

Table 4.2-17 (Cont.): Greenhouse Gas Emission Reduction Strategy Consistency Analysis

Agency	Greenhouse Gas Emission Reduction Strategy	Consistency Analysis
Department of Forestry	<p>Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.</p>	<p>Consistent: The proposed project would provide landscaping, including shade trees throughout the site.</p>
Department of Water Resources	<p>Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.</p>	<p>Consistent: The proposed project would incorporate a variety of design features intended to promote sustainability through trip reduction and energy and water conservation. Water conservation measures are designed into the project; including: a recycled water system for landscape irrigation that eliminates the need to use potable water for outdoor watering; re-circulating hot water systems to reduce the need to heat water; tankless hot water heaters that reduce water consumption; green roofs that capture stormwater runoff during the rainy season and keep building interiors cool during warmer months; bioswales that promote percolation of stormwater runoff and reduce the need for pumping stormwater through a conveyance system; evapotranspiration-based water controllers that adjust outdoor irrigation in response to weather conditions; water budgets for landscape irrigation to monitor and regulate outdoor water usage; high-efficiency toilets in non-residential buildings to reduce water usage.</p>
California Energy Commission	<p>Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions and alterations to existing buildings).</p>	<p>Consistent: The proposed project would incorporate a variety of design features intended to promote sustainability through trip reduction and energy and water conservation. Mitigation Measure US-5 requires implementation of the following energy conservation measures: use of glass windows to promote natural day lighting of interior areas to reduce need for lighting, occupancy sensors that automatically shut off lights when rooms are unoccupied, high-efficiency clothes washers and dishwashing machines, re-circulating hot water systems, and tankless water heaters.</p>

Table 4.2-17 (Cont.): Greenhouse Gas Emission Reduction Strategy Consistency Analysis

Agency	Greenhouse Gas Emission Reduction Strategy	Consistency Analysis
cont.	<p>Appliance Energy Efficiency Standards in Place and in Progress</p> <p>Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).</p>	<p>Consistent: Mitigation Measure US-5 requires the use of energy-efficient measures, such as occupancy sensors that automatically shut off lights when rooms are unoccupied, high-efficiency clothes washers and dishwashing machines, recirculating hot water systems, and tankless water heaters.</p>
Building, Transportation, and Housing Agency	<p>Smart Land Use and Intelligent Transportation Systems (ITS)</p> <p>Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.</p> <p>ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.</p> <p>Governor Schwarzenegger is finalizing a comprehensive, 10-year strategic growth plan with the intent of developing ways to promote, through State investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.</p> <p>Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, and incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.</p>	<p>Consistent: The proposed project is an in-fill mixed-use project designed to be a pedestrian-oriented environment that is also readily accessible for bicycles and public transit. The project is located within walking distance of several major existing activity centers, including the Bishop Ranch Business Park, The Shop at Bishop Ranch, the Market Place, Central Park. The proposed project is located next to the Iron Horse Trail and will have pedestrian/bike connections with the trail at several points. The project includes a Transit Center that would be served by County Connection bus service, including routes serving destinations such as the Dublin/Pleasanton and Walnut Creek BART stations. Mitigation Measure TRANS-8 requires the project applicant to provide bicycle parking near entrances to project buildings. All of these measures are consistent with smart land use and ITS strategies.</p>

Table 4.2-17 (Cont.): Greenhouse Gas Emission Reduction Strategy Consistency Analysis

Agency	Greenhouse Gas Emission Reduction Strategy	Consistency Analysis
<i>cont.</i>	Measures to Improve Transportation Energy Efficiency Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools, and information that advance cleaner transportation and reduce climate change emissions.	Consistent: The proposed project promotes fuel conservation through trip reduction (e.g., developing mixed-uses within walking distance of commercial land uses), the inclusion of a transit center, and pedestrian/bicycle linkages to the Iron Horse Trail, as well as other pedestrian and bicycle facilities.
State Consumer Services Agency	Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, compared with 2003 levels. The Executive Order and related action plan spell out specific actions State agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.	Consistent: Mitigation Measure AIR-7 requires the project to comply with, and if possible, exceed the 2005 Title 24 standards. Mitigation Measure US-1a, US-1b, and US-1c require the project to implement several water conservation measures. Mitigation Measure US-5 requires the project to implement energy conservation measures.
Source: Michael Brandman Associates, 2007.		

Summary of Impacts

The proposed project is a large scale, infill, mixed-use project intended to be vibrant cultural and entertainment destination. The project incorporates a number of design features and mitigation measures that are consistent with “smart growth” principles and would reduce greenhouse gas emissions. As a mixed-use project, the proposed project would locate housing adjacent to employment, entertainment, and retail nodes and would create a significant amount of internal capture between its components. Its proximity to the Bishop Ranch Business Park, The Shops at Bishop Ranch, the Market Place, Bishop Ranch 1, Bishop Ranch 3, Central Park, the AT&T campus, and Chevron Park would make walking a convenient and practical mode of transportation for residents, employees, and patrons of the proposed project. The inclusion of a transit center would increase the project’s accessibility to public transportation. The proposed project pedestrian and bicycle linkages with the Iron Horse Trail, and the addition of Class II bicycle lanes on Bishop Drive would enhance the viability of these modes of transportation. As described above, the project would also incorporate energy and water conservation measures intended to reduce consumption of these resources.

After accounting for all of the various sustainability features, the proposed project would still result in a net increase in greenhouse gas emissions. The proposed project is estimated to generate close to 25,000 daily trips, which alone would exceed BAAQMD thresholds for ozone precursors, CO, and particulate matter. When area source emissions are factored, the exceedance would increase to three times BAAQMD thresholds for ozone precursors and particulate matter and four times for CO.

While ozone is considered to have only a localized, short-term impact on greenhouse gas emissions, the Air Basin is in non-attainment for ozone, and the proposed project would incrementally add ozone precursor emissions that would represent a cumulatively considerable contribution. In addition, the proposed project is estimated to emit close to 40,000 metric tons of CO₂ on an annual basis, which would represent a substantial increase over the baseline emissions of CO₂ on the project site. While insignificant by itself, this amount of CO₂ would represent a cumulatively considerable contribution to global concentrations of CO₂.

Moreover, the proposed project would indirectly result in greenhouse gas emissions through energy and water consumption and generation of wastewater and solid waste (Section 4.14, Utility Systems for further discussion). While these activities would be insignificant by themselves, collectively they would represent a cumulatively considerable contribution to greenhouse gas emissions.

In summary, the proposed project is an intensive, large-scale urban development project that would result in a substantial net increase in greenhouse gas emissions. Given its size and intensity, the proposed project's direct and indirect emissions would have a cumulative contribution to greenhouse gas concentrations in the atmosphere. Therefore, this impact would be significant and unavoidable.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM AIR-7** Prior to issuance of occupancy permits, the project applicant shall institute the following greenhouse gas emission reduction features, unless safety or technical feasibility considerations takes precedence:
- Where feasible, project buildings shall include energy-efficient technologies or measures that exceed Title 24 energy efficiency standards or comply with Energy Star home energy standards.
 - Where practicable high-albedo and emissive roofs or Energy Star-approved roofing materials shall be used.
 - Project landscaping shall include trees and shrubs that shed their leaves in winter nearer to these structures to maximize shade to the building during the summer and allow sunlight to strike the building during the winter months.
 - Where possible, HVAC equipment should be shaded from direct sunlight
 - At least 50 percent of project landscaping shall consist of low ozone-forming potential, drought-tolerant trees and shrubs, as listed in East Bay Municipal Utility District's Plants and Landscapes for Summer-Dry Climates or similar landscape reference.

Level of Significance After Mitigation

Significant unavoidable impact.

4.3 - Biological Resources

4.3.1 - Introduction

This section describes the existing biological resources and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Biological Resources Assessment, prepared in June 2007 by Michael Brandman Associates, included in this EIR as Appendix C.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. The General Plan EIR contemplated buildout of the General Plan at a programmatic level and concluded that all impacts on biological resources were less than significant after mitigation in Section 4.12 of the document. The City Civic Center EIR provided project-level analysis of the smaller and less intense City Civic Center project and scoped out the biological resources topical area and its associated issues during the Initial Study/Notice of Preparation process as effects found to be not significant. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

This DSEIR accounts for modifications to the baseline conditions that have occurred since certification of the previous EIRs and changes that have increased the size and intensity of the proposed project. Accordingly, not all of the conclusions in the previous EIRs are applicable to the proposed project, and new analysis is provided for potential impacts not previously considered in those documents.

4.3.2 - Environmental Setting

Project Site Conditions

The project site consists of four parcels and associated roadways totaling approximately 44 acres. The Biological Resources Assessment evaluated an area of 48.6 acres, which included the 44 acres of the project site and 4.6 acres of areas adjacent to the project site that may have biological implications on the proposed project. Below are descriptions of the four parcels constituting the project site.

Parcel 1A

Parcel 1A consists of 14.27 acres of undeveloped land and developed parking areas associated with Bishop Ranch 1. Roughly 7.5 acres of the parcel are undeveloped and surrounded by ornamental landscaping and urban infrastructure (e.g., sidewalks, curbs, gutters, etc.). The balance of the parcel is an at-grade, asphalt paved-surface parking area with landscaped islands.

Parcel 1B

Parcel 1B consists of approximately 3.52 acres of a developed parking area associated with Bishop Ranch 1. Nearly the entire parcel is an at-grade, asphalt paved-surface parking area with landscaped islands. Ornamental landscaping surrounds the parking area.

Parcel 2

Parcel 2 consists of the existing 14.57-acre Bishop Ranch 2 office complex. Bishop Ranch 2 contains 194,652 square feet of office space spread among four, multi-story office structures with an interior turf courtyard landscaped area. Parking areas located around the perimeter of the parcel are characterized as at-grade, asphalt-paved areas with landscaped islands. Ornamental landscaping is present along its frontages with Sunset Drive, Bishop Drive, Camino Ramon, and Bollinger Canyon Road.

Parcel 3A

Parcel 3A is an undeveloped, 11.29-acre, undeveloped City-owned parcel. Ornamental landscaping is present along its frontage with Camino Ramon. The site is used for temporary parking and special events such as car shows and festivals.

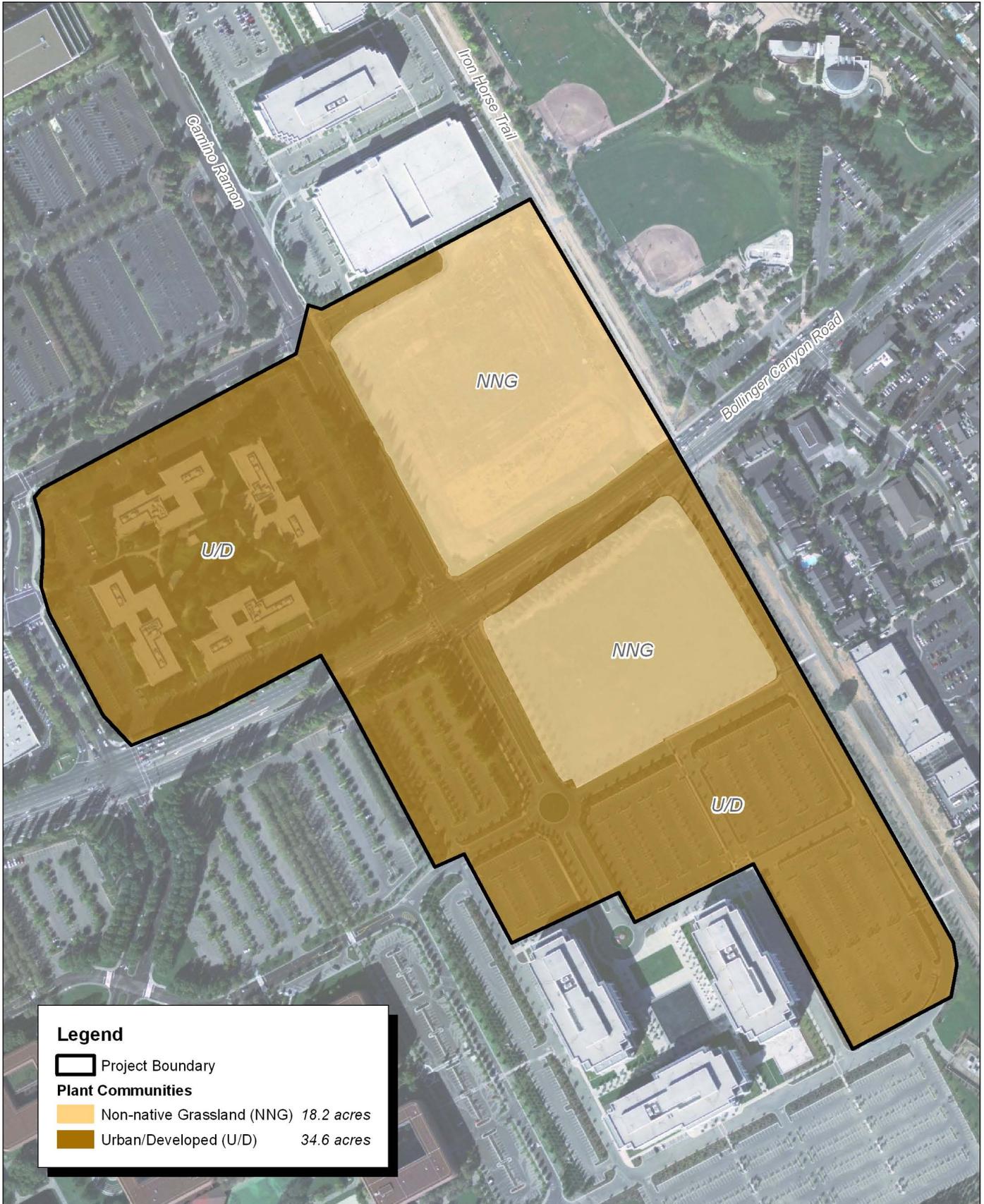
Plant Communities

Two plant communities present on the project site—non-native grassland and urban/developed—are described below. A plant communities map of the project site is provided in Exhibit 4.3-1. Neither of these plant communities is classified as a sensitive natural community by the California Department of Fish and Game (CDFG).

Non-Native Grassland

Non-native grassland, a prevalent community throughout California, is characterized by a dense to sparse cover of non-native, annual grasses often associated with numerous weedy species as well as native annual forbs (wildflowers), especially in years of plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include bromes (*Bromus* spp.), wild oats (*Avena* spp.), fescues (*Vulpia* spp.), and barleys (*Hordeum* spp.).

Non-native grasslands occur in the eastern portion of the project site, north and south of Bollinger Canyon Road. Highly utilized paved roads surround both grassland areas. The northern portion of the non-native grasslands is dominated by weedy species; however, the perimeter of the site includes a well-maintained lawn on the south and west sides, and a few trees spread out sporadically around the north, south, and west sides.



Source: Terraserver and MBA Field Survey 2007.



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Exhibit 4.3-1 Plant Communities Map

Grassland species in the northern section include:

- Bristly ox-tongue (*Picris echioides*)
- Hare barley (*Hordeum murinum*)
- Red-stem filaree (*Erodium cicutarium*)
- Wild oats (*Avena fatua*)

Tree species located around the northern section include:

- Coast live oak (*Quercus agrifolia*)
- Redwood (*Sequoia sempervirens*)

The southern section of the non-native grasslands consists of a well-irrigated and well-maintained grassland. The perimeter of the southern non-native-grassland includes several ornamental shrubs and trees and an irrigated, well-maintained lawn along the northern side. Paved parking lots lie to the south and west of the southern non-native grassland.

Grassland species in the southern section include:

- Ox-eye daisy (*Leucanthemum vulgare*)
- Soft brome (*Bromus hordeaceus*)
- Vetch (*Vicia disperma*)

Tree species located around the southern section include:

- Fremont cottonwood (*Populus fremontii*)
- Redwood (*Sequoia sempervirens*)

Urban/Developed

Although not considered a natural plant community, this habitat often includes a mixture of ornamental vegetation associated with existing structures, roads, residential and commercial buildings, and parking lots. Vegetation within this community typically includes lawns, golf courses, road shoulders, airports, and park facilities, surrounded by or located near residential and commercial development. Many secondary dirt access roads also are included in this category.

The urban/developed area occurs on the northwestern portion of the project site, consisting of several commercial buildings. There are also paved parking lots located in the southeastern and central portions of the project site. Vegetation within the urban/developed area includes ornamental trees such as cottonwoods (*Populus fremontii*) and redwoods (*Sequoia sempervirens*).

Wildlife

The plant communities discussed above provide habitat for a number of local wildlife species including invertebrates, reptiles, birds, and mammals. A few small burrows were observed that suggest the presence of the deer mouse (*Peromyscus maniculatus*), although none were observed. Some of the habitat within the project site provides potential foraging opportunities for raptors, and there are several potential perching locations onsite. No raptors were observed during the survey. In addition, there was no evidence of nesting raptors within the project site, and it is not likely that they would nest onsite because of the proximity to existing commercial development. The project site does not contain suitable habitat for amphibians or fishes. Common wildlife species observed on or near the site include:

- California ground squirrel (*Spermophilus beecheyi*)
- Canada goose (*Branta canadensis*)
- Common raven (*Corvus corax*)
- Mourning dove (*Zenaida macroura*)
- Rock dove (*Columba livia*)

A complete list of plant and wildlife species observed on the project site can be found in Appendix C.

Special Status Species

Special status plant and wildlife species are those designated by federal, State, local, or scientific organizations as needing protection because of rarity or threats to their existence. Special status plant and wildlife species include those listed as threatened, endangered, or proposed for listing; candidates for listing; and species of concern to the U.S. Fish and Wildlife Service (USFWS) and CDFG. The burrowing owl is the only special status species with moderate potential to occur onsite. Its characteristics are summarized in Table 4.3-1.

Table 4.3-1: Special Status Wildlife Species

Species	Habitat	Status	Occurrence in Project Area
Burrowing owl (<i>Athene cunicularia</i>)	Burrow sites - open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	California Species of Concern	Moderate Potential to Occur: Documented occurrence on the site. Marginally suitable habitat, highly disturbed. California ground squirrel burrows were observed on the site.
Source: Michael Brandman Associates. June 2007.			

Burrowing Owl

Typical habitat associated with burrowing owls includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some

artificial, open areas as a year-round resident. The primary requirement for suitable burrowing owl foraging habitat appears to be low vegetation cover that allows visibility and access to prey.

Kleinfelder, Inc. prepared a non-protocol survey for the burrowing owl on Parcel 3A, dated May 18, 2007. The area surveyed included 12 acres on and adjacent to Parcel 3A. The survey was performed prior to the start of the summer festival season, during which the parcel would be used for various events that would result in intensive use of the site. No owls or signs of owls were observed during this survey. The survey is available in Appendix C of this DSEIR.

Typically, burrowing owl requires approximately 6.5 acres to support a pair of nesting owls. The project site contains non-native grassland and California ground squirrel burrows that provide marginally suitable habitat for burrowing owl. The non-native grassland associated with the project site is considered isolated from adjacent habitat; however, a recent occurrence was recorded in 2004 within the boundaries of the project site. Therefore, burrowing owl has a moderate potential to occur onsite.

Wildlife Movement Corridors

The project site is located in an urban, built-up area and is surrounded by residential and commercial development. Interstate 680 (I-680) is located approximately 0.25 mile west of the project site and serves as a physical barrier to wildlife movement between the hills on the west side of San Ramon and Dougherty Hills on the east side. The project site does not contain any physical features commonly associated with wildlife movement (e.g., riparian corridors, arroyos, ridgelines). Watson Canyon Drainage, a man-made drainage channel, is located east of Parcel 3A. Its viability as a substantial wildlife movement corridor is limited because it is culverted from Bollinger Canyon Road to South San Ramon Creek.

Jurisdictional Waters and Wetlands

The four parcels that constitute the project site do not contain any blue-line streams shown on topographical maps. Parcel 1B, Parcel 2, and a portion of Parcel 1A are built up and covered with impervious surfaces. This condition precludes the presence of jurisdictional waters or wetlands. Parcel 3A and the remaining portion of Parcel 1A are undeveloped. Site reconnaissance of both parcels found that there are no jurisdictional features on either site.

Watson Canyon Drainage is located east of Parcel 3A within Central Park on the east side of the Iron Horse Trail corridor. Runoff from Parcel 3A does not enter the drainage because the raised rail bed within the Iron Horse Trail corridor acts as an obstruction to an eastward drainage gradient.

4.3.3 - Regulatory Framework

Federal

Endangered Species Act

The Endangered Species Act (ESA) of 1973 establishes a framework for protecting and facilitating the recovery of threatened and endangered populations of animal and plant species. Under the ESA, the Secretary of the Interior is required to list species of animals and plants that are both threatened and endangered, a task that is delegated to the USFWS and the National Marine Fisheries Service (NMFS). A species can become threatened or endangered as a result of the following factors:

- Present or threatened destruction
- Modification or curtailment of its habitat range
- Over-utilization for commercial recreation, scientific, or educational purposes
- Disease or predation
- Inadequacy of existing statutory mechanisms
- Other natural or man-made factors affecting its continued existence

Section 3 of the Endangered Species Act (ESA) defines an endangered species as any species or subspecies of fish, wildlife, or plants “in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as any species or subspecies “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Designated endangered and threatened species, as listed through publication of a final rule in the Federal Register, are fully protected from a “take” without an incidental take permit administered by the USFWS under Section 10 of the ESA. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap capture, or collect, or to attempt to engage in any such conduct (50 CFR 17.3). The term “harm” in the definition of take in the Act means an action that actually kills or injures wildlife. Such action may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). The term “harass” in the definition of take means an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3). Proposed endangered or threatened species are those for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Section 7 of the ESA requires that federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its critical habitat. This obligation requires federal agencies to consult with the USFWS or the NMFS on any actions (issuing permits including Section 404 permits, issuing licenses, providing federal funding) that may affect listed species to ensure that reasonable and prudent measures will be undertaken to mitigate impacts on listed species. Consultation with USFWS or NMFS can be either formal or informal, depending on the likelihood of the action to adversely affect listed species or critical habitat.

Once a formal consultation is initiated, USFWS or NMFS will issue a Biological Opinion (either a “jeopardy” or a “no jeopardy” opinion) indicating whether the proposed agency action will or will not jeopardize the continued existence of a listed species or result in the destruction or modification of its critical habitat. A permit cannot be issued for a project with a “jeopardy” opinion unless the project is redesigned to lessen impacts.

In the absence of any federal involvement, as in a privately funded project on private land with no federal permit, only Section 10(a) of the ESA can empower the USFWS or NMFS to authorize incidental take of a listed species provided a habitat conservation plan (HCP) is developed. To qualify for a formal Section 10(a) permit, strict conditions must be met, including a lengthy procedure involving discussions with USFWS, NMFS, and local agencies, preparation of an HCP, and a detailed Section 10(a) permit application.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) makes it unlawful to “take” (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. The MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species, and it was originally drafted to put an end to the commercial trade in birds and their feathers that, by the early years of the 20th century, had wreaked havoc on the populations of many native bird species. The MBTA implements the United States’ commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each of the conventions protect selected species of birds that are common to both countries (i.e., they occur in both countries at some point during their annual life cycle). The MBTA requires that the removal of any trees, shrubs, or any other potential nesting habitat be conducted outside the avian nesting season, which is generally between early February and late August.

State

California Endangered Species Act

Signed into law in 1984, the California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. The CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. Under State law, the California Fish and Game Commission may formally designate plant and animal species rare, threatened, or endangered by official listing. Listed species are generally given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

CESA prohibits the “take” of any species that the California Fish and Game Commission determines to be an endangered species or a threatened species. CESA defines a “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CDFG enforces CESA, which authorizes that take of a plant or wildlife species listed as endangered or threatened under ESA and

CESA, may occur pursuant to a federal incidental take permit issued in accordance with Section 10 of the ESA, provided CDFG is notified and certifies that the incidental take statement or incidental take permit is consistent with CESA (Fish & Game Code Section 2080.1(a)).

CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.

California Environmental Quality Act - Treatment of Listed Plant and Animal Species

Both the federal and State Endangered Species Acts protect only those species formally listed as threatened or endangered (or rare, in the case of the State list). CEQA Guidelines Section 15380, however, independently defines “endangered” species of plants, fish or wildlife as those whose survival and reproduction in the wild are in immediate jeopardy, and “rare” species as those which are in such low numbers that they could become endangered if their environment worsens. Therefore, a project will normally have a significant effect on the environment if it will substantially affect a rare or endangered species or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

California Fish and Game Code

Sections 3503, 3503.5, and 3800 of the California Fish and Game Code prohibit the “take, possession, or destruction of birds, their nests or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a “take.”

Local

City of San Ramon General Plan

The City of San Ramon General Plan establishes the following applicable policies related to biological resources:

- **Policy 8.3-I-3:** Preserve as open space significant creek, trail, and viewshed corridors, areas of riparian and wildlife habitat, and prominent topographic features.
- **Policy 8.3-I-8:** Encourage public access to creek corridors with a system of trails.
- **Policy 8.3-I-12:** Continue participation in the Contra Costa Clean Water Program to control stormwater pollution and protect the quality of the City’s waterways.

San Ramon City Code

San Ramon City Code Division C4 Chapter III sets forth tree preservation regulations for land development projects. The chapter requires that permits be obtained for the removal of any tree 30 inches or greater in circumference. Exceptions from the permitting requirements are allowed for tree removal associated with City-approved development plans, subdivision maps, or grading permits.

4.3.4 - Methodology

Michael Brandman Associates (MBA) prepared a Biological Resources Assessment for the proposed project. The assessment consisted of a literature review and a reconnaissance-level field survey.

The literature review provides a baseline from which to evaluate the biological resources potentially occurring on the project site as well as in the surrounding area. A compilation of sensitive plant and wildlife species recorded in the vicinity of the site was derived from the CDFG California Natural Diversity Database (CNDDDB), a sensitive species and plant community account database. Additional recorded occurrences of plant species found on or near the site were obtained in the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California database. The CNDDDB and CNPS searches were based on the Diablo, California and surrounding United States Geological Survey (USGS) 7.5-minute topographic quadrangles. Federal register listings, protocols, and species data provided by the USFWS and CDFG were reviewed in conjunction with anticipated federal and State listed species potentially occurring in the vicinity.

An MBA staff biologist conducted reconnaissance-level field surveys on April 17, 2007. The reconnaissance-level survey was conducted on foot during daylight hours. The object of the survey was not to extensively search for every species occurring within the project site, but to ascertain general site conditions and identify potentially suitable habitat areas for various sensitive plant and wildlife species.

Plant communities were mapped using 7.5-minute USGS topographic base maps and recent aerial photography (circa 2005). Plant communities within the project site were classified at a general level of detail using the widely accepted descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1996 update), and modifications were made by MBA biologists where appropriate.

4.3.5 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to biological resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a.) 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?
- b.) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

- c.) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d.) 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 wildlife nursery sites?
- e.) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f.) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Refer to Section 7, Effects Found Not To Be Significant.)

4.3.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Special Status Species

Impact BIO-1: Special status wildlife species may be adversely affected by project construction activities.

Impact Analysis

Portions of the project site contain suitable habitat for burrowing owl and nesting birds. Each special status species is discussed below.

Burrowing Owl

Parcels 1A and 3A contain undeveloped land suitable for the burrowing owl, a California Species of Special Concern. Project construction activities would include vegetation removal, grading, and building activities that could result in adverse effects on burrowing owl nests if such features are present. The burrowing owl had been recorded on the project site in 2004, although habitat onsite is considered isolated from adjacent burrowing owl habitat, which reduces the potential for occurrence of the species. Kleinfelder, Inc. conducted a non-protocol survey for the burrowing owl on Parcel 3A in May 2007 and found no evidence of owls or owl nests onsite.

Although no burrowing owls were observed during the May 2007 survey, Parcels 1A and 3A contain suitable habitat for the burrowing owl, and there is the possibility that nests may be established prior to project construction. Therefore, mitigation is proposed that would require a pre-construction survey for the burrowing owl to be performed prior to any ground-disturbing activities. The implementation of this mitigation measure would reduce potential impacts to a level of less than significant.

Nesting Birds

All four parcels contain large, mature trees suitable for nesting birds protected by the MBTA. Project construction activities would include the removal of many, if not all, of these trees and, therefore, could result in adverse impacts to nesting birds if nests are present. Mitigation is proposed that would require a pre-construction nesting bird survey to be performed prior to any vegetation removal during the nesting season, generally the period between February 1 and August 31. The implementation of this mitigation measure would reduce potential impacts to a level of less than significant. Vegetation removal that would occur outside of the nesting season, generally the period between September 1 and January 31, would not require mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-1a Prior to any ground disturbance activities on Parcel 3A or the undeveloped portion of Parcel 1A, a qualified biologist shall conduct a focused survey to determine the presence or absence of burrowing owls onsite. The survey shall be conducted according to the standard protocol established by CDFG and the Burrowing Owl Consortium (BOC). If burrowing owls are determined to be present on the site, mitigation for potential impacts to owls shall follow the guidelines outlined by the BOC, including passive relocation. If vegetation removal or ground disturbance begins within 30 days of the focused survey, no pre-construction survey would be required. If vegetation removal or ground disturbance activities begin after 30 days of the focused survey, a pre-construction survey would be required to be performed no earlier than 30 days prior to vegetation removal or ground disturbance.

MM BIO-1b If suitable avian nesting habitat is intended to be removed during the nesting season (February 1 through August 31), a qualified biologist shall conduct a nesting bird survey to identify any potential nesting activity. If passerine birds are found to be nesting, or there is evidence of nesting behavior within 250 feet of the impact area, the biologist shall determine an appropriate buffer that shall be required around the nests. No vegetation removal or ground disturbance would occur within this buffer. For raptor species—birds of prey (e.g., hawks and owls)—this buffer would generally be 500 feet. A qualified biologist shall monitor the nests closely until it is determined that the nests are no longer active, at which time construction activities may commence within the buffer area. Construction activity may encroach into the buffer area at the discretion of the biological monitor.

Level of Significance After Mitigation

Less than significant impact.

Riparian Habitat and Sensitive Natural Communities

Impact BIO-2: The proposed project would not adversely affect riparian habitat or sensitive natural communities.

Impact Analysis

No riparian habitat or sensitive natural communities are present on any of the four parcels comprising the project site. Watson Canyon Drainage is located east of Parcel 3A on the east side of the Iron Horse Trail. Runoff from Parcel 3A does not enter the drainage, because the raised rail bed within the Iron Horse Trail Corridor acts as an obstruction to an eastward drainage gradient. The nearest construction activities to the drainage would occur at a distance of approximately 30 feet and would consist of half-width improvements associated with the extension of Bishop Drive along the west side of the Iron Horse Trail corridor. Half-width improvements would consist of the installation of curb, gutter, fencing, landscaping, and a pedestrian connection with the trail; no construction would occur in or near the drainage channel. In addition, the proposed project would implement stormwater pollution controls during construction and operations to prevent the release of pollutants into downstream waterways, including South San Ramon Creek. (Refer to Section 4.7, Hydrology and Water Quality for further discussion.) Therefore, Watson Canyon Drainage and other riparian corridors would not be adversely affected by the proposed project. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Wetlands

Impact BIO-3: The proposed project would not adversely affect wetlands.

Impact Analysis

There are no potentially jurisdictional waters or wetlands on the four parcels comprising the project site. The nearest jurisdictional feature is Watson Canyon Drainage, located east of Parcel 3A. As discussed in Impact BIO-2, project construction activities would not occur in or near the drainage channel; therefore, the proposed project would not have any adverse impacts on jurisdictional waters or wetlands. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Wildlife Movement

Impact BIO-4: Development of the proposed project would not result in adverse impacts to wildlife movement.

Impact Analysis

The project site is located in an existing urbanized area and does not contain any features that facilitate aquatic or terrestrial wildlife movement (e.g., arroyos, riparian corridors, ridgelines, etc.). The nearest wildlife movement corridor to the project site is Watson Canyon Drainage, located east of Parcel 3A. As discussed in Impacts BIO-2 and BIO-3, project construction activities would not occur in or near the drainage channel; therefore, the proposed project would not adversely impact wildlife movement in the drainage. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Local Biological Policies or Ordinances

Impact BIO-5: The proposed project would not conflict with local policies or ordinances related to the protection of biological resources.

Impact Analysis

The City of San Ramon General Plan and the City Code contain several policies related to protection of biological resources. Each is discussed below.

General Plan Policy 8.3-I-3 calls for the protection of significant creek corridors and riparian areas, and General Plan Policy 8.3-I-8 encourages public access to creek corridors. As discussed in Impacts BIO-2, BIO-3, and BIO-4, the proposed project would not adversely impact the Watson Canyon Drainage channel or limit access to the drainage. Therefore, the proposed project is consistent with these policies.

Policy 8.3-I-12 stipulates that the City shall continue to participate in the Contra Costa Clean Water Program to control stormwater pollution and protect the quality of the City's waterways. The proposed project would not adversely impact Watson Canyon Drainage. In addition, the proposed

project would implement stormwater pollution controls during construction and operations to prevent the release of pollutants into local waterways, consistent with the policies of the Contra Costa Clean Water Program. Therefore, the proposed project is consistent with this policy.

San Ramon City Code Division C4 Chapter III requires that permits be obtained for the removal of any tree that are 30 inches or greater in circumference. The Code exempts City-approved development plans, subdivision maps, or grading permits from the provisions of this policy. The proposed project would be considered a City-approved development plan and, therefore, would be granted an exemption from this policy. Therefore, the proposed project is consistent with this policy.

In summary, the proposed project would be consistent with all applicable General Plan and City Code policies related to biological resources. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

4.4 - Cultural Resources

4.4.1 - Introduction

This section describes the existing cultural resources and potential effects from project implementation on the site and its surrounding area that are based on a Phase I Cultural Resource Assessment performed by Michael Brandman Associates. The results of the assessment are presented entirely in this section.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. The General Plan EIR contemplated buildout of the General Plan at a programmatic level and concluded that all impacts on cultural resources were less than significant after mitigation in Section 4.14 of the document. The City Civic Center EIR provided project-level analysis of the smaller and less intense City Civic Center project and scoped out the cultural resources topical area and its associated issues during the Initial Study/Notice of Preparation process as effects found not to be significant. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

This DSEIR accounts for modifications to the baseline conditions that have occurred since certification of the previous EIR and changes that have increased the size and intensity of the proposed project. Accordingly, not all of the conclusions in the previous EIRs are applicable to the proposed project, and new analysis is provided for potential impacts not previously considered in those documents.

4.4.2 - Environmental Setting

Overview

The term “cultural resources” encompasses historic, archaeological, and paleontological resources, and burial sites. Below is a brief summary of each component:

- **Historic Resources:** Historic resources are associated with the recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the State’s history and are generally less than 200 years old.
- **Archaeological Resources:** Archaeology is the study of prehistoric human activities and cultures. Archaeological resources are generally associated with indigenous cultures.
- **Paleontological Resources:** Paleontology is the study of plant and animal fossils.
- **Burial Sites:** Burial sites are formal or informal locations where human remains, usually associated with indigenous cultures, are interred.

Regional Cultural Setting

Prehistory

The Prehistoric period is classified into three temporal ranges: the Early Horizon (3000 to 1000 B.C.), the Berkeley Pattern or Middle Horizon (1000 B.C. to A.D. 500), and the Augustine Pattern or Late Horizon (A.D. 500 to historic period). Brief descriptions of these temporal ranges and their unique characteristics follow.

Early Horizon

Characterized by the Windmill Pattern, the Early Horizon was centered in the Cosumnes district of the Delta and emphasized hunting rather than gathering, as evidenced by the abundance of projectile points in relation to plant processing tools. Additionally, atlatl, dart, and spear technologies typically included stemmed projectile points of slate and chert but little obsidian. The large variety of projectile point types and faunal remains suggest hunting of numerous types of terrestrial and aquatic species. Burials occurred in cemeteries and intra-village graves, and they typically were ventrally extended, although some dorsal extensions are known, with westerly orientation, and a high number of grave goods. Trade networks focused on acquisition of ornamental and ceremonial objects in finished form rather than in raw material form. The presence of artifacts made of exotic materials such as quartz, obsidian, and shell indicate an extensive trade network that possibly represents the arrival of Utian populations into central California. Also indicative of this period are rectangular Haliotis and Olivella shell beads, and usually perforated charm stones.

Middle Horizon

The Middle Horizon is characterized by the Berkeley Pattern, which displays considerable changes from the Early Horizon. This period exhibited a strong milling technology represented by minimally shaped cobble mortars and pestles, although metates and manos were still used. Dart and atlatl technologies during this period were characterized by non-stemmed projectile points made primarily of obsidian. Research suggests that the Berkeley Pattern marked the eastward expansion of Miwok groups from the San Francisco Bay Area. Compared with the Early Horizon, there is a higher proportion of grinding implements during the Middle Horizon, implying an emphasis on plant resources rather than on hunting. Typical burials occurred within the village with flexed positions, variable cardinal orientation, and some cremations. The practice of spreading ground ochre over the burial was common at this time. Grave goods are sparse and typically included only utilitarian items and a few ornamental objects. However, objects such as charm stones, quartz crystals, and bone whistles occasionally occur, suggesting the religious or ceremonial significance of the individual. Larger populations are suggested by the number and depth of sites compared with the Windmill Pattern. It is believed that the Berkeley Pattern reflects gradual expansion or assimilation of different populations as well as a gradual shift in economic emphasis, rather than sudden population replacement.

Late Horizon

The Late Horizon is characterized by the Augustine Pattern, which represents a shift in general subsistence patterns. Changes include the introduction of bow and arrow technology and, most importantly, acorns as the predominant food resource. Trade systems expanded and included raw resources as well as finished products. There are more baked clay artifacts and extensive use of Haliotis ornaments of many elaborate shapes and forms. Burial patterns retained the use of flexed burials with variable orientation, but there was less use of ochre; evidence of cremation was widespread. Judging from the number and types of grave goods associated with the two types of burials, cremation seemed to have been reserved for individuals of higher status, whereas others were buried in flexed positions. Research suggests that the Augustine Pattern represents expansion of the Wintuan population from the north, which resulted in combining new traits with those established during the Middle Horizon.

Ethnography

At the time of European contact in the 18th century, the San Ramon area was occupied by the Ohlone tribe of California Native Americans. The Ohlone group designates a linguistic family consisting of eight different yet related languages. The eight Ohlone languages were quite different from one another, with each language being related to its geographically contiguous neighbors.

The arrival of Ohlone groups into the Bay Area appears to be temporally consistent with the appearance of the Late Period artifact assemblage in the archaeological record, as documented at sites such as the Emeryville Shellmound or the Ellis Landing Shellmound. It is probable that the Ohlone moved south and west from the delta region of the San Joaquin-Sacramento River region into the Bay Area. The tribal group that most likely occupied the project area is the Chochenyo language group, whose territory extended from the southern end of the Carquinez Strait south to Mission San Jose (present-day Fremont), east to present-day Livermore and west to the San Francisco Bay.

The various Ohlone tribes subsisted as hunter-gatherers and relied on local terrestrial and marine flora and fauna for subsistence. The predominant plant food source was the acorn, but they also exploited a wide range of other plants, including various seeds, buckeye, berries, and roots. Protein sources included grizzly bear, elk, sea lions, antelope, and black-tailed deer as well as smaller mammals such as raccoon, brush rabbit, ground squirrels, and wood rats. Waterfowl, including Canadian geese, mallards, green-winged teal, and American widgeon, were captured in nets using decoys to attract them. Fish also played an important role in the Chochenyo diet and included steelhead, salmon, and sturgeon.

The Ohlone constructed watercraft from tule reeds and possessed bow and arrow technology. They fashioned blankets from sea otter pelts, fabricated basketry from twined reeds of various types, and assembled a variety of stone and bone tools in their assemblages. Ohlone villages typically consisted of domed dwelling structures, communal sweathouses, dance enclosures, and assembly houses constructed from thatched tule reeds and a combination of wild grasses, wild alfalfa, and ferns.

The Ohlone were politically organized into autonomous tribelets that had distinct cultural territories. Individual tribelets contained one or more villages with a number of seasonal camps for resource procurement within the tribelet territory. The tribelet chief could be either male or female, and the position was inherited patrilineally, but approval of the community was required. The tribelet chief and council were essentially advisors to the community and were responsible for feeding visitors, directing hunting and fishing expeditions, ceremonial activities, and warfare on neighboring tribelets.

The first European contact with the Ohlone was probably in 1602, when Sebastian Vizcaíno's expedition moored in Monterey. The estimated Ohlone population in 1770—when the first mission was established in Ohlone territory—was approximately 10,000. By 1832, the population had declined to fewer than 2,000, mainly due to diseases introduced by the European explorers and settlers. When the Spanish mission system rapidly expanded across California, the Ohlone traditional way of life was irreversibly altered. The pre-contact hunter-gatherer subsistence economy was replaced by an agricultural economy, and the Spanish missionaries prohibited traditional social activities.

The Gold Rush brought further disease to the native inhabitants, and by the 1850s, nearly all of the Ohlone had adapted in some way or another to economies based on cash income. Hunting and gathering activities continued to decline and were rapidly replaced with economies based on ranching and farming.

Historic Era

Spanish and Mexican Exploration and Settlement

Spanish exploration into the Central Valley dates back to the late 1700s, and Spanish mission records indicate that local Native American inhabitants were being taken to Mission San Jose until secularization of the missions in 1833. Many Native Americans were not willing converts, and there are numerous accounts of neophytes fleeing the missions and a series of “Indian Wars” broke out when the Spanish tried to return them to the missions. During this period, Native American populations were declining rapidly from an influx of Euro-American diseases. In 1832, a party of trappers from the Hudson's Bay Company, led by John Work, traveled down the Sacramento River unintentionally spreading a malaria epidemic to Native Californians.

The Mexican revolt against Spain in 1822 and the secularization of the missions in 1834 changed land ownership patterns in California. The Spanish philosophy of government was directed at the founding of presidios, missions, and secular towns with the land held by the Crown, whereas the later Mexican policy stressed individual ownership of the land. Following Mexico's independence from Spain in 1822, the vast mission lands were granted to private citizens. The last of the mission land holdings were relinquished in 1845, which led the way for the large ranchos common to California in the mid-1800s.

Mission San Jose was one of the most prosperous missions in California because of its fertile land, excellent water supply, large numbers of Native American laborers, and its proximity to San Francisco Bay. In 1824, when a map was drawn of the Mission San Jose territory, it included the San Ramon Valley, which at that time was called “Yngerto Canada,” its original Spanish name.

During the Mexican Period, vast tracts of land, including former Mission lands that had reverted to public domain, were granted to individuals. The San Ramon Valley contained three large ranchos: San Ramon (Amador), 16,517 acres; San Ramon (Carpentier), 8,917 acres; and San Ramon (Norris), 4,451 acres. The project site is within the San Ramon (Norris) rancho.

American Period

Following the end of the Mexican-American War in 1847 and the ratification of the Treaty of Guadalupe in Hidalgo in 1848, California became a United States territory. California was formally admitted into the Union in 1850. Contra Costa County was one of the original 27 counties created at the time of statehood by the California legislature and included portions of present-day Alameda and Santa Clara counties. The county was originally named Mt. Diablo County, but the name was changed prior to incorporation to Contra Costa (Spanish for “opposite coast”), reflecting its geographical relationship to San Francisco.

The Gold Rush of 1848 brought a massive influx of immigrants to California from all parts of the world. California’s 1848 population of less than 14,000 (exclusive of Native Americans) increased to 224,000 in four years. With the beginning of the American period, the population explosion resulting from the Gold Rush created a market for a wide range of agricultural products. As more and more gold seekers became discouraged with mining, they turned to farming as a livelihood. Farmers started to raise crops and livestock for sale, not just to be self-sufficient.

The population of the Contra Costa County increased rapidly during the Gold Rush and, later, by the completion of Western Pacific Railroad between Stockton and Niles Junction in 1869 and the Santa Fe Railroad between Stockton and Richmond in 1896. The great rancheros of the Spanish period were divided and sold for agricultural uses, with intensively irrigated farming made possible in some areas of the County by the development of canals that brought water from the eastern portions of the County to the central portions. Other areas, such as nearby Livermore Valley, used the more limited water available from local creeks and wells. Orchards dominated where abundant water was available, while seasonally dry areas were used for dry farming and cattle ranching. Walnuts were an especially attractive orchard crop in central portions of the County, with farmers using thin-shelled English walnut branches grafted to hardy and disease-resistant American walnut rootstock.

The first settlers to the San Ramon area were Leo and Mary Norris, who purchased 4,450 acres of land in 1850. Other early settlers included names that are recognizable from local street names, such as Crow, Bollinger, and Glass. The first village developed on the site of the present-day Outpost Casino at the intersection of Deerwood Road and San Ramon Valley Boulevard. San Ramon was

known by a series of names in the nineteenth century: Brevenville, for a local blacksmith; Lynchville, for the early settler William Lynch; and Limerick, for the numerous Irish immigrants.

The Southern Pacific Railroad arrived in the San Ramon Valley in the 1890s. Dubbed the San Ramon Branch Line, the single-track line originally extended from a junction with the Oakland-Stockton main line near Martinez south to San Ramon, a distance of approximately 20 miles. Service commenced in June 1891. In 1909, the southern terminus of the San Ramon Branch Line was extended south to a junction with the Lathrop-Niles Junction main line near Pleasanton. San Ramon was served with a station, known as San Ramon Siding, near the present-day Iron Horse Trail crossing at Crow Canyon Road. By the mid-1970s, traffic on the line had dwindled to 125 carloads annually and the Southern Pacific Railroad petitioned the Interstate Commerce Commission to abandon the branch line. The line was formally abandoned in 1978 and the counties of Alameda and Contra Costa acquired ownership of the right-of-way within their respective jurisdictions. The Iron Horse Trail, a 24.47-mile Class I bicycle/pedestrian trail, follows the alignment of the San Ramon Branch Line from Pleasanton to Concord.

Twentieth Century

The San Ramon Valley remained primarily an agricultural area up through the early 1960s. Following the completion of Interstate 680 (I-680) through the San Ramon Valley in the mid-1960s, the San Ramon area experienced rapid growth. The first residential subdivisions were developed in South San Ramon (a.k.a. San Ramon Village) and Twin Creeks. In the early 1980s, Sunset Development began developing the Bishop Ranch Business Park. The most notable facilities in the Bishop Ranch Business Park are Chevron Park and the AT&T campus (formerly known as the Pacific Bell campus), both of which opened in the mid-1980s. Sunset Development continued to develop the Bishop Ranch Business Park through the 1980s and 1990s, with the newest complex, Bishop Ranch 1, opening in 2001.

With growth came the desire for greater control over land use and development. In March 1983, the City electorate voted to incorporate and the City of San Ramon came into existence on July 1 of that year. Since incorporation, the City has expanded its limits west to include the Westside Drive area and portions of Norris Canyon, north to include the Crow Canyon area, and east to include the Dougherty Hills and Dougherty Valley.

Project Site

Parcel 1A

Parcel 1A consists of 14.27 acres of undeveloped land and developed parking areas associated with Bishop Ranch 1. Record search results from both the Northwest Information Center (NWIC) and Native American Heritage Commission (NAHC) were negative for this parcel. No prehistoric resources were observed during the pedestrian survey, and the parking areas and sidewalks are of such recent construction that they do not meet the minimum age criteria (50 years old) for listing on the California Register of Historical Resources (CRHR).

Parcel 1B

Parcel 1B consists of approximately 3.52 acres of a developed parking area associated with Bishop Ranch 1. Record search results from both the NWIC and NAHC were negative for this parcel. No prehistoric resources were observed during the pedestrian survey, and the parking areas and sidewalks are of such recent construction that they do not meet the minimum age criteria for listing on the CRHR.

Parcel 2

Parcel 2 consists of the existing 14.57-acre Bishop Ranch 2 office complex. Record search results from both the NWIC and NAHC were negative for this parcel. No prehistoric resources were observed during the pedestrian survey. Since construction for Bishop Ranch 2 was initiated in 1982, neither the buildings nor the associated parking areas and sidewalks meet the minimum age criteria for listing on the CRHR.

Parcel 3A

Parcel 3A is an undeveloped, 11.29-acre, City-owned parcel containing ruderal vegetation. Record search results from both the NWIC and NAHC were negative for this parcel. No historic resources were observed during the pedestrian survey.

4.4.3 - Regulatory Framework

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA), as amended, requires federal agencies to consider the effects of proposed federal undertakings on historic properties. NHPA's implementing regulations require federal agencies (and their designees, permittees, licensees, or grantees) to initiate consultation with the State Historic Preservation Officer (SHPO) as part of the Section 106 review process.

State

State Historic Preservation Programs

The State Office of Historic Preservation oversees four historic preservation programs:

- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CR)
- California Historical Landmarks
- California Points of Historic Interest

Each program has its own specific eligibility criteria, though historic resources often overlap on multiple lists.

Resources listed in the National Register and California Historical Landmarks #770 and above are automatically listed in the California Register (CR). Points of Historical Interest designated after

December 1997 and recommended by the State Historical Resources Commission are also listed in the CR.

As of October 2004, there were 1,041 California Historical Landmarks, 766 Points of Historical Interest, 2138 National Register listings, and more than 25,000 resources listed in the CR.

Local

City of San Ramon General Plan

The City of San Ramon General Plan establishes the following relevant policy related to cultural resources:

- **Policy 8.8-I-1:** Require that new development analyze, and therefore avoid any potential impacts to archaeological, paleontological, and historic resources.

4.4.4 - Methodology

Michael Brandman Associates prepared a Phase I Cultural Resources Assessment for the project site that included records searches and a field survey, the details of which are described below.

Record Searches

On April 13, 2007, an archival records search was conducted at the NWIC at Sonoma State University in Rohnert Park, California (NWIC File No. 06-1607). The record search included the project area and a 0.25-mile radius outside the project area boundaries. The record search included current inventories of the NRHP, the CR, California Historical Landmarks, California Points of Historical Interest, and the California Inventory of Historical Resources (CIHR). In addition, the Directory of Properties in the Historic Property Data File was reviewed to determine the existence of previously documented local historical resources. Four historic maps—an 1866 Government Land Office plat map; an 1859 Rancho San Ramon (Norris) plat map; an 1896 United States Geological Survey Mt. Diablo quadrangle map; and a 1943 U.S. Army Corps of Engineers, Mt. Diablo Quadrangle, Grid Zone “G”—were examined to help locate any historic resources in the area.

The record search indicated that no surveys have been conducted within the project area. Two studies have been conducted adjacent to the project area (S-727 and S-5001) and four studies (S-5749, S-229, S-6264, and S-28819) have been conducted within 0.25 mile of the project area.

No sites, features, or isolates have been recorded within a 0.25-mile radius of the project area. In addition, no resources are listed on the NRHP, the CR, or local directories within the record search radius.

On April 18, 2007, MBA requested a record search of the NAHC Sacred Lands File to determine if there were Native American cultural resources within the immediate project area and to obtain a list of Native American tribal entities that may have concerns about project development.

On April 26, 2007, a response was received from the NAHC stating that the record search failed to indicate the presence of Native American cultural resources within the immediate project area. A list of three Native Americans that may have additional information about the project area was received. Letters were sent to each of these tribal representatives on May 14, 2007. As of June 22, 2007, no responses have been received by MBA from any of the tribal representatives.

On May 10, 2007, MBA requested a paleontological records search for the project area from Dr. Kenneth L. Finger. A response was received on May 14, 2007, indicating that during the Pleistocene Epoch (10,000–1.8 million years ago), the San Ramon Valley area was riparian woodland with a tidal inlet connected to San Francisco Bay. Contra Costa County lists 62 vertebrate fossil localities and 2,341 vertebrate specimens, including several in the San Ramon Valley area.

The paleontological response indicated that earth-disturbing construction activities for the proposed project could impact significant paleontological resources if excavation activities penetrate the soil veneer. It was determined that an onsite paleontological survey for the project site was not necessary prior to initiation of construction activities. However, prior to initiation of deep excavation procedures (greater than 10 feet), such as sewer line trenching, a qualified paleontological monitor will be retained to conduct an onsite monitoring program, to ensure that any newly discovered paleontological resources are professionally assessed and, if determined significant, properly salvaged. Following recovery, the specimens would be curated at an accredited scientific institution, such as the University of California Museum of Paleontology.

Pedestrian Survey

A pedestrian survey of the project area consisting of a series of transects across the site was conducted on May 10, 2007. The project area consists of level ground interspersed with paved roads, a parking lot area, various office buildings, and undeveloped land. The field survey included all visible ground surface and was conducted utilizing transects of 10 meters or less, depending on vegetation, roads, and other obstructions. The typical ground surface consisted of grass or short weeds as well as the paved areas such as roads, parking lots, and buildings.

The primary areas with open ground surface were on the north and south sides of Bollinger Canyon Road between Camino Ramon and the Iron Horse Trail. The remainder of the project area was covered with surface parking, roads, landscape elements, and the office buildings of Bishop Ranch 1 and 2. The buildings on the project site were constructed in 1982 (Bishop Ranch 2) and 2001 (Bishop Ranch 1), and, therefore, do not meet the minimum age requirement of 50 years old to be considered for eligibility for listing on the NRHP or the CR.

No historic or prehistoric resources were discovered during the pedestrian survey of the project area.

4.4.5 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to cultural resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a.) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
- b.) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c.) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
- d.) Disturb any human remains, including those interred outside of formal cemeteries?

4.4.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Historic Resources

Impact CUL-1: Subsurface construction activities associated with the proposed project have the potential to damage or destroy previously undiscovered historic resources.

Impact Analysis

No recorded historic resources have been recorded within the project site, nor were any encountered during the field survey. However, subsurface construction activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously undiscovered historic resources. Accordingly, this is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-1 If a potentially significant historic resource is encountered during subsurface activities, all construction within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of California Environmental Quality Act criteria by a qualified archaeologist.

Potentially significant cultural resources consist of, but are not limited to, glass, ceramics, stone, bone, wood, and shell artifacts or features, including hearths, structural remains, or historic dumpsites. If the resource is determined to be significant under CEQA, a qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan, if necessary. The archaeologist shall also perform appropriate technical analyses, prepare a full written report and file it with the appropriate information center, and provide for permanent curation of the recovered resources.

Level of Significance After Mitigation

Less than significant impact.

Archaeological Resources

Impact CUL-2: Subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered archaeological resources.

Impact Analysis

No previously recorded archaeological resources are present within the project site, nor were any discovered during the field survey. However, subsurface excavation activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously unknown archaeological resources. This is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Refer to Mitigation Measure CUL-1.

Level of Significance After Mitigation

Less than significant impact.

Paleontological Resources

Impact CUL-3: Subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered paleontological resources.

Impact Analysis

No recorded paleontological resources are known to be present within the project site, nor were any encountered during the field survey. However, the project area was a lowland of riparian woodlands and grassy plains during the Pleistocene Epoch and could contain significant vertebrate fossils. Vertebrate fossils from these sediments may include, but are not limited to, mammoth, mastodon, tapir, horse, camel, pronghorn sheep, elk, rodents, birds, and reptiles. As such, subsurface construction activities associated with deep trenching or excavation could potentially damage or

destroy previously undiscovered paleontological resources. This is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-3 Prior to initiation of deep excavation procedures at depths greater than 10 feet, a qualified paleontological monitor will be retained to conduct an onsite monitoring program to ensure protection of previously unknown paleontological specimens. In the event a fossil is discovered during construction of the proposed project when the paleontological monitor is not present, excavation within 100 feet of the find shall be temporarily halted until the discovery is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall notify the City and project applicant of the procedures that must be followed before construction is allowed to resume at the location of the find. If the find is determined to be significant and the City determines that avoidance is not feasible, the paleontologist shall design and carry out a data recovery plan consistent with the Society of Vertebrate Paleontology standards. The plan shall be submitted to the City for review and approval. Upon approval, the plan shall be incorporated into the project.

Level of Significance After Mitigation

Less than significant impact.

Burial Sites

Impact CUL-4: Subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered burial sites.

Impact Analysis

Subsurface construction activities associated with project development such as trenching and grading could potentially damage or destroy previously undiscovered burial sites. This is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-4 If human remains are encountered during earth-disturbing activities for the proposed project, all work within 100 feet of the find shall stop immediately and the Contra Costa County Coroner’s office shall be notified. If the Coroner determines the

remains are Native American in origin, the Native American Heritage Commission will be notified and, in turn, will notify the person determined to be the Most Likely Descendent (MLD). The MLD will provide recommendations for treatment of the remains (CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Sections 5097.94 and 5097.98).

Level of Significance After Mitigation

Less than significant impact.

4.5 - Geology, Soils, and Seismicity

4.5.1 - Introduction

This section describes the existing geology and soils setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Preliminary Geotechnical Investigation Report (Geotechnical Report), dated May 31, 2007 and prepared by MACTEC Engineering and Consulting Inc., included in this EIR as Appendix D. The MACTEC report reviewed previously prepared geotechnical investigations of the project site and surrounding properties. Those previously prepared reports also are included in Appendix D.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. The General Plan EIR contemplated buildout of the General Plan at a programmatic level and concluded that all impacts on geology, soils, and seismicity were less than significant after mitigation in Section 4.11 of the document. The City Civic Center EIR provided project-level analysis of the smaller and less intense City Civic Center project and concluded that all impacts related to geology, soils, and seismicity were less than significant after mitigation. Those previous mitigation measures are superseded by the mitigation measures contained in this DSEIR. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

This DSEIR accounts for modifications to the baseline conditions that have occurred since certification of the previous EIRs and changes that have increased the size and intensity of the proposed project. Accordingly, not all of the conclusions in the previous EIRs are applicable to the proposed project, and new analysis is provided for potential impacts not previously considered in those documents.

4.5.2 - Environmental Setting

Regional Setting

The site is located within the San Ramon Valley, a portion of the California Coast Ranges geomorphic province. In general, the geologic structure and topography of the San Ramon Valley are characteristic of the San Francisco Bay Area. The region is generally defined by northwest-trending ridges and valleys that generally parallel the geologic structures, including the major fault systems. San Ramon Valley fill includes quaternary-aged alluvium up to approximately 300 feet in thickness. The valley is drained by both North and South San Ramon creeks that are actively cutting into the alluvial surface soils.

The San Ramon Valley is surrounded by the East Bay Hills, which are part of a block of folded and faulted Upper Cretaceous age (approximately 62 million to 98 million years ago) marine sedimentary rocks of the Great Valley Sequence. The hills were formed from younger rocks, uplifted between the Hayward and Calaveras fault zones. The San Ramon area is underlain by Tertiary (approximately 2 million to 62 million years ago) marine and non-marine sedimentary rocks. Sandstone bedrock crops out locally on ridge crests and underlies upper hill slopes at shallow depths.

Seismicity

The term seismicity describes the effects of seismic waves that radiate from an earthquake as it occurs. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. To understand the implications of seismic events, a discussion of faulting and seismic hazards is provided below.

Faulting

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large regional stresses operating over a long time, such as those stresses caused by the relative displacement between tectonic plates. According to the elastic rebound theory, these stresses cause strain to build up in the earth's crust until enough strain has built up to exceed the strength along a fault and cause a brittle failure. The slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, strain will build once again until the occurrence of another earthquake. The magnitude of slip is related to the maximum allowable strain that can be built up along a particular fault segment. The greatest buildup in strain due to the largest relative motion between tectonic plates or fault blocks over the longest period will generally produce the largest earthquakes. The distribution of these earthquakes is a study of much interest for both hazard prediction and the study of active deformation of the earth's crust. Deformation is a complex process and strain caused by tectonic forces is not only accommodated through faulting, but also by folding, uplift, and subsidence, which can be gradual or in direct response to earthquakes.

Faults are mapped to determine earthquake hazards, since they occur where earthquakes tend to recur. A historic plane of weakness is more likely to fail under stress and strain than a previously unbroken block of crust. Faults are, therefore, a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stress and strain in the crust can shift, predicting the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive.

Local Faulting

There are several active faults in the immediate and surrounding areas that could affect the project site. The major active fault in the vicinity is the Calaveras Fault, which lies parallel to and just west

of San Ramon Valley Boulevard. The California Legislature has established an Alquist-Priolo Earthquake Fault Zone along the Calaveras Fault, requiring detailed studies of rupture hazards prior to construction. The project site is not located within the Calaveras Fault Zone. The seismic activity, along with the approximate distance and direction of all known mapped active faults with the potential to affect the project site, is summarized in Table 4.5-1.

Table 4.5-1: Fault Summary

Fault/Fault Zone	Distance from Project Site (miles)	Relationship to Project Site	Slip Rate (inches/year)	Maximum Moment Magnitude
Calaveras	0.6	Southwest	0.24	6.8
Concord-Green Valley	8.0	North	0.24	6.9
Hayward	9.0	Southwest	0.35	7.1
Greenville	10.0	Northeast	0.08	6.9
Great Valley	16.0	Northeast	0.06	6.7
San Andreas	27.0	Southwest	0.94	7.9
Monte Vista – Shannon	28.0	Southwest	0.02	6.5
Rodgers Creek	30.0	Northwest	0.35	7.0
San Gregorio	33.0	Southwest	0.20	7.3
West Napa	41.0	Northwest	0.04	6.5
Sargent	44.0	South	0.12	6.8
Ortigalita	49.0	Southeast	0.04	6.9
Point Reyes	59.0	Northwest	0.01	6.8

Source: MACTEC Engineering and Consulting, Inc., 2007.

Peak ground acceleration is a measure of earthquake acceleration, and how hard the earth shakes in a given geographic area. Peak ground acceleration is measured in g (the acceleration due to gravity). The Geotechnical Report indicated that the maximum estimated peak ground acceleration at the project site is as follows:

- A 5-percent chance of 0.78 g in 50 years
- A 10-percent chance of 0.62 g in 50 years

Seismic Hazards

Seismic hazards pose a substantial danger to property and human safety and are present because of the risk of naturally occurring geologic events and processes impacting human development. Therefore, the hazard is as influenced by the conditions of human development as by the frequency and distribution of major geologic events. Seismic hazards present in California include ground rupture along faults, strong seismic shaking, liquefaction, ground failure, landsliding, and slope failure. Exhibit 4.5-1 shows local seismic hazards in the San Ramon area.

Fault Rupture

Fault rupture is a seismic hazard that affects structures sited above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault during an earthquake. Typically, this movement takes place during the short time of an earthquake, but can also occur slowly over many years in a process known as creep. Most structures and underground utilities cannot accommodate the surface displacements of several inches to several feet commonly associated with fault rupture or creep.

Ground Shaking

The severity of ground shaking depends on several variables such as earthquake magnitude, epicenter distance, local geology, thickness, and seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Ground shaking hazards are most pronounced in areas near faults or with unconsolidated alluvium.

The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic stucco cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage from falling objects or broken utility lines. Fire and explosions are also hazards associated with strong ground shaking.

While Richter magnitude provides a useful measure of comparison between earthquakes, the moment magnitude is more widely used for scientific comparison, since it accounts for the actual slip that generated the earthquake. Actual damage is due to the propagation of seismic or ground waves as a result of initial failure, and the intensity of shaking is related as much to earthquake magnitude as to the condition of underlying materials. Loose materials tend to amplify ground waves, while hard rock can quickly attenuate them, causing little damage to overlying structures. For this reason, the Modified Mercalli Intensity (MMI) Scale provides a useful qualitative assessment of ground shaking. The MMI Scale is a 12-point scale of earthquake intensity based on local effects experienced by people, structures, and earth materials. Each succeeding step on the scale describes a progressively greater amount of damage at a given point of observation. The MMI Scale is shown in Table 4.5-2, along with relative ground velocity and acceleration.

Table 4.5-2: Modified Mercalli Intensity Scale

Richter Magnitude	Modified Mercalli Intensity	Effects	Average Peak Ground Velocity (centimeters/second)	Average Peak Acceleration
0.1–0.9	I	Not felt. Marginal and long-period effects of large earthquakes	—	—



Source: City of San Ramon.



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Exhibit 4.5-1 Local Seismic Hazards

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DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

Table 4.5-2 (Cont.): Modified Mercalli Intensity Scale

Richter Magnitude	Modified Mercalli Intensity	Effects	Average Peak Ground Velocity (centimeters/second)	Average Peak Acceleration
1.0–2.9	II	Felt by only a few persons at rest, especially on upper floors of building. Delicately suspended objects may swing.	—	—
3.0–3.9	III	Felt quite noticeable in doors, especially on upper floors of building, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck. Duration estimated.	—	0.0035–0.007 g
4.0–4.5	IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensations like heavy truck striking building. Standing cars rocked noticeably.	1–3	0.015–0.035 g
4.6–4.9	V	Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	3–7	0.035–0.07 g
5.0–5.5	VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.	7–20	0.07–0.15 g
5.6–6.4	VII	Everyone runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	20–60	0.15–0.35 g
6.5–6.9	VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monument walls, and heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving in cars disturbed.	60–200	0.35–0.7 g

Table 4.5-2 (Cont.): Modified Mercalli Intensity Scale

Richter Magnitude	Modified Mercalli Intensity	Effects	Average Peak Ground Velocity (centimeters/second)	Average Peak Acceleration
7.0–7.4	IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	200–500	0.7–1.2 g
7.5–7.9	X	Some well-built structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Railway lines bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, sloped over banks.	≥ 500	>1.2 g
8.0–8.4	XI	Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent gently.		
≥ 8.5	XII	Total damage. Waves seen on ground. Lines of sight and level distorted. Objects thrown into the air.		
Source: United States Geologic Survey.				

Ground Failure

Ground failure includes liquefaction and the liquefaction-induced phenomena of lateral spreading, and lurching.

Liquefaction is a process by which sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure, and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid rather than a solid, resulting in liquefaction.

Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity. This loss of strength commonly causes the structure to settle or tip. Loss of bearing strength can also cause light buildings with basements, buried tanks, and foundation piles to rise buoyantly through the liquefied soil.

Lateral spreading is lateral ground movement, with some vertical component, as a result of liquefaction. In effect, the soil rides on top of the liquefied layer. Lateral spreading can occur on relatively flat sites with slopes less than 2 percent, under certain circumstances, and can cause ground cracking and settlement.

Lurching is the movement of the ground surface toward an open face when the soil liquefies. An open face could be a graded slope, stream bank, canal face, gully, or other similar feature.

Landslides and Slope Failure

Landslides and other forms of slope failure form in response to the long-term geologic cycle of uplift, mass wasting, and disturbance of slopes. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides and rock fall—processes that are commonly triggered by intense precipitation, which varies according to climactic shifts. Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil.

Geologists classify landslides into several different types that reflect differences in the type of material and type of movement. The four most common types of landslides are translational, rotational, earth flow, and rock fall. Debris flows are another common type of landslide similar to earth flows, except that the soil and rock particles are coarser. Mudslide is a term that appears in non-technical literature to describe a variety of shallow, rapidly moving earth flows.

Project Site

The project site is composed of four parcels located on all four quadrants of the intersection of Bollinger Canyon Road and Camino Ramon. A description of the existing conditions on each parcel is provided below.

Existing Site Conditions

Parcel 1A

Parcel 1A consists of 14.27 acres of developed parking areas and undeveloped land. The developed parking areas are associated with the existing Bishop Ranch 1 office complex and are characterized as at-grade, asphalt-paved with landscaped islands. The undeveloped land is characterized by flat relief and ruderal vegetation, and contains fill imported from other nearby parcels that have been developed. Ornamental landscaping surrounds the undeveloped land on all four sides.

Parcel 1B

Parcel 1B consists of 3.52 acres of a developed parking area associated with Bishop Ranch 1. The parking area is characterized as at-grade, asphalt-paved with landscaped islands. Ornamental landscaping surrounds the parcel on the west, north, and east sides.

Parcel 2

Parcel 2 consists of the existing 14.57-acre, Bishop Ranch 2 office complex. Bishop Ranch 2 contains 194,652 square feet of office space spread among four, multi-story office structures with an interior turf courtyard landscaped area. Parking areas are located around the perimeter of the parcel and are characterized as at-grade, asphalt-paved areas with landscaped islands. Ornamental landscaping surrounds the parcel on all four sides.

Parcel 3A

Parcel 3A is an 11.29-acre, undeveloped parcel containing ruderal vegetation. A storage container surrounded by fencing is located in the eastern portion of the parcel. The parcel contains fill imported from other nearby parcels that have been developed. Ornamental landscaping is present along its frontage with Camino Ramon.

Onsite Soils

Five soil types are found on the four parcels comprising the project site and are summarized in Table 4.5-3. Exhibit 4.5-2 shows the soil mapping for the project site.

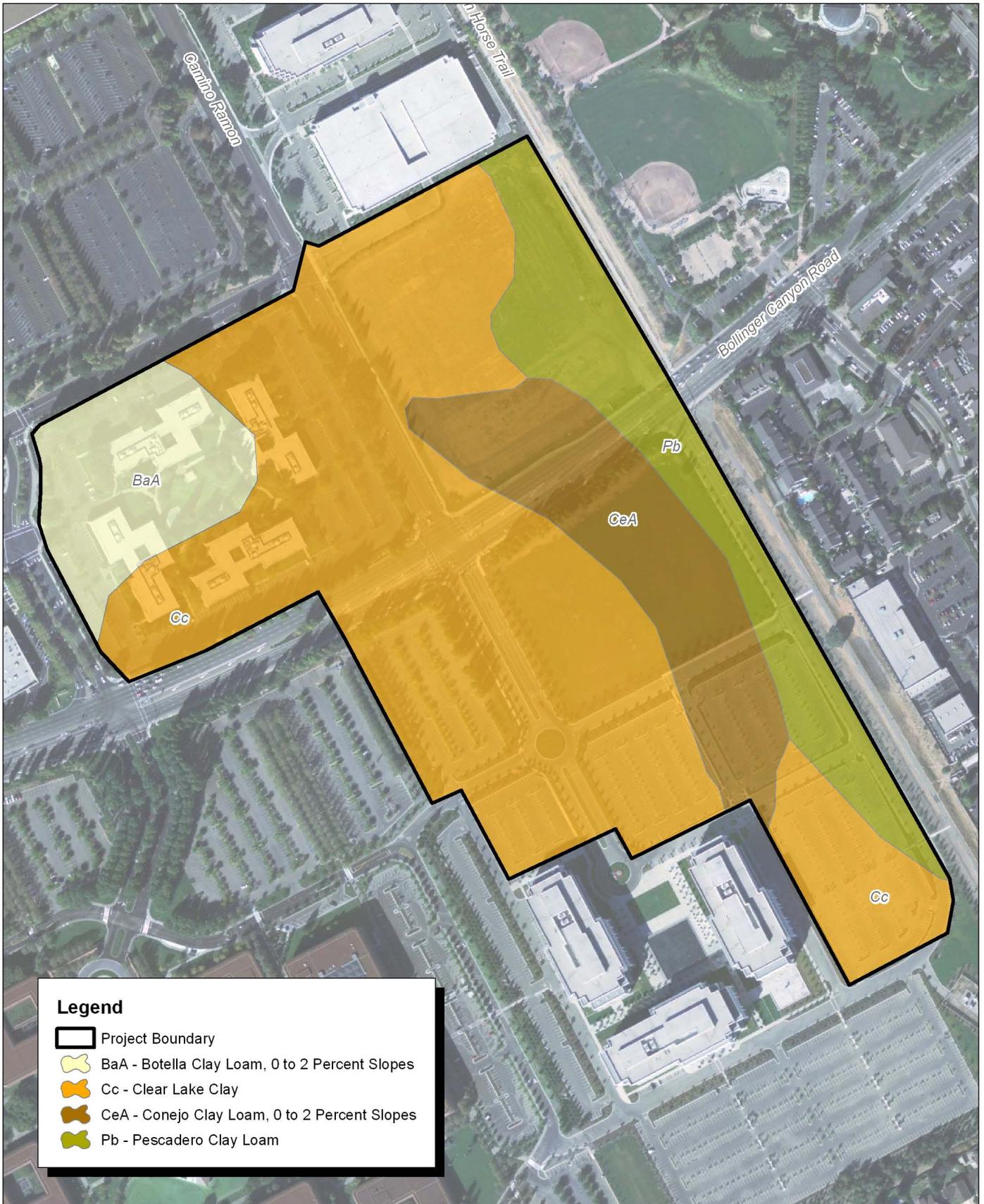
Table 4.5-3: Soil Type by Parcel

Parcel	Soils
1A	Clear Lake Clay, Conejo Clay Loam, Pescadero Clay Loam, and fill
1B	Clear Lake Clay
2	Botella Clay Loam and Clear Lake Clay
3A	Clear Lake Clay, Conejo Clay Loam, Pescadero Clay Loam, and fill
Source: MACTEC Engineering and Consulting, Inc., 2007; Natural Resources Conservation Service, 2007.	

A summary of soil properties for the onsite soils is provided in Table 4.5-4. As shown in the table, soils onsite have low or moderate erosion potentials and moderate to very slow infiltration rates. Soils have a relatively high clay content indicating a high shrink-swell potential and, therefore, are considered expansive soils.

Table 4.5-4: Soil Properties Summary

Soil	Soil Surface Texture	Infiltration Rate	K-Factor	pH	Percent of Clay
Botella Clay Loam	Clay Loam	Moderate	0.24	6.7	32.5
Clear Lake Clay	Clay	Very Slow	0.20	7.6	48.7
Conejo Clay Loam	Clay Loam	Slow	0.20	6.7	31.0
Pescadero Clay Loam	Clay Loam	Very Slow	0.28	8.4	42.6



Source: Terraserver and USDA Soils (NRCS).



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Exhibit 4.5-2 USDA Soils Map

Table 4.5-4 (Cont.): Soil Properties Summary

Soil	Soil Surface Texture	Infiltration Rate	K-Factor	pH	Percent of clay
Notes: K-Factor = Measurement of soil erodibility: values of less than 0.25 indicate low erosion potential; values of 0.25–0.40 indicate moderate erosion potential; values above 0.40 indicate high erosion potential. Infiltration rate is an indicator of the runoff rate of a soil when not protected by vegetation, thoroughly wet, and receives precipitation from storms of long duration. The slower the infiltration rate, the higher the runoff rate. Source: Natural Resources Conservation Service Website, 2007.					

Laboratory Testing

Laboratory results from previous geotechnical reports for the project site and adjacent properties were referenced in preparing the Geotechnical Report. Soil samples from all four parcels had previously been tested and the results were reviewed to determine the types of soil present and relative properties of the soil for the Geotechnical Report. The Geotechnical Report, bore logs, and selected laboratory results are included in this EIR as Appendix D. Testing included evaluations of dry density and moisture content, particle size analysis, soil corrosivity, pH, sulfate, chloride, resistivity, Atterberg limits, R-value, consolidation test, and Modified Proctor Compaction. The properties of the soil on all four parcels were similar. The key testing results are summarized below and are consistent with the soil characteristics in the above table.

- Soil expansion potential is moderate.
- Soils have a relatively high clay content.
- Soils have low liquefaction and densification potential have a relatively low settlement potential.
- Soils are relatively compressible.
- Soil characteristics related to pH, electrical conductivity, redox potential, and chloride concentration indicate that the soils are corrosive to very corrosive to buried metal.
- Soil characteristics related to sulfate concentration indicate that the soils potential to corrode buried concrete is negligible.
- According to the Geotechnical Report, from an engineering standpoint, the project site is suitable for the development described.

Groundwater

Groundwater levels, determined from previous borings, varied from 7 to 20 feet below ground surface. Groundwater is discussed further in Section 4.7, Hydrology.

4.5.3 - Regulatory Framework

Federal

Clean Water Act § 402

Clean Water Act (CWA) § 402 mandates that certain types of construction activity comply with the requirements of Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) stormwater program. Construction activities that disturb one or more acres of land must obtain coverage under the NPDES general construction activity stormwater permit, which is issued by San Francisco Regional Water Quality Control Board (RWQCB). Obtaining coverage under the NPDES general construction activity stormwater permit generally requires that the project applicant complete the following steps:

- File a Notice of Intent with RWQCB that describes the proposed construction activity before construction begins.
- Prepare a Storm Water Pollution Prevention Plan (SWPPP) that describes Best Management Practices (BMPs) that will be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction.
- File a notice of termination with RWQCB when construction is complete and the construction area has been permanently stabilized.

State

Alquist-Priolo Earthquake Fault Zoning Act

In response to the severe fault rupture damage of structures by the 1971 San Fernando earthquake, the State of California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This act required the State Geologist to delineate Earthquake Fault Zones (EFZs) along known active faults that have a relatively high potential for ground rupture. Faults that are zoned under the Alquist-Priolo Act must meet the strict definition of being "sufficiently active" and "well-defined" for inclusion as an EFZ. The EFZs are revised periodically, and they extend 200 to 500 feet on either side of identified fault traces. No structures for human occupancy may be built across an identified active fault trace. An area of 50 feet on either side of an active fault trace is assumed to be underlain by the fault, unless proven otherwise. Proposed construction in an EFZ is permitted only following the completion of a fault location report prepared by a California Professional Geologist.

California Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, sets forth minimum requirements for building design and construction. The California Building Standards Code is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by State agencies without change from building standards contained in national model codes

- Building standards that have been adopted and adapted from the national model code standards to meet California conditions
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns

In the context of earthquake hazards, the California Building Standards Code's design standards have a primary objective of assuring public safety and a secondary goal of minimizing property damage and maintaining function during and following seismic events. Recognizing that the risk of severe seismic ground motion varies from place to place, the California Building Standards Code seismic code provisions will vary depending on location (Seismic Zones 0, 1, 2, 3, and 4; with 0 being the least stringent and 4 being the most stringent).

Regional Water Quality Control Board

The RWQCB regulates State water quality standards in the San Ramon area. Beneficial uses and water quality objectives for surface water and groundwater resources in the project area are established in the water quality control plans (basin plans) of each RWQCB as mandated by the State Porter-Cologne Act and the CWA. The RWQCBs also implement CWA Section 303(d) total maximum daily load (TMDL) process, which consists of identifying candidate water bodies where water quality is impaired by the presence of pollutants. The TMDL process is implemented to determine the assimilative capacity of the water body for the pollutants of concern and to establish equitable allocation of allowable pollutant loading within the watershed. Section 401 of the CWA requires an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant to obtain a water quality certification (or waiver) from the applicable RWQCB.

The RWQCBs primarily implement basin plan policies through issuing waste discharge requirements for waste discharges to land and water. The RWQCBs are also responsible for administering the NPDES permit program, which is designed to manage and monitor point and nonpoint source pollution. NPDES stormwater permits for general construction activity are required for projects that disturb more than one acre of land. Municipal NPDES stormwater permits are required for urban areas with populations greater than 100,000. The Contra Costa Clean Water Program administers municipal NPDES permitting in San Ramon. The City must comply with the provisions of the permit by ensuring that, among other things, new development and redevelopment projects mitigate, to the maximum extent practicable, water quality impacts to stormwater runoff during the project's construction and operational periods.

The general NPDES stormwater permits for general construction activities require the applicant to file a Notice of Intent (NOI) to discharge stormwater with the RWQCB and to prepare and implement an SWPPP. The SWPPP would include a site map, description of stormwater discharge activities, and a list of BMPs that would be employed to prevent water pollution. It must describe BMPs that would be used to control soil erosion and discharges of other construction-related pollutants (e.g., petroleum

products, solvents, paints, cement) that could contaminate nearby water resources. It must demonstrate compliance with local and regional erosion and sediment control standards, identify responsible parties, provide a detailed construction timeline, and implement a BMP monitoring and maintenance schedule.

Local

City of San Ramon General Plan

The City of San Ramon General Plan establishes the following policies related to geology, soils, and seismicity:

- **Policy 9.1-I-1:** Review proposed development sites at the earliest stage of the planning process to locate any potential geologic or seismic hazards.
- **Policy 9.1-I-4:** Require comprehensive geologic and engineering studies of critical structures regardless of location.
- **Policy 9.1-I-5:** Require geotechnical field review during the construction phase of any new development.
- **Policy 9.1-I-6:** Require preparation of a soils report as part of the development review and/or building permit process.
- **Policy 9.1-I-10:** Control erosion of graded areas with revegetation or other acceptable methods.

San Ramon City Code

The San Ramon City Code Division C7 establishes requirements related to grading and erosion control. The division sets forth rules and regulations to control excavation, grading, and earthwork construction, including fills and embankments, and establishes administrative requirements for issuance of permits and approval of plans and inspection of grading construction in accordance with the requirements for grading and excavation. All projects within the City limits involving earthwork activities must obtain a grading permit and adhere to the requirements stipulated in the City Code.

4.5.4 - Methodology

MACTEC Engineering and Consulting, Inc. performed a geotechnical evaluation of the project site and summarized its findings in the Preliminary Geotechnical Investigation Report, dated May 31, 2007. The Geotechnical Report included a literature review of regional geology, faults, and seismic hazards, as well as the review of previous laboratory testing results of soils on the project site to analyze the subsurface profile of the site. Previous studies reviewed in the MACTEC report included the following:

- Geotechnical Investigation at Chevron/Texaco Campus Lots 16, 20, and 21 of the Bishop Ranch Business Park; prepared by Kleinfelder, Inc., dated June 9, 2005

- Preliminary Geotechnical Exploration, San Ramon City Center; prepared by ENGEO Incorporated, dated March 29, 2001
- Geotechnical Investigation, Bishop Ranch 1 Development, Bishop Ranch Business Park; prepared by Harding Lawson Associates, dated May 15, 2000
- Geotechnical Investigation, Bishop Ranch 1 Development, Bishop Ranch Business Park; prepared by Harding Lawson Associates, dated October 6, 1986
- Soil Investigation, Bollinger Business Center, Bishop Ranch; prepared by Harding Lawson Associates, dated April 6, 1982

The studies listed above included laboratory testing of soils on the parcels comprising the project site and on neighboring properties considered representative of the project site. Laboratory tests performed are listed below. The laboratory testing data sheets are contained in Appendix D.

- Unconfined Compression Strength (ASTM D2216)
- Particle Size Analysis (ASTM D422)
- Atterberg Limits (ASTM D4318)
- Expansion Index (UBC 29-2)
- Consolidation/Swell Test (D2435, and D4546)
- Direct Shear (modified ASTM D3080)
- Modified Proctor Compaction (ASTM D1557)
- R-Value - Caltrans Method 301 (ASTM D2844)
- Soil Corrosivity, Redox, pH, Conductivity, Sulfide, Chloride, and Sulfate (ASTM D1498, D4972, D1125Mod, G57m D4658Mod, and D4327)
- Natural Unit Weight and Moisture Content
- Unconfined Compression Test (ASTM D2166)

4.5.5 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to geology and soils are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a.) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i. 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.
- ii. Strong seismic ground shaking?
 - iii. Seismic-related ground failure, including liquefaction?
 - iv. Landslides?
- b.) Result in substantial soil erosion or the loss of topsoil?
 - c.) 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?
 - d.) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
 - e.) 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? (Refer to Section 7, Effects Found Not To Be Significant.)

4.5.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Seismic Hazards

Impact GEO-1: The proposed project would not expose persons or structures to seismic hazards.

Impact Analysis

The project site is located in an area of high seismicity, as is all of the San Francisco Bay Area. Potential seismic hazards include fault rupture, strong ground shaking, ground failure, and landsliding. The geotechnical report evaluated the potential for these seismic hazards, and the findings are summarized below.

Fault Rupture

The project site is not within an Alquist-Priolo Earthquake Fault Zone. In addition, no known faults cross the project site or are oriented toward the project site. This condition precludes the possibility of fault rupture occurring on the project site. No impacts would occur.

Seismic Ground Shaking

A major seismic event on one of the faults listed in Table 4.5-1 may result in strong ground shaking on the project site. To reduce the potential for exposure of persons and property to harm, the proposed project would be required to meet the applicable seismic design standards of Seismic Zone 4 of the California Building Standards Code. As noted above, these design standards

correspond to the level of seismic risk in a given location and are intended primarily to protect public safety and secondly to minimize property damage. Compliance with the seismic design standards of the California Building Standards Code would ensure that potential impacts are less than significant.

Seismic-Related Ground Failure

The Geotechnical Report indicated some saturated sand layers and lenses are present below the site. However, the project site has a low susceptibility for seismic-related ground failure, including liquefaction and liquefaction-related phenomena, because the underlying sand units are relatively thin, discontinuous, and contain appreciable concentrations of fine-grain material components. While the likelihood of seismic-related ground failure is low, the proposed project would comply with all applicable California Building Standards Code seismic design standards. Compliance with these standards would ensure that the proposed structures would not expose persons to seismic-related ground failure hazards.

Landslides

The project site and immediate vicinity is characterized by flat relief with slopes of less than 5 percent. This condition precludes the possibility of earthquake-induced landsliding occurring onsite. No impacts would occur.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Soil Erosion or Topsoil Loss

Impact GEO-2: The proposed project may result in substantial erosion or loss of topsoil.

Impact Analysis

The proposed project would require extensive grading and excavation. During these activities, there would be the potential for surface water to carry sediment from onsite erosion into the stormwater system and local waterways. Soil erosion may occur along project boundaries during construction in areas where temporary soil storage is required. As noted in Table 4.5-4, all four soil types mapped on the project site have moderate or low erosion potential. Nonetheless, the potential for erosion hazards associated with construction activities exists.

Construction activities associated with the proposed project would involve vegetation removal, grading, and excavation activities that could expose barren soils to sources of wind or water, resulting in erosion and sedimentation on and off the project site. NPDES Phase II stormwater permitting programs regulate stormwater quality from construction sites, which includes erosion and

sedimentation. Under the NPDES permitting program, the preparation and implementation of SWPPPs are required for construction activities more than one acre in size. The SWPPP must identify potential sources of erosion or sedimentation that may be reasonably expected to affect the quality of stormwater discharges as well as identify and implement BMPs that ensure the reduction of these pollutants during stormwater discharges. Typical BMPs intended to control erosion include sand bags, detention basins, silt fencing, landscaping, hydroseeding, storm drain inlet protection, street sweeping, and monitoring of water bodies.

Prior to construction grading, the applicant must file a NOI to comply with the General NPDES Permit issued to the RWQCB and prepare the SWPPP, which addresses the measures that would be included in the project to minimize and control construction and post-construction runoff to the “maximum extent practicable.” In addition, the proposed project would be required to comply with the City Code requirements pertaining to grading and excavation.

These requirements have been incorporated into the proposed project as mitigation. The implementation of the above requirements (including the preparation and implementation of an SWPPP and compliance with City Code requirements) would reduce potential construction-related erosion impacts to a level of less than significant.

The proposed project would result in the coverage of the project site with impervious surfaces and landscaping, which would eliminate the potential for erosion to occur once the project has been completed.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Refer to Mitigation Measures HYD-1a and HYD-1b in Section 4.7, Hydrology and Water Quality.

Level of Significance After Mitigation

Less than significant impact.

Unstable Geologic Units or Soils

Impact GEO-3: **The project site contains fill of unknown origin that may be unable to adequately support structures associated with the proposed project if left unmitigated.**

Impact Analysis

The Geotechnical Report indicated that Parcels 1A and 3A contain fill imported from nearby parcels that have been developed. The Geotechnical Report could not determine its vertical and lateral extent, placement, or composition, and, therefore, concluded that its engineering properties were unknown and would require further evaluation prior to grading. If left unabated, the fill may be unsuitable for development and may be susceptible to subsidence or collapse. Mitigation is proposed that would require the project applicant to conduct an *in situ* site investigation on Parcels 1A and 3A

prior to grading and incorporate the recommendations of the investigation into the project. This mitigation would reduce potential impacts to a level of less than significant.

The Geotechnical Report also indicated that onsite soils are relatively compressible. Because of the compressible soils, some building structural loads could settle excessively if supported by shallow spread footings. If left unabated, this could expose persons and structures to settlement hazards. Mitigation is proposed that would require the project applicant to retain an engineer to design a foundation system to adequately support the proposed project's structures and implement the design requirements into the proposed project. This mitigation would reduce potential impacts to a level of less than significant.

In addition, because of uncertainties about subsurface conditions in previously unexplored areas, the extent and nature of the fill on Parcel 1A, the suitability for foundation piles, and groundwater levels, mitigation is proposed that would require additional geotechnical investigations of these issues. The recommendations of these additional geotechnical investigations shall be incorporated into the project design. This mitigation would reduce potential impacts to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM GEO-3a** Prior to the commencement of grading activities, the project applicant shall retain a qualified geotechnical consultant to test the existing imported fill soils on Parcels 1A and 3A to determine their *in situ* compaction and suitability for excavation and reuse as engineered fill. Soil testing can be avoided if the applicant elects to remove the fill and place it either in areas where it will not support buildings or in paved areas (i.e., landscaped areas) or dispose of it offsite.
- MM GEO-3b** Prior to the commencement of building construction, the project applicant shall retain a qualified engineer to design a foundation system adequate to support the proposed project's structures. Based on the recommendations of the Geotechnical Report, the foundation should be pile-supported. Pile types may include, but are not limited to, driven, drilled, cast-in-place, concrete piers, or auger cast-in-place concrete piles. Settlement analysis shall be performed once the structural design loads and foundation system geometry have been defined for each building. This mitigation measure does not preclude the use of structural raft foundations or a mix of deep and shallow foundations, provided that detailed design analysis has been conducted to verify the suitability of these foundations.
- MM GEO-3c** Prior to the commencement of grading activities, the project applicant shall retain a qualified geotechnical consultant to perform additional geotechnical investigations.

The recommendations of these additional investigations shall be incorporated into the project design. Additional geotechnical investigations shall determine:

- The subsurface conditions in areas not previously investigated
- The nature and extent of the stockpiled soils (undocumented fill) on Parcel 1A
- Deeper soil data to support the analysis of longer and higher-capacity piles
- Current information regarding depths to groundwater for buildings that will have full-depth basements

Level of Significance After Mitigation

Less than significant impact.

Expansive Soils

Impact GEO-4: **The project site contains moderately expansive soils that may create substantial risks to life or property if left unmitigated.**

Impact Analysis

The Geotechnical Report indicated that moderately expansive clay soils are present on the project site. These soils have shrink-swell properties that may expose buildings to structural damage if left unabated. The Geotechnical Report recommended that clay soils with expansive properties be either tested to determine their adequacy for supporting structures or removed. This has been incorporated into the proposed project as mitigation. The implementation of this mitigation measure would reduce expansive soils impacts to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-4a Prior to the commencement of grading activities, the project applicant shall retain a qualified geotechnical consultant to test the existing onsite expansive clay soils on Parcels 1A and 3A to determine their *in situ* compaction and suitability for excavation and reuse as engineered fill. Soil testing can be avoided if the applicant elects to remove the expansive clay soils and place them in areas where they will not support buildings or paved areas (i.e., landscaped areas) or dispose of them offsite. This mitigation measure does not preclude the use of lime treatment, provided that detailed design analysis has been conducted to verify the suitability of this approach.

Level of Significance After Mitigation

Less than significant impact.

4.6 - Hazards and Hazardous Materials

4.6.1 - Introduction

This section describes the existing setting regarding hazards and hazardous materials and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Phase I Environmental Site Assessment, prepared in June 2007 by Michael Brandman Associates, included in this EIR as Appendix E.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. The General Plan EIR contemplated buildout of the General Plan at a programmatic level and concluded that all impacts related to hazards and hazardous materials were less than significant after mitigation in Section 4.9 of the document. The City Civic Center EIR provided project-level analysis of the smaller and less intense City Civic Center project and scoped out the hazards and hazardous materials topical area and its associated issues during the Initial Study/Notice of Preparation process as effects found not to be significant. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

This DSEIR accounts for modifications to the baseline conditions that have occurred since certification of the previous EIRs and changes that have increased the size and intensity of the proposed project. Accordingly, not all of the conclusions in the previous EIRs are applicable to the proposed project, and new analysis is provided for potential impacts not previously considered in those documents.

4.6.2 - Environmental Setting

Hazardous Materials

Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic (causes human health effects)
- Ignitable (has the ability to burn)
- Corrosive (causes severed burns or damage to materials)
- Reactive (causes explosions or generates toxic gases)

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. If improperly handled, hazardous materials and hazardous waste can result in public health hazards if

released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Record Search

A search of federal, State, and local databases by Environmental Data Resources, Inc. (EDR) that list contaminated sites, Brownfield sites (a development site having the presence or potential presence of a hazardous substance, pollutant, or contaminant), underground storage tank (UST) sites, waste storage sites, toxic chemical sites, contaminated well sites, clandestine drug lab sites, and other sites containing hazardous materials yielded multiple sites within 1 mile of the project. The project site was not listed on any databases. There were several surrounding sites in the project area. The sites within 0.25 mile of the four parcels comprising the project site are summarized in Table 4.6-1.

Table 4.6-1: Recorded Sites Near the Project Site

Name	Location	Database(s)
AT&T campus	2600 Camino Ramon	RCRAInfo CESQGs; UST; HIST UST; SL; SWEEPS
Chevron Park	6001 Bollinger Canyon Road	RCRAInfo CESQGs, SL; SWEEPS
San Ramon Valley Fire Station	12599 Alcosta Boulevard	UST; SL Cortese; LUST
Valero Gas Station	1091 Market Place	Cortese; LUST; SWEEPS
Marriott Hotel	2600 Bishop Drive	UST; SL; SWEEPS
Bishop Ranch 3	2623 Camino Ramon	SL
Target	2610 Bishop Drive	SL
Bishop Ranch 1	6111 Bollinger Canyon Road	SL
Orchard Supply Hardware	1041 Market Place	SL
Green Valley Cleaners	1021 Market Place	SL
Longs Drug Store	490 Market Place	SL; DRYCLEANERS

Notes:

RCRAInfo: United States Environmental Protection Agency (EPA) comprehensive database for data supporting the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments. Includes sites that generate, transport, store, treat, and/or dispose of hazardous waste. Conditionally exempt small quantity generators (CESQGs) that generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

CORTESE: Database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known migration.

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents.

UST: The Underground Storage Tank database contains registered USTs, regulated under Subtitle I of RCRA.