclusion fencing is installed, a Service-approved biologist will walk exclusion fence lines each morning prior to 10 a.m. to monitor fencing integrity and to look for listed species stranded along the fence line (including under cover boards). If California red-legged frogs or Central California tiger salamanders are found stranded along the fence line, the Service-approved biologist will move the individual according to the approved relocation plan (Conservation Measure 9(e)). Within the EDC Area, a Service-approved biologist will walk exclusion fence lines at least one time per week to monitor fencing integrity and to look for listed species stranded along the fence line. If California red-legged frogs or Central California tiger salamanders are found stranded along the fence line within either the EDC or EBRPD PBC Areas, a Service-approved biologist will move the individual according to the approved relocation plan (Conservation Measure 9(e)). Should a listed species be found along a fence line when a Service-approved biologist is not on site, a Service-approved biologist will immediately be contacted to move the individual according to the approved relocation plan. Should listed species be found stranded along exclusion fencing, the Service will be contacted to determine whether additional monitoring or adjustments fencing design are needed.

j) Exclusion Fencing Alternative. In areas where exclusion fencing is not feasible (for instream work or work in very rocky areas), or where installation of such fencing may cause more damage than construction activities, as determined by a Service-approved biologist, the Service-approved biologist shall conduct a pre-construction survey (Conservation Measure 9(m) and will contact the Service to determine whether additional construction monitoring or other measures should be implemented.

k) *Pre-construction Surveys*. After exclusion fence is installed and immediately prior to construction, the following wildlife surveys will be performed by a Service-approved biologist within the fenced area according to the following protocols:

   i. Any ponds or pools where work will take place shall be seined for Central California tiger salamander and California red-legged frog larvae within seven days prior to construction. Pools or ponds that will be impacted by construction will be pumped or drained during the seining so they are dewatered prior to earth-moving, fill, or construction in that feature. Any Central California tiger salamander or California red-legged frog larvae found during seining shall be salvaged and relocated by a Service-approved biologist according to the approved species relocation plan.

   ii. Within 48 hours before the onset of construction activities, a Service-approved biologist shall conduct one nighttime survey and one daytime survey of any wetlands, streams, ponds, riparian habitats, and areas within 200 feet of these features, within the construction area. During the preconstruction surveys, the biologist shall also include a pedestrian survey of the entire impact area to survey for California red-legged frogs and Central California tiger salamanders in

vegetation, under debris, in culverts, or in other areas that could provide refugia for these species. If Central California tiger salamanders or California red-legged frogs of any life stage are found, they shall be moved according to the species relocation plan.

iii. A Service-approved biologist will survey for Alameda whipsnakes immediately prior to (i.e., the same day as) the onset of any construction activities southeast of Bailey Road. If Alameda whipsnakes are found, they will be relocated according to the species relocation plan.

l) *Dewatering*. If it is necessary to divert water or conduct dewatering, the following measures will be implemented as applicable:

i. Equipment and machinery will be inspected and cleaned of non-native invasive vegetation prior to on-site use.

ii. Water diversion techniques will allow stream flows to gravity flow around or through the work site if feasible.

iii. If a work site must be dewatered by pumping, intakes will be screened with wire mesh screening not to exceed 3/32 inch. Pump intakes will be placed in perforated intake basins to allow water to be drawn into the pump while protecting aquatic organisms. Both the outside of the intake basin and the pump intake itself will be screened to ensure that aquatic organisms are not pulled into the pump.

iv. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction and will be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, etc.).

v. A Service-approved biologist will be on-site to monitor all dewatering activities and check the dewatered area for listed species. If listed species are found within the work area, the Service-approved biologist will relocate them according to the approved species relocation plan (Conservation Measure 9(e)).

vi. No stream water will be allowed to contact uncured concrete or mortar. If any wet concrete, cement, slurry, or washings thereof inadvertently enter the stream, all construction activities shall immediately cease until the material is cleaned up and removed from the channel.

m) *Remediation Fencing*. Wildlife exclusion fencing implemented during Navy remediation activities within the EDC Area may be maintained by the City after completion of remediation to prevent re-occupancy of these disturbed areas until development-related construction activities occur. The City will make this determination in coordination with the Service based on conditions at the time remediation is complete.

n) *Speed Limit*. Construction-related vehicles will observe a 20 mile-per-hour speed limit in all construction areas (this does not apply on City and County roads and State highways).

o) *Daily Work Window*. Work will be limited to daylight hours from 30 minutes after sunrise until 30 minutes before sunset unless the Service provides written approval, on a site-by-site or activity-by-activity basis, for performance of work during other times. The Service may require the implementation of additional avoidance measures (i.e. restrictions on lighting or on work during rain events) for night work.

p) *Pipe/Culvert Capping*. Central California tiger salamanders and California red-legged frogs are attracted to structures providing cavities such as pipes, and they may enter stored pipes and become trapped. Therefore, all construction pipes, culverts, or similar structures that are stored at ground level at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the Service-approved biologist and/or the construction monitor for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a Central California tiger salamander or California red-legged frog is discovered

inside a pipe, a Service-approved biologist shall move the animal to a safe nearby location in accordance with the species relocation plan.

q) *Trash Disposal*. To eliminate an attraction to the predators of the Central California tiger salamander, California red-legged frog, and Alameda whipsnake all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed from construction sites daily.

r) *Take Notification*. Any contractor, employee, or agency personnel who inadvertently kills or injures a Central California tiger salamander, California red-legged frog, or Alameda whipsnake will immediately report the incident to a Service-approved biologist. The biologist will contact the Service to report the dead or injured animal via electronic mail and telephone within one working day.

s) *Erosion Control*. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes to ensure that individuals are not trapped. Plastic monofilament netting (erosion control matting) or similar material shall not be used because Central California tiger salamanders and California red-legged frogs may become entangled or trapped in it. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package.

t) *Entrapment Avoidance*. To prevent inadvertent entrapment of individuals during construction, the on-site biologist and/or construction foreman/ manager shall ensure all excavated, steep-walled holes or trenches more than 1-foot deep, are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the Service-approved biologist and/ or designated construction monitor. If at any time a trapped Central California tiger salamander or California red-legged frog is discovered, a Service-approved biologist shall move the animal in accordance with the relocation plan.

u) *Construction Monitoring by Service-approved Biologist*. Within the EBRPD PBC Area, a Service-approved biologist will be present to monitor all work activities that may result in take of listed species. Within the EDC Area, a Service-approved biologist will be present during initial ground-disturbing activities (i.e., clearing and grubbing). If a listed species is observed within a work area, all work that could potentially harm the individual will be stopped until the individual moves out of the work area or a Service-approved biologist has moved the individual out of the work area in accordance with the species relocation plan. Within the EDC Area, once clearing and grubbing within a given area are completed, and the site has been completely surrounded by exclusion fencing, daily construction monitoring by a Service-approved biologist will no longer be necessary, but the biologist will conduct spot-checks once/week until grading is completed. The biologist will also be present during any other construction activities that, in the Service-approved biologist's opinion, have a high probability of resulting in take (e.g., during construction activities near breeding habitat or other sensitive habitats for these species).

v) *Construction Monitor*. Once initial ground disturbance and work in sensitive habitats within the EDC Area is complete, the project proponent will designate a construction monitor to monitor on-site compliance with all AMMs during ongoing project work. This individual must receive the WEAP training and be trained in the identification of California red-legged frog, Central California tiger salamander, and Alameda whipsnake. If a listed species or any animal that construction personnel believes may be one of these species, is encountered during construction, the following protocol shall be followed:

i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
ii. The foreman and a Service-approved biologist shall be immediately notified.
iii. A Service-approved biologist shall move he individual to a safe nearby location in accordance with the relocation plan (Conservation Measure 9(e)).
iv. The Service-approved biologist shall notify the Service via telephone or electronic mail within one working day.
v. A written report (which may be via electronic mail) will be provided to the Service documenting the detection of the animal, the species involved, and the measures taken (including relocation location and methods) to ensure that the animal was not harmed by construction will be provided to the Service within 5 working days of the relocation.

APPENDIX D

TRANSPORTATION ENERGY USE CALCULATIONS

On-Road Fuel Use - 2023

Annual VMT from CalEEMod	423,455

Vehicle type	Trips		Gasoline	Diesel	NG	ELEC	Gasoline	Diesel	ELEC	NG
	Fleet Mix %	Total VMT/Year	VMT/yr	VMT/yr	VMT/yr	VMT/yr	Gallons/yr	Gallons/yr	KwH/yr*	Gallons/yr
LDA	69.9%	296,120	285,576	3,147	0	7,397	8,699	63	2,959	0
LDT1	4.4%	18,818	18,645	7	0	166	667	572	66	0
LDT2	21.9%	92,801	91,077	671	0	1,052	3,500	18	421	0
LHD1	0.3%	1,177	1,177	0	0	0	42	0	0	0
LHD2	0.1%	378	127	251	0	0	17	15	0	0
MCY	0.7%	3,012	3,012	0	0	0	81	0	0	0
MDV	2.0%	8,469	8,469	0	0	0	325	0	0	0
MH	0.0%	0	0	0	0	0	0	0	0	0
OBUS	0.0%	0	0	0	0	0	0	0	0	0
SBUS	0.0%	0	0	0	0	0	0	0	0	0
T6	0.2%	812	0	812	0	0	0	160	0	0
T7	0.4%	1,867	0	1,867	0	0	0	238	0	0
UBUS	0.0%	0	0	0	0	0	0	0	0	0
Total	**100.00%**	**423,455**	**408,084**	**6,756**	**0**	**8,615**	**13,331**	**1,066**	**3,446**	**0**

* Assumes and average electricity efficiency of 0.40 Kwh/Mile

Source: U.S. Department of Transportation, Federal Highway Administration. 2017, September 25. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline. https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ev_deployment/page08.cfm

	Total Gas	Total DSL	Total NG	Total ELEC	TOTAL	Percent of Fleet Gasoline	Percent of Fleet Diesel	Percent of Fleet NG	Percent of Fleet Electric	Gasoline m/gal	Diesel m/gal	NG m/gal
LDA	1,949,195	21,478	0	50,489	2,021,162	96%	1%	0%	2%	0.03	0.02	0.00
LDT1	196,335	78	0	1,746	198,159	99%	0%	0%	1%	0.04	77.63	0.00
LDT2	635,180	4,680	0	7,340	647,200	98%	1%	0%	1%	0.04	0.03	0.00
LHD1	196,335	0	0	0	196,335	100%	0%	0%	0%	0.04	0.00	0.00
LHD2	18,877	37,210	0	0	56,086	34%	66%	0%	0%	0.13	0.06	0.00
MCY	40,119	0	0	0	40,119	100%	0%	0%	0%	0.03	0.00	0.00
MDV	635,180	0	0	0	635,180	100%	0%	0%	0%	0.04	0.00	0.00
MH	190	79	0	0	269	71%	29%	0%	0%	0.20	0.10	0.00
OBUS	5,924	0	0	0	5,924	100%	0%	0%	0%	0.21	0.00	0.00
SBUS	242	10,255	0	0	10,497	2%	98%	0%	0%	0.10	0.11	0.00
T6	0	38,143	0	0	38,143	0%	100%	0%	0%	0.00	0.20	0.00
T7	0	16,469	0	0	16,469	0%	100%	0%	0%	0.00	0.13	0.00
UBUS	101	809	594	0	1,504	7%	54%	39%	0%	0.12	0.16	0.48
Total	0	10,968	0	0	10,968	0%	100%	0%	0%	0.00	0.04	0.00

Source: EMFAC 2017 webdatabase. Contra Costa County, Year 2023, Annual, EMFAC2011 Categories. https://www.arb.ca.gov/emfac/2017/

On-Road Fuel Use - Full Buildout 2050

Annual VMT from CalEEMod 1,689,229

Vehicle type	Trips Fleet Mix %	Total VMT/Year	Gasoline VMT/yr	Diesel VMT/yr	NG VMT/yr	ELEC VMT/yr	Gasoline Gallons/yr	Diesel Gallons/yr	ELEC KwH/yr*	NG Gallons/yr
LDA	71.0%	1,199,234	1,111,291	13,856	0	74,088	25,330	210	29,635	0
LDT1	4.0%	66,946	64,316	9	0	2,621	1,684	347	1,048	0
LDT2	21.4%	361,429	341,812	3,548	0	16,069	8,890	71	6,428	0
LHD1	0.2%	3,167	3,167	0	0	0	83	0	0	0
LHD2	0.1%	1,495	453	1,042	0	0	49	50	0	0
MCY	0.6%	10,943	10,943	0	0	0	293	0	0	0
MDV	2.0%	33,785	33,785	0	0	0	879	0	0	0
MH	0.0%	0	0	0	0	0	0	0	0	0
OBUS	0.0%	0	0	0	0	0	0	0	0	0
SBUS	0.0%	0	0	0	0	0	0	0	0	0
T6	0.2%	3,419	0	3,419	0	0	0	524	0	0
T7	0.5%	8,811	0	8,811	0	0	0	1,152	0	0
UBUS	0.0%	0	0	0	0	0	0	0	0	0
Total	**100.00%**	**1,689,229**	**1,565,767**	**30,684**	**0**	**92,777**	**37,208**	**2,353**	**37,111**	**0**

* Assumes and average electricity efficiency of 0.40 Kwh/Mile

Source: U.S. Department of Transportation, Federal Highway Administration. 2017, September 25. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline. https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ev_deployment/page08.cfm

	Total Gas	Total DSL	Total NG	Total ELEC	TOTAL	Percent of Fleet Gasoline	Percent of Fleet Diesel	Percent of Fleet NG	Percent of Fleet Electric	Gasoline m/gal	Diesel m/gal	NG m/gal
LDA	2,850,760	35,543	0	190,055	3,076,358	93%	1%	0%	6%	0.02	0.02	0.00
LDT1	277,548	39	0	11,310	288,896	96%	0%	0%	4%	0.03	38.68	0.00
LDT2	840,784	8,727	0	39,526	889,037	95%	1%	0%	4%	0.03	0.02	0.00
LHD1	277,548	0	0	0	277,548	100%	0%	0%	0%	0.03	0.00	0.00
LHD2	26,123	60,053	0	0	86,175	30%	70%	0%	0%	0.11	0.05	0.00
MCY	54,153	0	0	0	54,153	100%	0%	0%	0%	0.03	0.00	0.00
MDV	840,784	0	0	0	840,784	100%	0%	0%	0%	0.03	0.00	0.00
MH	187	94	0	0	281	67%	33%	0%	0%	0.16	0.08	0.00
OBUS	6,408	0	0	0	6,408	100%	0%	0%	0%	0.16	0.00	0.00
SBUS	1,065	31,794	0	0	32,859	3%	97%	0%	0%	0.09	0.09	0.00
T6	0	47,923	0	0	47,923	0%	100%	0%	0%	0.00	0.15	0.00
T7	0	1,463	0	0	1,463	0%	100%	0%	0%	0.00	0.13	0.00
UBUS	0	685	870	0	1,555	0%	44%	56%	0%	0.00	0.14	0.72
Total	0	19,497	0	0	19,497	0%	100%	0%	0%	0.00	0.03	0.00

Source: EMFAC 2017 webdatabase. Contra Costa County, Year 2050, Annual, EMFAC2011 Categories. https://www.arb.ca.gov/emfac/2017/

Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website[32]

Vehicle	Model year	Electric consumption	Gasoline fuel economy	Number of kWh that are equivalent to 1 gallon
Ford Fusion Energi & Ford C-Max Energi	2013	0.34 kWh per mile	43 mpg	14.6
Chevrolet Volt	2013	0.35 kWh per mile	37 mpg	12.9
Chevrolet Volt	2012	0.36 kWh per mile	37 mpg	13.3
Fisker Karma	2012	0.62 kWh per mile	20 mpg	12.4
Toyota Prius	2013	0.29 kWh per mile & 0.2 gal	50 mpg	13.1
Average for five models	-	-	-	13.3 +/- 0.8

Table A 5: Average power consumption per mile traveled over time for different PEV categories

Year range	2012- 2020	2020-2030	2030-2040	2040-2050	2050
Efficiency improvement per year	0.3%	0.8%	0.9%	0.9%	
Year	2012	2020	2030	2040	2050
Relative energy efficiency	1.000	0.976	0.901	0.823	0.752

Model	Average Kwh/Mile	Average Kwh/Mile in 2020
Ford Fusion	0.34	
Volt	0.35	
Karma	0.62	
Prius	0.29	
AVERAGE	0.40	0.40

Source

U.S. Department of Transportation, Federal Highway Administration. Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development. Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline.
https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm

East Bay
Regional Park District

LAND USE PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT