DRAFT
Initial Study/Mitigated Negative Declaration
Maffeo Subdivision Project
City of Brentwood, Contra Costa County, California

Prepared for:
City of Brentwood

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Report Date: April 1, 2015

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SECTION 1: INTRODUCTION

1.1 - Purpose

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to identify any potential environmental impacts from implementation of the Maffeo Subdivision Project (project) in Brentwood, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Brentwood (City) is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the project. The City has discretionary authority over the project. The intended use of this document is to determine the level of environmental analysis required to adequately prepare the project IS/MND and to provide the basis for input from public agencies, organizations, and interested members of the public.

The remainder of this section provides a brief description of the project location and the characteristics of the project. Section 2 includes an environmental checklist giving an overview of the potential impacts that may result from project implementation. Section 2 also elaborates on the information contained in the environmental checklist, along with justification for the responses provided in the environmental checklist.

1.2 - Project Location

The project site consists of a single parcel (assessor's parcel number 018-110-008) located approximately 650 feet south of the intersection of Smith Road and O'Hara Lane in the City of Brentwood, Contra Costa County, California (Exhibit 1). The 9.10-acre project site consists of undeveloped agricultural property. The site is surrounded by a single-family residential subdivision (west), undeveloped land planned for a future residential subdivision (north); an under-construction single-family residential subdivision (east), and the Contra Costa County flood control channel, Mokelumne Coast to Crest Trail; and a single-family residential subdivision (south) (Exhibit 2).

1.3 - Environmental Setting

1.3.1 - Existing Conditions and Historical Use

The project site contains flat undeveloped agricultural land and is approximately 80 feet above mean sea level. Historical aerial photographs indicate that the property was previously developed as orchards from approximately 1966 to 1993, resulting in the site being dominated by disturbed soils. Dense, 2-to 3-foot blooming mustard dominated the entire project area at the time of the survey; there was no ground surface visibility. No permanent structures were observed within the project site during the survey nor were any observed during the historical aerial review. The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) designates the project site as "Grazing Land."

1.3.2 - General Plan and Zoning Designations

The project site is designated as Residential - Low Density (R-LD) by the City of Brentwood General Plan and is zoned as R-1-E (Single-Family Residential Estate) by the City of Brentwood Zoning Ordinance.

1.4 - Project Description

The project consists of developing 27 single-family residences on the 9.10-acre site (Exhibit 3). Resulting density would be 2.97 dwelling units per acre. The residences would consist of one- and two-story wood-frame structures, with floor plans for four- and five-bedroom units ranging from 2,833 to 3,909 square feet on lots of approximately 8,000 to 10,000 square feet. The residences would exhibit Italian and Craftsman-inspired architectural elevations with tile roofing. Elevations of each of the four building styles are provided in Exhibit 4.

Primary vehicular access would be provided by the extension of Banbury Way from the east and two connections to the future subdivision to the north. Internal circulation would be provided by a network of streets, including an extension of the current terminus of Banbury Way. Two internal north/south oriented streets, extending to the northern boundary of the project site, would allow for future extension when the property to the north is developed. In total, three points of access would be provided: O'Hara Lane, Bond Lane, and Banbury Way; as shown in Exhibit 3, the project streets will be constructed to connect to the adjacent Mangini Project street system design. Typical internal street widths would consist of two 10-foot travel lanes, two 8-foot parking lanes, vertical curb and gutters, a landscape strip, and 5-foot-wide sidewalks on each side. The O'Hara Lane extension would consist of two 12-foot travel lanes and an 8-foot-wide parking margin, and a 5-foot-wide sidewalk on the southern side of the street.

The project design includes the following sustainability features to reduce energy use and environmental impacts:

- Energy-efficient, dual glazed, low-emissivity glass, vinyl-frame windows
- Tankless water heaters
- Water efficient landscaping
- Ceiling fans
- Fluorescent lighting
- Build it Green© certified
- On-site stormwater bioretention basins

The site currently has no impervious surfaces. Development of the project would include approximately 5.6 acres of new impervious area. Stormwater from these surfaces would be collected in one bioretention basin located at the eastern portion of the project site along Banbury Way that would treat water before discharging it into the existing stormwater drain connections on O'Hara Lane/Big Basin Drive and Banbury Way.

Construction is anticipated to begin as early as July 2015 and would be completed within 19 months.

Source: Census 2000 Data, The CaSIL, FCS GIS 2014.

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Exhibit 1
Regional Location Map

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Source: ESRI Imagery

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1,000 500 0 1,000 Feet

Exhibit 2
Project Vicinity Map
Aerial Base

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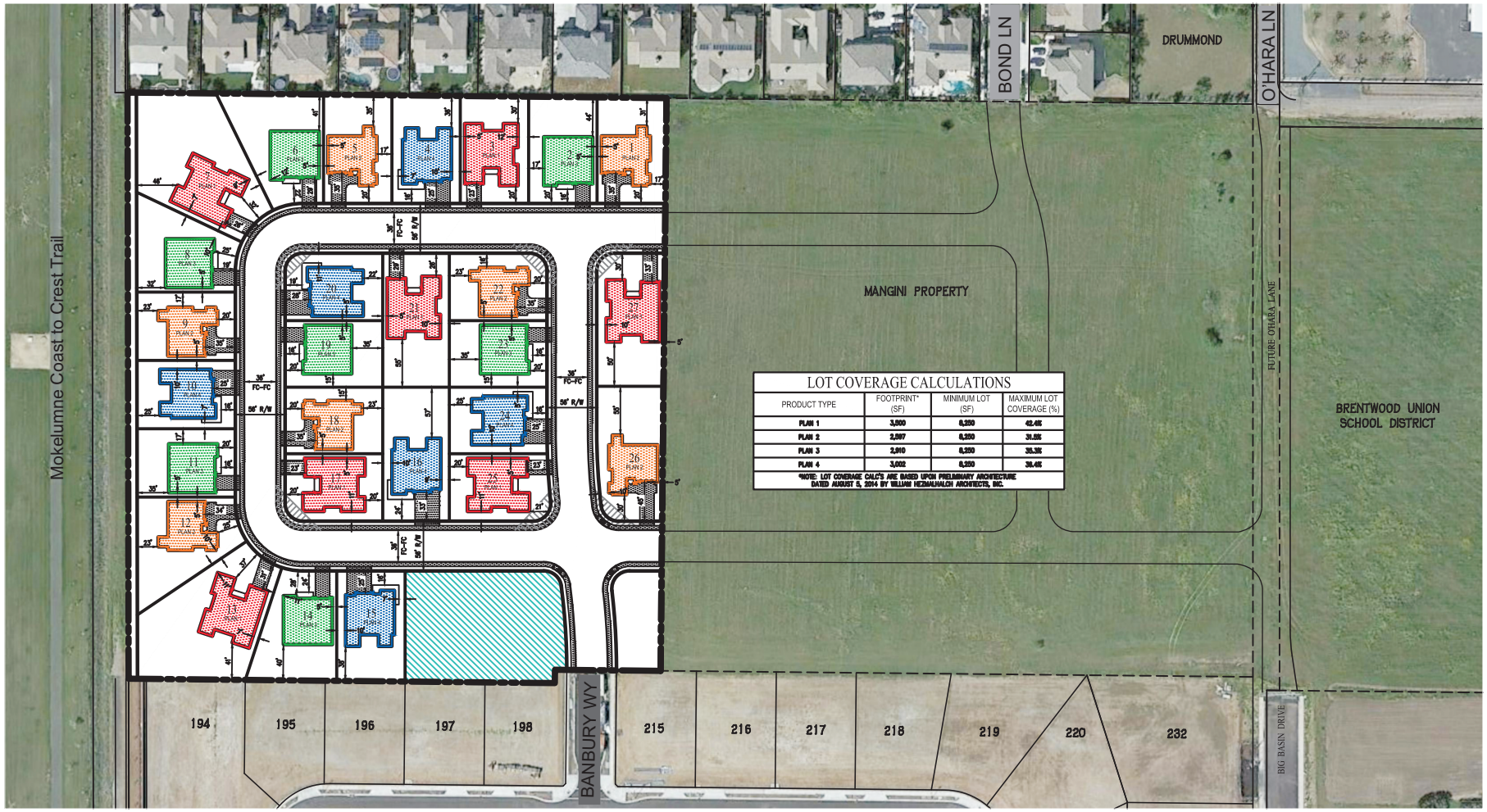

Source: cbg 2014

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200 100 0 200 Feet

Exhibit 3
Site Plan

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Plan 4D
Traditional

Plan 3B (Reverse)
Bungalow

Plan 2C
Cottage

Plan 1A(Reverse)
Santa Barbara

Source: William Hezmalhalch Architects, Inc., November 2014.

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Exhibit 4
Typical Building Elevations

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Rezone

The project includes a proposed rezone to PD (Planned Development). One of the purposes of the PD zone is to allow variations in development standards to accommodate site-specific conditions and objectives. In the case of the Maffeo project, the site's General Plan land use designation allows a density range of 1.1 to 5.0 units per acre, while the existing R-1-E (Single-Family Residential Estate) zoning permits a maximum of 2.0 units per acre and conditionally permits up to 3.0 dwelling units per acre. The project's density would be 2.97 dwelling units per acre, which is above the maximum allowed under the existing zoning. The rezoning to PD would allow the density to be increased, while remaining well within the boundaries established by the General Plan for the site.

1.5 - Required Discretionary Approvals

The project would require the following discretionary approvals from the City of Brentwood:

- Rezone
- Tentative Map
- Certification of IS/MND
- Architectural and Site Plan Review

The project would also require ministerial approval of grading and building permits from the City of Brentwood.

1.6 - Intended Uses of this Document

This IS/MND has been prepared to disclose and evaluate the potential environmental impacts of the project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the project. The IS/MND will be circulated for a minimum of 20 days, during which period comments concerning the analysis contained in the IS/MND should be sent to:

Debbie Hill, Associate Planner
Community Development Department
City of Brentwood
150 City Park Way
Brentwood, CA, 94513
Telephone: 925.516.5135
Email: dhill@brentwoodca.gov

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SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected					
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.					
☐	Aesthetics	☐	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology/Soils
☐	Greenhouse Gas Emissions	☐	Hazards/Hazardous Materials	☐	Hydrology/Water Quality
☒	Land Use/Planning	☐	Mineral Resources	☒	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☒	Transportation/Traffic	☐	Utilities/Services Systems	☒	Mandatory Findings of Significance

Environmental Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: 4/1/15 Signed: Debra J. Hall

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Aesthetics *Would the project:*				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Evaluation

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No impact. Policy COS-7.3 of the Brentwood General Plan aims to preserve and protect scenic resources including Mount Diablo, local hills and ridgelines, and open space areas surrounding Brentwood. The City considers community visual access and view corridors when reviewing development proposals. Mount Diablo is visible to the southwest of the project site. The Mokelumne Coast to Crest Trail is located south of the project site, thus the proposed residential development would not obstruct views of Mount Diablo from pedestrians utilizing the trail. Proposed residences would be consistent in height and character with surrounding residential land uses and would not obstruct the views of Mount Diablo or other surrounding hills as seen from any nearby public viewing locations, such as Seedling Park, Wheatfield Park, Caboose Park, Blue Goose Park, Portofino Park, Big Basin Park, or the future Dolphin Park. No impacts would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact. The nearest highway to the project site is State Route 4 (SR-4), which is located approximately 1.8 miles to the west. According to the Caltrans California Scenic Highway Mapping System, SR-4 is not officially designated as a scenic highway but is eligible for such designation. The nearest designated scenic highway is Interstate 680 (I-680), which is approximately 17 miles southwest of the project site. The City of Brentwood General Plan does not identify any scenic

routes. The Contra Costa County General Plan designates Walnut Boulevard as a Scenic Route and Brentwood Boulevard as a scenic expressway; however, both designated segments are located more than 2 miles to the south of the project site. The project site is not visible from SR-4, I-680, Walnut Boulevard, or Brentwood Boulevard because of distance and intervening structures. Furthermore, the project would be visually consistent with the surrounding existing residential development. No impact would occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than significant impact. The project site currently contains relatively flat undeveloped fallow land and is surrounded by a single-family residential subdivision, undeveloped land planned for a future residential subdivision, an under-construction single-family residential subdivision, and the Contra Costa County flood control channel, the Mokelumne Coast to Crest Trail, and a single-family residential subdivision. The project would create 27 new residences, resulting in a potential population increase of approximately 87 people (average household size 3.22 x 27 new residences) and representing an approximately 0.2-percent increase in city population. According to the Association of Bay Area Government's (ABAG's) projections, the City is projected to increase by 8,619 persons between 2010 and 2040 to a population of 60,610. This represents an increase of 17 percent over 30 years and therefore supports denser development such as that of the project (City of Brentwood 2013).

The project would consist of a mixture of four proposed housing plans, with backyards adjoining the surrounding residences. The lot sizes and building heights have been specifically designed to be consistent with Brentwood Design Guidelines, as well as the surrounding existing residential uses. The residences would exhibit craftsman-inspired architectural detailing. The project is currently going through architectural and site plan review. As such, the project would be consistent with the existing visual character of the surrounding residential area and would not substantially degrade the visual character of the project site or it surroundings. Impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant impact. The project would include exterior lighting consistent with single-family residential land use. Such lighting typically has low light intensity and would be similar in character to existing residential lighting in the area. The project would comply with all applicable City regulations and design review procedures to reduce light and glare impacts. Therefore, impacts associated with light or glare would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Agriculture and Forestry Resources *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Environmental Evaluation

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No impact. The Farmland Mapping and Monitoring Program (FMMP) has designated the project site as "Farmland of Local Importance." Farmland of Local Importance is defined as land of importance

to the local economy and is either currently producing or has the capability of production. The project site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and therefore would not convert these types of lands to non-agricultural use. Additionally, the Brentwood General Plan has designated the project site as "Low Density Residential," indicating that the General Plan EIR already evaluated the conversion of this land to residential uses. No impacts would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No impact. The site is zoned "R-1-E" (Single-Family Residential Estate) by the Brentwood Zoning Ordinance and would be rezoned to PD (Planned Development), both of which are non-agricultural zoning districts. The site is not encumbered by a Williamson Act contract. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No impact. The site is zoned "R-1-E" (Single-Family Residential Estate) by the Brentwood Zoning Ordinance, which is a non-forest land zoning district. This condition precludes the possibility of a conflict with a forest zoning designation. No impacts would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. The project site is located on undeveloped agricultural land zoned for residential development in an already developed urban area. The project site is adjacent to an existing single-family residential subdivision, undeveloped land planned for a future residential subdivision, an under-construction single-family residential subdivision, and the Contra Costa County flood control channel and a single-family residential subdivision. The project site does not contain nor is it adjacent to any forested land. No impacts would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less than significant impact. The project site is surrounded by developed land, land planned for urban development, and land currently in development. No agricultural or forest uses are currently located in the project vicinity. This condition precludes the possibility of the project creating pressures to convert farmland to non-agricultural use. Furthermore, Brentwood's Agricultural Preservation program (Municipal Code Section 17.730) requires agricultural preservation by any applicant for a subdivision which will permanently change agricultural land over one acre in size to any nonagricultural use. Agricultural preservation must be satisfied by either (1) granting an agricultural conservation easement to or for the benefit of the City as approved by the City; or (2) payment of an in-lieu fee. Because the project site has been previously developed for agricultural uses, the project is required to comply with the Agricultural Preservation program. The applicant will pay an in-lieu fee in compliance with this program. As such, impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Air Quality *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

The following impact analysis is based on the Air Quality, Greenhouse Gas, and Toxic Air Contaminant Assessment Technical Memorandum prepared by Lamphier-Gregory, dated September 25, 2014. The Technical Memorandum is provided in Appendix A.

The project site is located in Contra Costa County, which is part of the San Francisco Bay Area Basin (Air Basin). The area is designated as non-attainment for state standards for 1-hour and 8-hour ozone, 24-hour and annual respirable particulate matter (PM_{10}), and annual fine particulate matter ($PM_{2.5}$). The area is also designated non-attainment for federal standards for 8-hour ozone and 24-hour $PM_{2.5}$. The regional air quality regulatory agency is the Bay Area Air Quality Management District (BAAQMD)

The BAAQMD published CEQA Air Quality Guidelines to assist local jurisdictions and lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality. On June 2, 2010, BAAQMD adopted its 2010 CEQA Air Quality Guidelines (2010 Air Quality Guidelines) with associated 2010 Thresholds of Significance (2010 Thresholds). The 2010 Air Quality Guidelines were updated with minor edits in May 2011; however, for the purposes of clarity, the updated 2011 Air Quality Guidelines are referred to in this document by the 2010 adoption date (2010 Air Quality Guidelines or Thresholds). The 2010 Thresholds included new thresholds of significance for

construction emissions, cumulative toxic air contaminant impacts, fine particulate matter concentration increases, and greenhouse gas emissions.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the 2010 Thresholds. The Court did not determine whether the 2010 Thresholds were valid on the merits, but found that the adoption of the 2010 Thresholds was a project under CEQA. The Court issued a writ of mandate ordering the BAAQMD to set aside the 2010 Thresholds and cease dissemination of them until they had complied with CEQA. Therefore, the BAAQMD cannot legally recommend the 2010 Thresholds.

The BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District. The Court of Appeals reversed the trial court's decision. The Court of Appeal's decision does provide the means by which the BAAQMD may ultimately reinstate the 2010 Thresholds. However, the Court of Appeal's decision was subsequently appealed to the California Supreme Court, which granted limited review, and the matter is currently pending there. Therefore, the BAAQMD still cannot legally recommend the 2010 Air Quality Thresholds.

After the Alameda County Superior Court's Decision, the BAAQMD stopped recommending that the 2010 Thresholds be used as a generally applicable measure of a project's significant air quality impacts. The BAAQMD released a new version of its Air Quality Guidelines in May 2012 removing the 2010 Thresholds. The BAAQMD, however, provided a recommendation that lead agencies determine appropriate air quality thresholds of significance based on substantial evidence in the record.

Currently, common and accepted practice in the Bay Area is to use the 2010 Thresholds in light of the substantial evidence supporting those thresholds. Therefore, the City of Brentwood, as the lead agency, has determined that the 2010 Air Quality Guidelines and 2010 Thresholds are appropriate for the analysis of this project.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than significant with mitigation incorporated. The BAAQMD's Bay Area 2010 Clean Air Plan (2010 Clean Air Plan) is the regional air quality plan (AQP) for the Air Basin. The 2010 Clean Air Plan accounts for projections of population growth provided by Association of Bay Area Governments and vehicle miles traveled provided by the Metropolitan Transportation Commission, and it identifies strategies to bring regional emissions into compliance with federal and state air quality standards. The BAAQMD's Guidance provides two criteria for determining if a plan-level project is consistent with the current AQP control measures. However, the BAAQMD does not provide a threshold of significance for project-level consistency analysis. Therefore, the following criteria will be used for determining a project's consistency with the AQP.

- Criterion 1: Does the project support the primary goals of the AQP?
- Criterion 2: Does the project include applicable control measures from the AQP?
- Criterion 3: Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1

The primary goals of the 2010 Clean Plan, the current AQP to date, are to:

- Attain air quality standards;
- Reduce population exposure to unhealthy air and protecting public health in the Bay area; and
- Reduce greenhouse gas emissions and protect the climate.

As discussed in impact discussions b), c), d), and e), the project would not create a localized violation of state or federal air quality standards, significantly contribute to cumulative nonattainment pollutant violations, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors affecting a substantial number of people after incorporation of mitigation measures. Specifically, Mitigation Measure (MM) AIR-1 reduces the project's potential to generate a significant localized dust impact during project construction to less than significant, and Mitigation Measure AIR-2 reduces the project's potential to generate a significant TAC emissions impact during project construction to less than significant. In addition, the project includes sustainability features including energy efficient, Low-E glass, dual glazed, vinyl frame windows, tankless water heaters, water efficient landscaping, ceiling fans, fluorescent lighting, on-site stormwater bioretention basins and is Build-it Green© certified which would reduce greenhouse gas emissions resulting from project operation. Therefore, the project is consistent with criterion 1 with incorporation of Mitigation Measures AIR-1 and AIR-2.

Criterion 2

The 2010 Clean Air Plan contains 55 control measures aimed at reducing air pollution in the Bay Area. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2010 Plan contains a number of new control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources (Bay Area Air Quality Management District 2010).

None of the stationary source control measures are applicable to the project. In addition, none of the mobile source measures or land use and local impact measures applies to the project. Of the transportation control measures, TCM D (Support Focused Growth) measures D-1 through D-3 apply to the project. Consistent with these measures, the project would include sidewalks and would be developed in an existing urban area with easy access to transit stops and anticipated bike paths.

Relative to the Energy and Climate measures contained in the 2010 Clean Air Plan, the project would be consistent with all applicable measures:

- Energy Efficiency: The project applicant would be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24. Specifically, the project must implement the requirements of the most recent Building Energy Efficiency Standards, which is the current version of Title 24. The 2008 Building Efficiency Standards were adopted and updated in 2013, in part, to meet an Executive Order in the Green Building Initiative to improve the energy efficiency of buildings through aggressive standards. The

updated 2013 Title 24 Standards are 30 percent more efficient than the 2008 Title 24 standards for non-residential buildings and 25 percent more efficient for residential buildings.

- Renewable Energy. Pacific Gas & Electric Company (PG&E) provides electricity and natural gas service to the City of Brentwood and would serve the proposed project. PG&E facilities include nuclear, natural gas, and hydroelectric facilities. PG&E's 2013 power mix consisted of nuclear generation (22.0 percent), large hydroelectric facilities (11.0 percent) and renewable resources (22.0 percent), such as wind, geothermal, biomass and small hydro. The remaining portion came from natural gas (28.0 percent), and unspecified sources (17.0 percent) (PG&E 2014). The Renewable Portfolio Standard requires PG&E to include a minimum of 33 percent renewable energy in their portfolio by year 2020.
- Urban Heat Island Mitigation and Shade Tree Planting. The project would implement landscaping including trees onsite.

In summary, the project would comply with all applicable rules and regulations and the project would not impede attainment because its emissions fall below the BAAQMD regional significance thresholds as further discussed in questions b) and c) below.

Criterion 3

If the approval of a project does not cause a disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it would be considered consistent with the 2010 CAP. The project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. Furthermore, as previously discussed, the project incorporates energy efficiency control measures as project design features.

In conclusion, with the implementation of mitigation, the project would be consistent with all three criteria of the AQP and impacts would be less significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than significant with mitigation incorporated. This impact relates to localized criteria pollutant impacts. Potential localized impacts would be exceedances of state or federal standards for particulate matter (PM_{10}), or carbon monoxide (CO). PM_{10} is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities (construction fugitive dust). CO emissions are of concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion. Each pollutant is discussed separately below.

Construction Fugitive Dust

During construction (grading), fugitive dust (PM_{10}) would be generated from site grading and other earth-moving activities. The majority of this fugitive dust will remain localized and will be deposited near the project site.

The BAAQMD does not have a quantitative threshold for fugitive dust. The BAAQMD's Air Quality Guidelines recommend that projects determine the significance for fugitive dust through application of Best Management Practices (BMPs). The project does not currently include any dust control measures, resulting in the potential for a significant impact. Therefore, it is recommended that the fugitive dust control measures identified in the BAAQMD's Air Quality Guidelines be included to reduce localized dust impacts to less than significant. Mitigation Measure (MM) AIR-1 requires the application of BMPs for fugitive dust control. Implementation of MM AIR-1 reduces the project's potential construction-generated fugitive dust impacts to less than significant.

Operational CO Hotspot

Localized high levels of CO (CO hotspot) are associated with traffic congestion and idling or slow-moving vehicles. The BAAQMD recommends a screening analysis to determine if a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The project would result in a less than significant impact to air quality for local CO if the following screening criteria are met:

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

A review of the Growth Management Plan for Contra Costa County indicates that the project is consistent with the applicable congestion management plan because it would not produce more than 100 net new peak-hour trips and would not contribute to congestion in the surrounding area. In addition, the project would comply with policies in the Brentwood General Plan related to growth management. Based on data collected by California Environmental Health Tracking Program, Lone Tree Way, the nearest roadway segment to the project site with available data, carries approximately 21,300 vehicles per day, which is well below the hourly screening criteria identified above. The project would not generate more than 100 total daily trips and would not substantially increase traffic volumes on nearby roadways. In addition, according to a traffic study conducted for the future development of a middle school near the project site, intersections in the area would operate with acceptable LOS under the cumulative scenario without the development of the school but inclusive of development of the project site (Fehr & Peers 2009). Future development of the school would lead to deficient operations at two intersections; however, the school would be required to mitigate these impacts, and affected intersections would then operate at an acceptable level of LOS. Furthermore, the adjacent roadways are not located in an area where vertical and/or horizontal mixing, or the free movement of the air mass, is substantially limited by physical barriers such as

bridge overpasses or urban or natural canyon walls. Therefore, the project would not significantly contribute to an existing or projected CO hotspot. Impacts would be less than significant.

Conclusion

The project would not generate a significant amount of fugitive dust during construction after implementation of MM AIR-1. The project operations would not generate or substantially contribute to a CO hotspot. Therefore, the project would not violate an air quality standard or substantially contribute to an existing or projected air quality violation after implementation of MM AIR-1.

Mitigation Measure

MM AIR-1 The applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by the BAAQMD to reduce fugitive dust emissions. Emission reduction measures will include, at a minimum, the following measures. Additional measures may be identified by the BAAQMD or contractor as appropriate:

(a) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day;
(b) All haul trucks transporting soil, sand, or other loose material off-site will be covered;
(c) All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited;
(d) All vehicle speeds on unpaved roads will be limited to 15 miles per hour;
(e) All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used; and
(f) Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The BAAQMD's phone number will also be visible to ensure compliance with applicable regulations.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

Less than significant with mitigation incorporated. Non-attainment pollutants of concern for this impact are reactive organic gases (ROG) and oxides of nitrogen (NO_x), which combine to form ozone, PM_{10}, and $PM_{2.5}$. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Project construction and operational impacts are assessed separately below.

Construction Emissions

Emissions from construction-related activities are generally short-term in duration but may still cause adverse air quality impacts. The project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust. These construction emissions include criteria air pollutants from the operation of heavy construction equipment.

The project is anticipated to begin in July 2015 and span approximately 19 months. Site preparation would occur over the first 3 months, including minimal grading, installation of utility lines, and road construction. Construction of the 27 single-family homes would be completed by February 2017. The project would implement MM AIR-1 as recommended by the BAAQMD.

A preliminary screening method is provided in the BAAQMD's 2010 Guidelines for construction-related impacts associated with criteria air pollutants and precursors. The preliminary screening is used to indicate whether a project's construction-related air pollutants or precursors could potentially exceed the BAAQMD's thresholds of significance. The construction of the project would result in a less than significant impact to air quality if the following screening criteria are met:

1. The project is below the applicable construction emission residential screening size of 114 units.
2. All Basic Construction Standard Conditions would be included in the project design and implemented during construction.
3. Construction-related activities would not include any of the following:
   a) Demolition activities inconsistent with BAAQMD Regulation 11, Rule 2: Asbestos Demolition, Renovation and Manufacturing;
   b) Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
   c) Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);
   d) Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
   e) Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

Table 1: Criteria Air Pollutant and Precursors Screening for Construction Emissions

Land Use	Screening Size	Project Size
Single-Family	114 DU	27 DU

Note:
DU = dwelling units
Source: BAAQMD 2010.

As shown in Table 1, the project is a single-family development with 27 dwelling units and therefore would be less than the screening size of 114 units. All Basic Construction Standard Conditions would be incorporated into the project construction through MM AIR-1. The project does not involve demolition. The project would not involve simultaneous occurrences of more than two construction phases or more than one land use type. In addition, extensive site preparation or material transport would not be a characteristic of this project. Since the project meets the BAAQMD screening criteria with incorporation of MM AIR-1, construction emission impacts would be less than significant.

Operational Emissions

In general, long-term air quality emissions related to the project could result from the operation of vehicles and stationary sources (such as heating and cooling devices and generators).

As discussed above, the 2010 Air Quality Guidelines provide screening criteria developed for criteria pollutants and precursors. The 2010 Guidelines indicate that if the project meets the screening criteria, the project would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the thresholds of significance shown in Table 2.

Table 2: Thresholds of Significance

Pollutant	Construction-Related (lbs/day)	Operational – Related (lbs/day)	Operational – Related (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	85	15
$PM_{2.5}$	82 (exhaust)	54	10
Source: BAAQMD 2010.			

The BAAQMD's applicable operational screening level from the BAAQMD's 2010 Guidelines is provided in Table 3. As shown in Table 3, the project's proposed land use is less than the BAAQMD's screening size for operational criteria air pollutants and precursors. Therefore, the project would have a less than significant impact with respect to criteria pollutants and ozone precursors.

Table 3: Criteria Air Pollutant and Precursors Screening for Operational Emissions

Land Use	Screening Size	Project Size
Single-Family	325 DU	27 DU
Note: DU = dwelling units Source: BAAQMD 2010.		

Conclusion

In summary, construction and operational emissions would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment after incorporation of MM AIR-1. Impacts would be less than significant with the implementation of mitigation.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant with mitigation incorporated. This discussion addresses whether the project would expose sensitive receptors to substantial pollutant concentrations of fugitive dust, CO, diesel particulate matter (DPM), or other toxic air contaminants of concern.

A sensitive receptor is defined as the following (from BAAQMD 2010): "Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals and residential areas."

Two scenarios have the potential for exposing sensitive receptors to toxic air contaminants. The first is when a project includes a new or modified source of toxic air contaminants and would be located near an existing or proposed sensitive receptor. The second scenario involves a residential or other sensitive receptor development located near an existing or planned source of toxic air contaminants. The project is considered a sensitive receptor land use since it is a residential project.

The BAAQMD guidance identifies the area within 1,000 feet of the project site as the zone of influence for toxic air contaminates. The project's zone of influence was reviewed to identify locations of existing sensitive receptors. The nearest existing sensitive receptors are residences located directly adjacent to the project's western boundary. Therefore, this analysis examines potential exposure of off-site receptors from construction and operation of the project site as well as potential exposure of on-site receptors from surrounding uses.

Operation – Project as a Source

The project, as a residential development, would not be considered a significant source of operational TACs. As such, the potential or impacts related to operational TAC would be less than significant.

Construction-Period – Project as a Source

Construction-period TAC emissions could contribute to increased health risks to nearby residents. While BAAQMD does not provide a screening level to determine whether small projects can be assumed to be below significance thresholds, the technical memorandum prepared by Lamphier-Gregory (2014) states that industry experience indicates significant impacts are not usually seen unless residential projects include approximately 200 or more dwelling units. Additionally, the modeling to quantify health risks was not originally intended for emissions periods spanning less than 7 years and is not recommended by any agency for use for less than a 2 year period (such is the case with the proposed project's 19 month construction period).

For these reasons, it is recommended that the project implement MM AIR-2, which involves minimization of potential TAC emissions impacts through implementation of construction management practices, rather than quantification of emissions. With the implementation of this mitigation, construction TAC impacts would be less than significant.

Project as a Receptor

The project is locating new sensitive receptors (residents) that could be subject to existing sources of TACs.

BAAQMD's recommended procedure involves first consulting with screening tools to identify whether there are any substantial TAC sources within 1,000 feet of the project. The results of the screening tools were as follows:

- BAAQMD's county specific Google Earth Highway Screening Analysis Tool indicates there are no highways within 1,000 feet of the project site (see Appendix A-1, Figure 1).
- The California Environmental Health Tracking Program indicates there are no high-volume roadways within 1,000 feet of the project site (see Appendix A-1, Figure 2).
- BAAQMD's county-specific Google Earth Stationary Source Screening Analysis Tool indicates there are no stationary sources within 1,000 feet of the project site (see Appendix A-1, Figure 1).

Based on the screening tool results, there are no substantial sources of TACs within 1,000 feet of the project. The Southern Pacific Rail Line is located approximately 1,500 west of the project site; however, it would be outside of the 1,000 feet zone of influence. Additionally, the California Air Resources Board (ARB) Land Use Guide recommends avoiding siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. The Southern Pacific Rail Line would not be considered a major service and maintenance railyard and is outside of the 1,000 feet buffer recommended by ARB. As such, it can be assumed future residents would not be subject to levels of TACs above screening levels. Therefore, impacts from TAC sources would be less than significant.

Mitigation Measure

MM AIR-2 The project shall demonstrate compliance with the following Construction Emissions Minimization Practices prior to the issuance of demolition, building, or grading permits:

1. All off-road equipment greater than 25 horsepower and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

   a) Where access to alternative source of power are available, portable diesel engines shall be prohibited,

   b) All off-road equipment shall have:

i. Engines that meet or exceed either United States Environmental Protection Agency (EPA) or California Air Resources Board (ARB) Tier 2 off-road emission standards, and
ii. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).

c) Exceptions:
i. Exceptions to 1(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the City that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply.
ii. Exceptions to 1(b)(ii) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the City that a particular piece of off-road equipment with an ARB Level 3 VDECS is: (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted documentation to the City that the requirements of this exception provision apply. If granted an exception to 1(b)(ii), the project sponsor must comply with the requirements of 1(c)(iii).
iii. If an exception is granted pursuant to 1(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in the table provide on page 5 of the site specific Air Quality, Greenhouse Gas and Toxic Air Contaminant Assessment Technical Memorandum, dated September 12, 2014.

2. The project shall also comply with the BAAQMD-recommended Basic Construction Management Practices, listed in MM AIR-1.

e) Create objectionable odors affecting a substantial number of people?

Less than significant impact. As stated in the BAAQMD 2010 Air Quality Guidelines, odors are generally regarded as an annoyance rather than a health hazard and the ability to detect odors varies considerably among the populations and overall is subjective.

The BAAQMD does not have a recommended odor threshold for construction activities. However, BAAQMD recommends screening criteria that are based on distance between types of sources known to generate odor and the receptor. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

> An odor source with five (5) or more confirmed complaints per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3 [of the BAAQMD's guidance].

The BAAQMD's 2010 Air Quality Guidelines provide a table with odor screening distances recommended by BAAQMD for a variety of land uses. Projects that would site an odor source or a receptor farther than the applicable screening distance, shown in Table 4, would not likely result in a significant odor impact.

Table 4: Odor Screening Distances

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 mile
Source: BAAQMD 2010	

Project Construction

Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore not create objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Project Operation

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project does not contain land uses typically associated with emitting objectionable odors.

Off-site land uses may impact residents on the project site. The City of Brentwood General Plan EIR (2014) discusses potential odor impacts within the City. It indicates that there are two potential odor sources known to exist within the City: a wastewater treatment plant and a transfer station.

The wastewater treatment plant is located within the 2-mile screening distance of the project; however, the transfer station is not within screening distance of the project. Residences and a park are located within 1,000 feet of both the wastewater treatment plant and the transfer station. According to the General Plan, despite the high odor potential from both facilities, no complaints have been received for either the wastewater treatment plant or the transfer station. The project is located approximately 6,700 feet from these facilities, which is further than the aforementioned park and residences. As such, it can be reasoned that the wastewater treatment plant and transfer station would not have a substantial odor impact on the project. Therefore, the project would not place sensitive receptors near a location of substantial objectionable odor, and operational odor impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources *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?	☐	☒	☐	☐

Environmental Evaluation

This section evaluates potential effects on biological resources that may result from project implementation. Descriptions and analysis in this section are based on a reconnaissance-level biological survey performed by H. T. Harvey & Associates on July 9, 2014, the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP) Planning

Survey Report Application for the Maffeo Residential Development Project 2015 (Appendix B), and the guidance of the ECCC HCP/NCCP (Contra Costa County 2006).

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?

Less than significant with mitigation incorporated. Although the project site is situated on undeveloped fallow land that is dominated by disturbed soils and ruderal vegetation, special-status species have the potential to occur. Special-status species are those species listed as threatened or endangered by the federal or state Endangered Species Acts. In addition, CEQA requires that impacts to "locally rare" species also be addressed. For the purposes of this analysis, species of special concern with the potential to occur in the project area were identified by H. T. Harvey & Associates (Appendix B), based on listing in the following information resources:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB)
- United States Fish and Wildlife Service (USFWS) online database
- USFWS Critical Habitat Mapper
- California Native Plant Society online database

The literature search identified special-status plant and wildlife species that have been previously documented within the project region. However, habitat for most special-status species was absent from the project site.

Plants

The project site supports a single habitat type consisting of ruderal habitat. Vegetative cover is sparse and dominated by wild oats (*Avena fatua*) and other non-native, disturbance-tolerant species, including Italian ryegrass (*Festuca perennis*), prickly lettuce (*Lactuca serriola*), Italian thistle (*Carduus pycnocephalus*), cheeseweed (*Malva parviflora*), shortpodded mustard (*Hirschfeldia incana*), and field bindweed (*Convolvulus arvensis*). The project site has a non-native walnut tree (*Juglans hindsii*) near the southeast corner of the project site. Artificially created ephemeral drainage channel located approximately 25 feet south of the project boundary. Vegetation within the channel is dominated by upland and facultative upland species including bristly ox-tongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), and shortpodded mustard (*Hirschfeldia incana*). In classifying the habitat type within the project site, generalized plant community classification schemes were used (Sawyer, Keeler-Wolf, and Evens 2009, as referenced by H. T. Harvey & Associates). The final classification and characterization of the habitat type within the project site was based on field observations.

A plant's potential to occur on the project site was based on the presence of suitable habitats, soil types, and CNDDB occurrences. Planning surveys have determined that no suitable habitat is present for no-take plant species as listed in Table 6-5 of the HCP/NCCP. Thus, the project will not result in direct impacts on extremely rare plants.

Wildlife

The project site offers very little foraging potential for wildlife species due to routine disking. The project site consists of ruderal grassland, which is a type of land cover suitable for the San Joaquin kit fox (*Vulpes macrotis mutica*), and the western burrowing owl. The project site may have potential nest sites for the Swainson's hawk. Additionally, during the focused surveys on January 20, 2015, a single golden eagle was observed perched north of the project site.

Although the HCP/NCCP identifies ruderal grassland habitat as potentially suitable for the San Joaquin kit fox, the project site is outside of the species' currently known range. The habitat mapping for San Joaquin kit foxes provided in the HCP/NCCP excludes the project site, and historical CNDDB records are separated from the project site by extensive urbanization and high-traffic roadways. Thus, San Joaquin kit foxes are determined to be absent from the project site, and the HCP/NCCP does not require planning surveys for this species.

The ruderal grassland within the project boundary does not provide suitable nesting habitat for the Swainson's hawk. Typically, Swainson's hawks select extensive open fields with sparsely distributed trees that they use for nesting. Therefore, it is unlikely that Swainson's hawks would establish a nest site within 1,000 feet of the project site, since the area to the west, south, and east is composed of residential development while the ruderal field to the north contains no suitable nesting trees. The nearest known Swainson's hawk nest was recorded in 2006 approximately 2,000 feet to the southeast (CNDDB 2011). During the focused surveys on January 20, 2015, no Swainson's hawks (which would not be expected to be present at the time of year of the survey) or large raptor nests were observed on the project site or within 1,000 feet of the site, Further, the existing vegetation and land use within 1,000 feet of the project site was determined to be generally unsuitable for nests of this species, consisting predominantly of small landscaped and planted trees.

The burrowing owl is the only covered species for which potentially suitable habitat is present on the project site (9.1 acres of ruderal grassland habitat). However, no burrows of any kind (including ground squirrel burrows) or signs of burrowing owls (whitewash, pellets, or feathers) were detected on the project site during the field survey. Because no burrows occur on the project site, the species is not expected to roost or breed there. However, numerous burrowing owls have been recorded in the project vicinity. Further, although ground squirrel burrows were not present on the site at the time of the survey, ground squirrels could potentially move into the site and create burrows that provide suitable nesting or roosting sites for owls; thus, there is some potential for burrowing owls to occur on the project site in the future. In addition, burrowing owls nesting or roosting in nearby areas could potentially occur as occasional foragers on the site.

The HCP/NCCP does not define specific habitat elements (e.g., the presence of ground squirrel burrows) as components of suitable breeding and roosting habitat for burrowing owls. Rather, the HCP/NCCP considers any occurrence of land cover types with which burrowing owls may be associated, including the ruderal grassland cover found on the project site, to be potentially suitable habitat for this species. Therefore, suitable nesting and roosting habitat for burrowing owls on the project site is represented by the 9.1 acres of ruderal grassland habitat. As these 9.1 acres make up

the entirety of the project site, the total acreage of permanent impacts of the project on potential breeding and roosting habitat for burrowing owls, as defined by the HCP/NCCP, is 9.1 acres.

The ruderal grassland within the project boundary does not provide suitable nesting habitat for the golden eagle. Golden eagles are most common in rugged, open country bisected by canyons where there are ample nesting sites and food. They nest on cliffs of all sizes or in the tops of large trees. Therefore, it is unlikely that golden eagles would establish a nest site within 0.5 mile of the project site, because the area to the west, south, and east is composed of residential development while the ruderal field to the north contains no suitable nesting habitat. There are no records of golden eagles nesting within 5 miles of the project site (CNDDB 2011). During the focused surveys on January 20, 2015, a single golden eagle was observed perched 1,200 feet north of the project site, at the south end of Tilton Lane, in a tree in the back yard of a residence. However, no potential golden eagle nests were observed within 0.5 mile of the project site. Further, the existing vegetation and land use within 0.5 mile of the project site was determined to be unsuitable for nests of this species, consisting predominantly of small landscaped and planted trees. Thus, golden eagles are not expected to nest within 0.5 mile of the project.

Several ornamental shrubs and trees occur within or adjacent (respectively) to the project site that could provide nesting habitat for birds protected by the Migratory Bird Treaty Act (MBTA). Proposed grading and construction activities on the project site may result in the removal of habitat that can serve as nesting habitat for burrowing owl. Removal of vegetation could also directly destroy nests, eggs, and immature birds that are protected by the MBTA. Adverse impacts to burrowing owl, raptors, nesting birds, and their associated habitats are a potentially significant impact.

Implementation of MM BIO-1 and MM BIO-2, would reduce impacts special-status wildlife species to less than significant.

MM BIO-1 Migratory Birds and Nesting Raptors

To the extent feasible, construction activities will be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code will be avoided. The nesting season for most birds, including most raptors, in the greater San Francisco Bay Area and Delta extends from February 1 through August 31.

If it is not possible to schedule construction activities between September 1 and January 31, then pre-construction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to

ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation.

MM BIO-2 Pre-Construction Surveys, Construction Monitoring, and Avoidance and Minimization for Burrowing Owl

1. Prior to any ground disturbance related to covered activities, a biologist approved by the United States Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW) shall conduct a preconstruction survey in areas identified in the planning surveys as having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 1993).
2. On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership will not be surveyed. Surveys shall take place near sunrise or sunset in accordance with CDFG guidelines. All burrows or burrowing owls will be identified and mapped. Surveys shall take place no more than 30 days prior to construction. During the breeding season (February 1 to August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 to January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted. The survey results shall be submitted to CDFW and the City of Brentwood Community Development Department.
3. If burrowing owls are not discovered, further mitigation is not required. If burrowing owls are observed during the pre-construction surveys, the applicant shall perform the following measures to limit the impact on the burrowing owls:
    a. If burrowing owls are found during the breeding season (February 1 to August 31), the project will avoid nest sites that could be disturbed by project-related activities during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishing a non-disturbance buffer zone. Project activities can occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 to January 31), the project will avoid burrowing owls and occupied burrows, if possible.
    b. If project activities are unable to avoid occupied burrows, passive relocation of burrowing owls will be implemented. Owls will be excluded from burrows in project impact areas and within a 160-foot buffer zone via the installation of one-way doors in burrow entrances. These doors should be in-place for 48

hours prior to excavation. The project site will be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Plastic tubing or similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

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?

No impact. There are no riparian habitats or other sensitive natural communities on the project site as identified in local or regional plans, policies, and regulations or by the CDFW or USFWS. No impact would occur.

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?

No impact. Based on results of the reconnaissance-level field survey, there are no jurisdictional wetlands or waters on the project site. The project would incorporate all applicable Provision C.3 Amendments of the Contra Costa County Clean Water Program's (CCCCWP's) amended National Pollutant Discharge Elimination System (NPDES) Permit (order no. R2-2003-0022; permit no. CAS002912) to minimize erosion. No wetlands, ponds, or streams would be impacted by the project. No impact would occur.

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?

Less than significant impact. The project site is situated in an area that was once dominated by agricultural uses but is now highly fragmented by residential development. Urban and wild, native and non-native wildlife, such as California ground squirrel (*Otospermophilus beecheyi*), black-tailed jackrabbit, and opossum (*Didelphis virginiana*) may be expected to range through the region. As discussed in impact 4.a), the project may have adverse effects on nesting birds and raptors; however, implementation of MM BIO-1 and MM BIO-2 would reduce these potential impacts to less than significant and no additional mitigation is warranted.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than significant impact. The City of Brentwood does not have a Heritage Tree Ordinance. While there are a number of unidentified ornamental shrubs located along the boundaries of the project site, there would be no impacts related to conflicts with regards to a Heritage Tree Ordinance. While remnant ornamental shrubs from pervious agricultural uses occur on-site and the site provides marginal habitat for several special-status species, the project would not conflict with

the goals or policies of the Brentwood General Plan. Furthermore, the project would be required to adhere to the ECCC HCP/NCCP by paying development fees for the applicable Development Fee Zone. Therefore, impacts would be less than significant.

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?

Less than significant impact with mitigation incorporated. In July 2007, the ECCC HCP/NCCP was adopted by Contra Costa County, the City of Brentwood, other member cities, the USFWS and the CDFW. The HCP provides guidance for the mitigation of impacts to covered species. Mitigation of impacts is accomplished through payment into two separate funds: a Development Fee and a Wetland Fee. The Development Fee requires payment based on a cost per acre for all acres converted to non-habitat with the cost per acre based on the quality of the habitat converted. Based on the project's location in Fee Zone I and the total acreage of permanent impacts to non-developed land cover types (i.e., all land cover types mapped in Figure 3a, a total of 9.10 acres), the project's development fee for permanent impacts would be $110,265.16. The Wetland Fee requires payment based on the amount and type of wetland or waters affected. Since the project would have no impacts on jurisdictional habitats, the project's wetland mitigation fee would be $0.00. These funds are used to acquire higher-value habitats in preserved areas and to fund their restoration and management. Because the City of Brentwood is a signatory to the HCP, anticipated project impacts can be mitigated through the payment of Development and Wetland Impact fees to the HCP. The proposed project would comply with the ECCC HCP/NCCP requirements regarding special-status species, and the applicant would be required to pay the associated Development Fee to the HCP, as applicable, in accordance with MM BIO-3. Therefore, the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, resulting in a less than significant impact.

Mitigation Measure

MM BIO-3 East Contra Costa County **Habitat Conservation Plan/Natural Community Conservation Plan Development Fee**

Prior to the issuance of grading or construction permits for the project site, the developer shall submit a Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) application and associated fee worksheet to the City of Brentwood Community Development Department for review and approval. The developer shall pay the applicable East Contra Costa County HCP/NCCP per-acre fee in effect for Zone I in compliance with Section 16.168.070 of the Brentwood Municipal Code.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. Cultural Resources *Would the project:*				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §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?	☐	☒	☐	☐

Environmental Evaluation

This section describes the existing cultural resources setting and potential effects from project implementation on the project site and its surrounding area. Descriptions and analysis in this section are based on information provided by the California Native American Heritage Commission (NAHC), the Northwest Information Center (NWIC), and a 2005 cultural resources survey performed by William Self Associates (WSA). The record search results are provided in Appendix C.

Record Searches

Northwest Information Center

To determine the presence of cultural and historical resources within the project area and a 0.25-mile radius, a William Self Associates (WSA) Professional Archaeologist conducted a record search at the Northwest Information Center (NWIC) on January 16, 2015, that included a review of National Register of Historic Places (NR), the California Register of Historic Resources (CR), the California Register of Historic Resources (CR), the California Historical Landmarks list, the California Points of Historical Interest Listing, the Directory of Properties in the Historic Property Data File, the Archaeological Determinations of Eligibility, and other pertinent historic map data available at the NWIC.

The NWIC results indicate that no prehistoric resources have been recorded within the project area or a 0.25-mile radius. However, two non-archaeological historical resources (P-07-0002684 and P-07-0002696) and one archaeological site (P-07-000813) have been recorded within a 0.25 radius of the project site. P-07-0002684 consists of three 1930s bungalow-style ranch houses and associated structures and features located on Prewett Ranch Property. P-07-0002696 consists of a historic barn documented in 2005. P-07-000813 represents the remains of the Southern Pacific Railroad Line

(Table 5). NWIC identified three studies as "Other Reports," which encompass the project area but involve little or no field work, or may be missing maps. In addition, 17 previous investigations have been conducted within the 0.25-mile search that did not include the project site (Table 6).

Table 5: Previously Recorded Resources within the Record Search Radius

Site Number	Resource Description
P-07-000813	CA-CCO-000733H C-Antioch North-2 Railroad
P-07-002684	Prewett Ranch House Sites
P-07-002696	Passport Homes Barn

Table 6: Previously Recorded Reports

Report Number/Year	Author/Date	Title
S-06113	U.S. Bureau of Reclamation/1983	Class II Archaeological Survey, San Luis Drain and Alternatives, Central Valley Project, San Luis Unit, California
S-013256	Bramlette, M. Praetzellis, A. Praetzellis, Dowdall, Brunmeier, and Fredrickson/1991	Archaeological Resources Inventory for Los Vaqueros Water Conveyance Alignments, Contra Costa County, California
S-017993	Hatoff, Voss, Waechter, Wee, and Bente/1995	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project
S-025281	Holman/2001	Archival Research and Field Inspection of the Brentwood Property, Assessor's Parcel Numbers (APNs) 018-090-015 and 018-090-018, located at Lone Tree Way and O'Hara Avenue, Brentwood, Contra Costa County, California
S-025283	Holman/2001	Archival Field Inspection of the Brentwood Property, Assessor's Parcel Numbers (APNs) 018-090-015 and 018-090-018, located at Lone Tree Way and O'Hara Avenue, Brentwood, Contra Costa County, California
S-027997	Busby/2002	Archaeological Field Inspection of the Rippy Property, 3215 O'Hara Avenue, Brentwood, Contra Costa County, California, APN's 16-05-50, 16-06-60, and 16-07-70
S-028032	**Busby/2003**	**Archaeological Resources Assessment – O'Hara Property, City of Brentwood, Contra Costa County, California**
S-029593	McKale/2004	Cultural Resources Study for Subdivision 8875 Project, City of Brentwood, Contra Costa County, California
S-029769	William Self Associates, Inc./2005	Survey and Assessment of the Prewett Ranch Property in Brentwood, Contra Costa County, California

Table 6 (cont.): Previously Recorded Reports

Report Number/Year	Author/Date	Title
S-030673	**William Self Associates, Inc./2005**	**Cultural Resources Survey for Passport Homes in Brentwood, California**
S-030911	William Self Associates, Inc./2005	Survey and Assessment of the Anderson Lane Easement of the Prewett Ranch Property in Brentwood, California
S-032028	Longfellow/2006	A Cultural Resources Study of a Parcel at 7765 Lone Tree Way Project, Brentwood, Contra Costa County, California
S-035244	Baker and Shoup/2008	eBart Project EIR, Archaeological Survey Report: eBart Project, Contra Costa County, California
S-035244	Baker and Shoup/2007	eBart Transit Corridor EIR/EIS, Historic Resource Evaluation Report: East Contra Costa Irrigation District Main Canal System, eBart Project, Contra Costa County, California
S-035244	Shoup/2007	eBart Transit Corridor EIR/EIS, Historic Resource Evaluation Report: San Pablo & Tulare Railroad/Central Pacific Railroad (Southern Pacific Railroad/Union Pacific Railroad), eBart Project, Contra Costa County, California
S-035244	Hill, Shoup, Dobkin, and Baker/2007	DRAFT #2, eBart Transit Corridor EIR/EIS, Historic Resources Evaluation Report: Historic Architecture of the eBart Project, Contra Costa County, California
S-035244	Baker and Shoup/2007	eBart Transit Corridor EIR/EIS, Positive Archaeological Survey Report: eBart Project, Contra Costa County, California
Note: Bold indicates report recorded for project site. Source: NWIC, 2014.		

Native American Heritage Commission (NAHC)

On January 5, 2015, WSA sent a request to the NAHC for a search of its Sacred Lands File. A response was received on January 26, 2015 stating that the search failed to indicate the presence of Native American cultural resources in the immediate project area. Included with the response was a list of interested Native American representatives that may have additional information about the project area. On January 26, 2015, information request letters were sent to each of the representatives describing the project, nearby archaeological sites, and asking for any information or comments that they may have on the project. As of this date, no responses have been received.

Pedestrian Survey

In 2005, a WSA Senior Project Archaeologist conducted a pedestrian survey of the proposed project area and did not locate any archaeological sites or cultural material within the project area. A modern well was located along the northwest project boundary; however, no prehistoric resources were discovered during the course of the survey.

On February 26, 2015, an FCS archaeologist tried to conduct a pedestrian survey of the project area; however, the site was covered with 2- to 3-foot-high mustard plants and there was no ground surface visibility.

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less than significant with mitigation incorporated. Although there were no indications of historic resources being present within the project site, there is always the possibility that previously unknown historic resources exist below the ground surface. Therefore, implementation of standard cultural resource construction mitigation (MM CUL-1) would ensure that this impact is less than significant.

Mitigation Measure

MM CUL-1 It is always possible that ground-disturbing activities during construction may uncover previously unknown, buried historic resources. In the event that buried historic resources are discovered during construction, operations shall stop within 50 feet of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The developer shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resources, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Historic resources could consist of, but are not limited to, stone, wood, or shell artifacts, structural remains, privies, or historic dumpsites. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and evaluated for significance in terms of CEQA criteria.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than significant with mitigation incorporated. The project site does not contain any watercourses such as springs, ponds, creeks or rivers, nor is it located on elevated ground such as a ridge or a knoll that are typically considered archaeologically sensitive areas. Therefore, the project site is not considered sensitive for prehistoric resources. In addition, no prehistoric resources were discovered during the course of the 2005 field survey within the project area.

Although no known prehistoric archaeological resources exist within the project area, it is possible that subsurface excavation activities may encounter previously undiscovered archaeological resources. The implementation of standard cultural resource construction mitigation (MM CUL-2) would ensure that this impact is less than significant.

Mitigation Measure

MM CUL-2 It is always possible that ground-disturbing activities during project development may uncover previously unknown, archaeological resources. In the event that archaeological resources are discovered during construction, operations shall stop within 50 feet of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The developer shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resources, including but not limited to, excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Cultural resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts or features, including hearths. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and evaluated for significance in terms of CEQA criteria.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant with mitigation incorporated. The project site is not located in an area that is considered likely to have paleontological resources present. Fossils of plants, animals, or other organisms of paleontological significance have not been discovered within the project site, nor has the site been identified to be within an area where such discoveries are likely. The type of depositional environment at the project site does not typically present favorable conditions for the discovery of paleontological resources. In this context, the project would not result in impacts to paleontological resources or unique geologic features. However, if significant paleontological resources are discovered, implementation of MM CUL-3 will reduce this potential impact to a less than significant level.

Mitigation Measure

MM CUL-3 In the event a fossil is discovered during construction for the proposed project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The developer shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant and if avoidance is not feasible, the paleontologist shall design and carry out a data recovery plan consistent with the Society of Vertebrate Paleontology standards.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant with mitigation incorporated. No human remains are known to exist within the project site. However, there is always the possibility that subsurface construction activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. Therefore, if human remains are discovered, implementation of MM CUL-4 would reduce this potential impact to a less than significant level.

Mitigation Measure

MM CUL-4 In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code § 7050.5; Public Resources Code § 5097.94 and § 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.
2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project site in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
   - The descendant identified fails to make a recommendation.
   - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. Geology and Soils *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?	☐	☐	☐	☒

Environmental Evaluation

This analysis is based upon the Geotechnical Exploration prepared by ENGEO in May 2014 (Appendix D) as well as information provided by the Brentwood General Plan.

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.

No impact. The project site is not located in an Alquist-Priolo Earthquake Fault Zone. The closest active faults are the Great Valley Fault, located approximately 3 miles west of the project site; the Greenville Fault, located approximately 10 miles southwest of the project site; and the Concord-Green Valley Fault, located approximately 17 miles west of the project site. These conditions preclude the potential for on-site fault rupture. No impact would occur.

ii) Strong seismic ground shaking?

Less than significant impact. While there are no fault zones on-site, the project site is located in a region traditionally characterized by a number of active faults and fault zones. The Geotechnical Exploration prepared for the project site indicates that an earthquake of moderate to high magnitude generated within the region could cause considerable ground shaking at the site. Seismic hazards cannot be completely eliminated, but proper building and structural design through compliance with the California Building Standards Code would minimize potential impacts from ground shaking to less than significant.

iii) Seismic-related ground failure, including liquefaction?

No impact. Liquefaction typically occurs in areas with clean, loose, saturated, uniformly graded, fine-grained sands and the presence of shallow groundwater. The Geotechnical Exploration identified a significant amount of fine grained sands on-site but no traces of groundwater. Based on these conditions, the analysis concluded that on-site soils have a low risk for potential liquefaction during seismic shaking. No impact would occur.

iv) Landslides?

No impact. The project site and surrounding areas are generally flat, which precludes the possibility of landslides. No impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant impact. Soil exposed by construction activities during development of the project could be subject to erosion if exposed to heavy rain, winds, or other storm events. The project would adhere to standard Brentwood Engineering Division conditions that require conformance with measures contained in Chapter 15.52 (Grading, Erosion, and Sediment Control) of the Brentwood Municipal Code to effectively minimize soil erosion. Adherence to these requirements during construction and post-construction periods would reduce the potential for soil erosion to a less than significant level.

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?

Less than significant with mitigation incorporated. As previously indicated, there is a low risk for potential liquefaction on the project site and no risk of landslides. In accordance with the Brentwood Municipal Code Chapter 15.52.50, a Geological Exploration has been prepared for the project and provides engineering recommendations for existing undocumented fill removal, general site clearing, fill compaction, expansive soils, and foundation types. The Geological Exploration concluded that, with the incorporation of the geotechnical recommendations, the project would not be susceptible to unstable soils hazards. Therefore, with the implementation of MM GEO-1, impacts would be reduced to less than significant.

Mitigation Measure

MM GEO-1 Prior to the issuance of building permits, the project applicant shall submit site plans to the City of Brentwood for review and approval demonstrating incorporation of the recommendations made in the site-specific Geotechnical Exploration, dated May 12, 2014, or similarly sufficient geotechnical engineering practices. All soil engineering recommendations and structural foundations shall be designed by a licensed professional engineer. The approved plans shall be implemented on the project site. All on-site soil engineering activities shall be conducted under the supervision of a licensed Geotechnical Engineer or Certified Engineering Geologist.

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?

Less than significant with mitigation incorporated. Expansive soils have high clay content and shrink and swell as a result of seasonal fluctuation in moisture content potentially causing heaving and cracking of slabs-on-grade, pavements, and structures on shallow foundations. As indicated in the Geological Exploration, near surface soils exhibit moderate to high expansion potential. To reduce the potential for damage to on-site structures, properly designed post-tensioned mat foundations bearing on engineered fill were recommended. Implementation of MM GEO-1 would ensure the Geological Exploration's recommendations or similarly sufficient geotechnical engineering practices are incorporated into project site plans and implemented on-site. With the implementation of MM GEO-1, expansive soil impacts would be less than significant.

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?

No impact. The project would be served with sanitary sewer service provided by the City of Brentwood and no alternative wastewater disposal systems would be implemented. This condition precludes the possibility of related impacts. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Greenhouse Gas Emissions *Would the project:*				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Evaluation

The following greenhouse gas impact analysis is based on the Air Quality, Greenhouse Gas, and Toxic Air Contaminant Assessment Technical Memorandum prepared by Lamphier-Gregory, dated September 25, 2014. The Technical Memorandum is provided in Appendix A.

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant impact. The project is located in Contra Costa County, which is a part of the San Francisco Bay Area Air Basin (Air Basin). The Air Basin is regulated by the Bay Area Air Quality Management District (BAAQMD). Greenhouse gas emissions were estimated for construction of the project using the California Emissions Estimator model version 2013.2.2 (CalEEMod) (Appendix A-2).

Project Construction

The project would generate greenhouse gas emissions during construction activities such as site grading; on-site, heavy-duty construction vehicle use; vehicles hauling materials to and from the project site; and construction worker trips. These emissions are considered temporary or short-term.

The Technical Memorandum states that "the project size is below the BAAQMD screening level for greenhouse gas emissions, set at . . . 56 dwelling units for construction-period emissions." The document concludes that greenhouse gas emissions from the project would be below threshold levels and therefore not a significant impact. However, the 56-dwelling-unit screening level identified by the Technical Memorandum is the BAAQMD's screening level for *operational* greenhouse gas emissions.

The BAAQMD does not have a recommended screening level or Threshold of Significance for construction-related greenhouse gas emissions; however, the BAAQMD does recommend that lead agencies quantify and disclose construction-related greenhouse gas emissions. Therefore, additional analysis quantifying and disclosing construction-related greenhouse gas emissions was completed.

CalEEMod 2013.2.2 was used to estimate the project's construction-generated greenhouse gas emissions. The construction period would be approximately 19 months in duration. The construction phases include site preparation, grading, building construction, paving, and architectural coating. CalEEMod defaults were used as a conservative analysis. Detailed construction assumptions and parameters are provided in Appendix A-2. Greenhouse gas emissions during project construction are presented in Table 7.

Table 7: Construction Greenhouse Gas Emissions

Construction Phase	$MTCO_2e$
Site Preparation	19.54
Grading	29.84
Building Construction (2015)	132.77
Building Construction (2016)	165.20
Paving	22.38
Architectural Coatings	2.72
Total	**372.45**

Note:
$MTCO_2e$ = metric tons of carbon dioxide equivalent
Source: FirstCarbon Solutions 2015; CalEEMod 2013.2.2

As discussed in the following section, the project would not exceed the BAAQMD's operational greenhouse gas screening level of 56 dwelling units. Construction activities for a project under this screening level size would also emit minimal greenhouse gas emissions. The project would develop 27 dwelling units in a 19-month period, which is a small project with a short construction duration where greenhouse gas emissions would be temporary and minimal. Therefore, the project's construction emissions would result in a less than significant impact.

Project Operations

Operational or long-term emissions occur over the life of the project. Sources for operational emissions include:

- Motor Vehicles: Exhaust from the cars and trucks that would travel to and from the project site.
- Natural Gas: Emissions from natural gas burned on the project site. Natural gas uses include heating water, space heating, dryers, stoves, and other uses.

- Indirect Electricity: Off-site emission from power plants that supply electricity required for the project.
- Water Transport: Exhaust from electricity generation that is required to transport and treat water used on the project site.
- Waste: Emissions from decomposing waste generated by the project.

The BAAQMD's 2010 Air Quality Guidelines provide screening criteria developed for operational greenhouse gas emissions assessment. The guidelines state that projects below the applicable screening criteria given in the 2010 Air Quality Guidelines would not exceed the 1,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) greenhouse gas threshold of significance. As shown in Table 8, the project's proposed land use is less than the BAAQMD's screening size for operational greenhouse gas emissions. Therefore, the project would have a less than significant impact with respect to greenhouse gas emissions.

Table 8: Greenhouse Gas Screening for Operational Emissions

Land Use	Screening Size	Project Size
Single-Family	56 DU	27 DU
Note: DU = dwelling units Source: BAAQMD 2010.		

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant impact. The City of Brentwood currently does not have an adopted climate action plan or other policies or regulations focused on reducing the emissions of greenhouse gases. In the absence of any adopted regional or local greenhouse gas emissions reduction plans, the project is compared with the AB 32 Scoping Plan in order to determine compliance with any applicable plan, policy, or regulation adopted to reduce emissions of greenhouse gases.

AB 32 Scoping Plan

AB 32 required the ARB to develop a Scoping Plan that would reduce emissions to 1990 levels by 2020. The ARB's adopted AB 32 Scoping Plan (Scoping Plan) calls for an approximate 30 percent reduction of business as usual (BAU) from 2020 levels or 15 percent from 2008 levels. The Scoping Plan also refers to Executive Order S-3-05, which identified the Scoping Plan's 2020 target, but also included a 2050 greenhouse gas emissions reduction goal that represents the level scientists believe is necessary to stabilize the climate (ARB 2008). BAAQMD's recommended significance thresholds are based on Executive Order S-3-05 reductions goals. Therefore, project emission less than BAAQMD's significance thresholds demonstrates consistency with Executive Order S-3-05 goals and, by extension, the ARB's Scoping Plan to achieve AB 32 reduction goals. Both construction and operational emissions are below the greenhouse gas thresholds recommended by BAAQMD, as

demonstrated in Impact 7a) above. Therefore, it can be concluded that the project is in compliance with the applicable AB 32 Scoping Plan.

The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As shown in Table 9, the project is consistent with the strategies or the strategies are not applicable to the project. Therefore, the project is consistent with the applicable strategies and would not conflict with the recommendations of AB 32 in achieving a statewide reduction in greenhouse emissions. The impact is less than significant.

Table 9: Scoping Plan Measures Consistency Analysis

Scoping Plan Reduction Measure	Project Consistency
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	**Not applicable.** Although the cap-and-trade system has begun, the project is not one targeted by cap-and-trade system regulations and therefore this measure does not apply to the project.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**Consistent.** This is a measure for the State to increase its energy efficiency standards in new buildings. The project is required to build to the new standards and would maximize its energy efficiency through compliance.
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. Pacific Gas and Electric is required to increase its percent of power supply from renewable sources to 33 percent by the year 2020 pursuant to various regulations. Therefore, the owners of residences within the project would purchase power that is comprised of a greater amount of renewable sources.

Table 9 (cont.): Scoping Plan Measures Consistency Analysis

Scoping Plan Reduction Measure	Project Consistency
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure goes into effect, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	**Not applicable.** The project is not related to developing greenhouse gas emission reduction targets. To meet the goals of SB 375, Plan Bay Area is the Sustainable Communities Strategy Plan from the Bay Area Metropolitan Transportation Commission that is applicable to the project. The project would not preclude the implementation of this strategy.
7. Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**Not applicable.** When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	**Not applicable.** The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	**Consistent.** This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. The project would comply with Title 24, which requires new buildings to be "solar ready." The project would not preclude the implementation of this strategy.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. The standards phase-in over model years 2014 through 2018 would be applicable to the vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	**Not applicable.** This measure would apply to the direct greenhouse gas emissions at major industrial facilities emitting more than 500,000 $MTCO_2e$ per year. The project is not an industrial land use.

Table 9 (cont.): Scoping Plan Measures Consistency Analysis

Scoping Plan Reduction Measure	Project Consistency
12. High Speed Rail. Support implementation of a high-speed rail system.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. The project would not preclude the implementation of this strategy.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Consistent.** The project would comply with the California Energy Code, and thus incorporate applicable energy efficiency features designed to reduce project energy consumption.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**Not applicable.** This measure is applicable to the high global warming potential gases (high GWP refrigerant) that would be used by non-residential sources with large equipment (such as in air conditioning and commercial refrigerators). The project is a residential project and would not include refrigeration or air conditioning equipment that would use more than 50 pounds of high-GWP refrigerant.
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero waste.	**Consistent**. The project would utilize City of Brentwood recycling services.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	**Not applicable.** The project site is not forested; therefore, no preservation is possible.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	**Consistent.** The project would comply with Green Building Code regulations and would implement required water conservation features.
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	**Not applicable.** The project site is not designated or in use for agriculture purposes. No grazing, feedlot, or other agricultural activities that generate manure occur on-site or are proposed to be implemented by the project.
Source of ARB Scoping Plan Reduction Measure: California Air Resources Board 2008. Source of Project Consistency or Applicability: FirstCarbon Solutions.	

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Hazards and Hazardous Materials *Would the project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Environmental Evaluation

This analysis is based on the Phase I Environmental Site Assessment Update (May 2014) prepared by ENGEO, Inc. and included Appendix E.

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant impact. Construction of the project would involve the transport and handling of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, and waste. Handling and transport of these materials could result in the exposure of workers to hazardous materials. However, the project would not create a significant hazard to the public or the environment, because project construction would comply with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials.

As a residential project, the proposed development would not involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. Future residents would be expected to use small quantities of common household cleaners, lubricants, and similar products. Such usage would not have the potential to create significant public safety hazards due to the localized nature of such activities, and the low toxicity of these substances. As such, impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant impact. Based on the nature of the hazardous materials that would be used and stored during construction (e.g., diesel-fueled equipment, asphalt), and operation (e.g., household cleaners) of the project, it is unlikely that upset and accident conditions involving the release of hazardous materials into the environment would occur. Additionally, no permanent structures were observed on-site, and, therefore, no hazards related to removal or demolition of existing hazardous substances would occur. As indicated in Impact 8a) above, all hazardous materials would be handled in accordance with applicable laws. Compliance with applicable rules and regulations would ensure impacts related to accidental release of hazardous materials into the environment would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than significant impact. The project site is located approximately 0.8 mile northwest of Marsh Creek Elementary School, 0.8 mile south of Smart Start Preschool, 1.5 miles southeast of Freedom High School, and 0.3 mile south of undeveloped land planned for a future school. As explained in discussions in Impacts 8a) and 8b), the project would not involve the use of significant quantities of

hazardous materials and therefore would not have the potential to expose nearby schools to hazardous materials, substances, or wastes. Impacts would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than significant impact. The Phase I Environmental Site Assessment (ESA) Update prepared for the project (Appendix E) indicates that the site reconnaissance, site survey, and records review did not find documentation or physical evidence of significant soil or groundwater impairments associated with the use of Property.

According to the State Water Resource Control Board "GeoTracker," an online hazardous materials database, the project site is not listed as a hazardous material site. The nearest identified site is a Department of Toxic Substances Control (DTSC) Cleanup Site located on the proposed school site at 2340 Smith Road, approximately 0.50 mile to the north. Potential contaminants on the DTSC Cleanup Site resulted from past agricultural and vehicle uses, and include benzene, metals, organochlorine pesticides, and petroleum. A removal action workplan was created; however, the School District has delayed development, and, therefore, the status of the site is currently inactive. Cleanup of this site would be required to be completed before construction of the school can proceed. Because the project site is not listed as containing hazardous materials, and because the adjacent school site is planned to undergo remedial actions, impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No impact. The closest public airport is the Byron Airport located over 9 miles away. This distance precludes the possibility of the project creating safety hazards for persons residing or working in the project area. No impacts would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No impact. The closest private airstrip is the Funny Farm Airport, located 4.3 miles to the northwest of the project site. This distance precludes the possibility of the project creating safety hazards for persons residing or working in the project area. No impacts would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No impact. On-site access and circulation provide for sufficient emergency access and evacuation routes, and the project would not modify any existing roadways in such a way that would impede emergency access or evacuation. The project site is designated for residential uses and therefore the effects of build out of this site as part of citywide development is already assumed and has already been evaluated as part of the General Plan EIR. Furthermore, the project has been reviewed

by the East Contra Costa Fire Protection District, which indicated no concerns regarding emergency access. As such, no impacts would occur.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No impact. The project site is surrounded by urban development and would not be susceptible to wildland fires. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. Hydrology and Water Quality *Would the project:*				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Evaluation

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less than significant impact. The City of Brentwood is a participant in the Contra Costa Countywide Clean Water Program. The City enforces the most recent C.3 requirement set forth in the Municipal Regional Stormwater NPDES permit issued to the City by the San Francisco Bay Regional Water Quality Control Board (RWQCB). The C.3 requirements state that development projects are to provide site design measures, source controls, Low Impact Development (LID) treatment measures, hydromodification management, and construction best management practices that are appropriate for the type and size of the project to control stormwater pollution. Treatment measures include biotreatment systems that are designed subject to established numeric sizing criteria.

The project is required to prepare Stormwater Design Plans and a Stormwater Pollution Prevention Plan (SWPPP) that collectively establish how the projects will satisfy NPDES water quality standards. The Preliminary Stormwater Control Plan (Appendix F) indicates that a planned on-site bioretention area would be placed near the existing site low point to ensure the preservation of natural drainage patterns. The proposed bioretention area would be located at the eastern portion of the project site along Banbury Way and would treat the increase in stormwater runoff before discharging into the existing system. The project is not adjacent to and will not impact any creeks wetlands, or riparian habitats. The Preliminary Stormwater Control Plan also outlines Permanent Source Control Best Management Practices that would reduce potential stormwater pollution originating from project operation.

Construction activities are also regulated by the RWQCB and are subject to the permitting requirements of the Construction General Permit. The RWQCB established the Construction General Permit program to reduce surface water impacts from construction activities. As required by the Construction General Permit the project would include the preparation and implementation of a SWPPP for construction activities to ensure no water quality standard or waste discharge requirement violations would occur during construction.

Upon project completion, the project's wastewater would be treated by the City of Brentwood Wastewater Treatment Plant. The wastewater treatment plant is subject to state and federal waste discharge and permitting requirements and, therefore, would ensure the project's effluent would not violate water quality standards or waste discharge requirements. As such, compliance with all local, state, and federation regulations regarding water quality standards and waste discharge requirements would ensure impacts to water quality would be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?

Less than significant impact. The City of Brentwood's current water supply consists of both surface water from the Delta and groundwater from existing groundwater wells located in the San Joaquin Groundwater Basin. As indicated by the City of Brentwood's Urban Water Management Plan, adequate supplies are available through 2035 during normal and multiple dry years. As such, the project would not substantially deplete groundwater supplies.

The site currently has no impervious surfaces. Development of the project would result in approximately 5.6 acres of impervious surfaces that would reduce existing on-site groundwater recharge. However, the site is located in an urban area and is not identified as a groundwater recharge location. Furthermore, stormwater would be collected in the proposed on-site bioretention basin that would allow percolation into the groundwater table. As such, the project would not interfere substantially with groundwater recharge.

In summary, sufficient groundwater supplies are available to serve the proposed project. The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Impacts would be less than significant.

c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than significant impact. There are no streams, rivers, or creeks located on the project site. The natural drainage of the site conveys stormwater east towards Subdivision 9337 to an existing field inlet located at the end of Banbury Way. The project would introduce new impervious surfaces and increase stormwater runoff. However, the project's implementation of a SWPPP and compliance with C.3 requirements would ensure substantial on- and off-site erosion and siltation would not occur. As such, impacts would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than significant impact. There are no streams, rivers, or creeks located on the project site. The natural drainage of the site conveys stormwater east towards Subdivision 9337 to an existing field inlet located at the end of Banbury Way. The project would introduce new impervious surfaces and increase stormwater runoff. However, the project includes the construction of an on-site bioretention basin, designed to accommodate expected stormwater flows, ensure no net increase, and avoid flooding downstream. Therefore, the project would not alter the existing drainage pattern of the site or the area such that there would be a substantial increase in the risk of flooding on- or off-site. Impacts would be less than significant.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than significant impact. The project would be served by the City's stormwater drainage system. Construction activities such as demolition, grading, and paving could introduce additional pollutants and sediment into water runoff and flow into nearby storm drains. The project is required to complete a SWPPP that establishes how the project will satisfy NPDES water quality standards. Projects that comply with NPDES requirements would not result in a significant impact related to changes in the quantity, rate, or quality of stormwater runoff from the site. Continuous use and operation of the site would not create or contribute runoff water that would exceed the capacity of existing stormwater drains on the project site and compliance with C.3 requirements would ensure potential additional water pollutants would be minimized or avoided. Therefore, impacts would be less than significant.

f) Otherwise substantially degrade water quality?

Less than significant impact. Construction activities related to the project could introduce pollutants and sediment into water runoff from the site. The project would be required to fulfill C.3 requirements regarding the provision of site design measures, source controls, LID treatment measures, hydromodification management, and construction best management practices that are appropriate for the type and size of the project to control stormwater pollution. Implementation of these requirements in coordination with the project's SWPPP would ensure water quality impacts would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No impact. The project site is not located within a 100-year flood hazard zone as mapped by the Federal Emergency Management Agency (FEMA 2009). No impacts would occur.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No impact. The project site is not located within a 100-year flood hazard zone as mapped by the Federal Emergency Management Agency (FEMA 2009). No impacts would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No impact. The project is not located within a 100-year flood hazard as mapped by the Federal Emergency Management Agency. The project is also not located within a dam inundation area and is not protected by levees. As such, no impact would occur.

j) Inundation by seiche, tsunami, or mudflow?

No impact. The project site is not located near an inland body of water capable of producing seiches. The project site is approximately 30 miles from the San Francisco Bay and, therefore, is not susceptible to tsunamis. The project site is located in a relatively flat area and would not be exposed to mudflows. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Land Use and Planning *Would the project:*				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	☐	☒	☐	☐

Environmental Evaluation

This section describes the existing land use and planning setting and potential effects from project implementation on the project site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Brentwood General Plan adopted July 2014, and on the City's Municipal Code.

Would the project:

a) Physically divide an established community?

No impact. The project would develop the site with 27 single-family dwelling units that would be consistent with the adjacent residential uses and would not physically divide an existing community. No impacts would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than significant impact. The project site is designated as Residential - Low Density (R-LD) by the Brentwood General Plan and R-1-E (Single-Family Residential Estate) by the Zoning Code. The applicant is seeking approval of a rezone to PD (Planned Development).

The General Plan indicates that the Residential - Low Density (R-LD) land use designation is designed predominantly for single-family detached houses, although higher-density developments could be accommodated if offset with sufficient open space or other amenities in order to maintain the gross

density within the indicated range. The permitted density range is 1.1 to 5.0 units per gross acre, with a mid-range of 3.0 units per acre. The project would result in a density of 2.97 units per gross acre and would therefore be consistent with the General Plan land use designation.

The existing R-1-E (Single-Family Residential Estate) zoning designation allows a maximum density of two dwelling units per acre, while up to three dwelling units per acre are allowable with approval of a conditional use permit. The project proposes a density of 2.97 dwelling units per acre and, therefore, requests a rezone to PD (Planned Development) to allow the increase in density, and to establish development standards unique to the project.

Brentwood's Zoning Ordinance indicates that the PD (Planned Development) zoning designation is intended to allow a mixture of uses, unusual building intensity or design characteristics, or variations in density including density between the midrange and upper end of land use designated by the General Plan, which would not normally be permitted in a single use zone. Regulations regarding lot area, density, yards, height and other development features are specified within the regulations adopted for the proposed Planned Development zone and, therefore, the project would be automatically consistent with the zone's development regulations.

In addition, development on-site would be required to comply with all applicable General Plan policies and Municipal Code regulations, and would be reviewed for compliance by the City prior to approval of the necessary permits. As such, impacts would be less than significant.

c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?

Less than significant with mitigation incorporated. In July 2007, the ECCC HCP/NCCP was adopted by Contra Costa County, the City of Brentwood, other member cities, the USFWS and the CDFW. The HCP provides guidance for the mitigation of impacts to covered species. Mitigation of impacts is accomplished through payment into two separate funds: a Development Fee and a Wetland Fee. The Development Fee requires payment based on a cost per acre for all acres converted to non-habitat with the cost per acre based on the quality of the habitat converted. The Wetland Fee requires payment based on the amount and type of wetland or waters affected. These funds are used to acquire higher value habitats in preserved areas and to fund their restoration and management. Because the City of Brentwood is a signatory to the HCP, anticipated project impacts can be mitigated through the payment of Development and Wetland Impact fees to the HCP. The proposed project would comply with the ECCC HCP/NCCP requirements regarding special-status species, and the applicant would be required to pay the associated Development Fee to the HCP, as applicable, in accordance with MM BIO-3. Therefore, the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, resulting in a less than significant impact.

Mitigation Measure

Implement MM BIO-3.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. Mineral Resources *Would the project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Evaluation

Descriptions and analysis in this section are based on information contained in the Brentwood General Plan adopted July 2014.

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No impact. The project site is not located within a state-designated Mineral Resource Zone. In addition, the project site does not support mineral extraction operations. These conditions preclude the possibility of related impacts. No impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No impact. The Brentwood General Plan does not identify any mineral resource recovery sites. In addition, the project site does not support mineral extraction operations. These conditions preclude the possibility of related impacts. No impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Noise *Would the project result in:*				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Evaluation

The following analysis is based in part on ambient noise monitoring conducted by FCS and outputs from the Roadway Construction Noise Model (RCNM), which are included in this IS/MND as Appendix G.

Characteristics of Noise

Noise is defined as unwanted sound. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Most of the sounds that we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The standard unit of measurement of the loudness of sound is the decibel (dB). The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. A change of 3 dB is the lowest change that can be perceptible to the human ear in outdoor environments, while a change of 5 dBA is considered to be the minimum readily perceptible change to the human ear in outdoor environments.

Since the human ear is not equally sensitive to sound at all frequencies, the A-weighted decibel scale (dBA) was derived to relate noise to the sensitivity of humans; it gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level (L_{dn}) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night.[1] In addition, the equivalent continuous sound level (L_{eq}) is the average sound energy of time-varying noise over a sample period and the L_{max} is the maximum instantaneous noise level occurring over a sample period.

Existing Noise Sources

The project site is located in the City of Brentwood, Contra Costa County, California. The project site is bounded by a single-family residential subdivision (west), undeveloped land planned for a future residential subdivision (north), an under-construction single-family residential subdivision (east), and the Contra Costa County flood control channel, Mokelumne Coast to Crest Trail, and a single-family residential subdivision (south).

The existing noise levels on the project site were documented through a long-term ambient noise measurement taken on the project site in order to determine the existing ambient noise environment in the project vicinity. Noise monitoring was performed using a Larson Davis LXT2 model (Serial #0004228), Type 2 integrating sound level meter. The meter was programmed in "slow" mode to record the sound pressure level at one second intervals in "A" weighted form. The sound level meter and microphone were mounted approximately 5 feet above the ground and equipped with a windscreen during the measurement. The sound level meter was calibrated before monitoring using the Larson Davis calibrator, Model Cal150 (Serial #5465). The noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

The noise measurement was taken from approximately 12:30 p.m. on Tuesday, February 17, 2015 to approximately 12:00 a.m. on Wednesday, February 18, 2015. The noise measurement location is shown in Exhibit 5; and the noise measurement data sheets are provided in Appendix G of this document. The noise monitoring location was selected in order to document existing daytime ambient noise levels on the project site and to determine compatibility of the proposed residential

[1] L_{dn} is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. CNEL is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. (Harris 1998).

land use development with the City's land use compatibility standards. The results of the noise level measurements are provided in Table 10.

Table 10: Noise Monitoring Summary

Site Location	Location Description – Primary Noise Sources	dBA L_{dn}	Peak Noise Hour	Peak Noise Hour dBA L_{eq}
Location 1	Southwest corner of project site – traffic on local roadways	50.7	6:00 p.m.	51.2
Source: FirstCarbon Solutions, 2015.				

Regulatory Framework

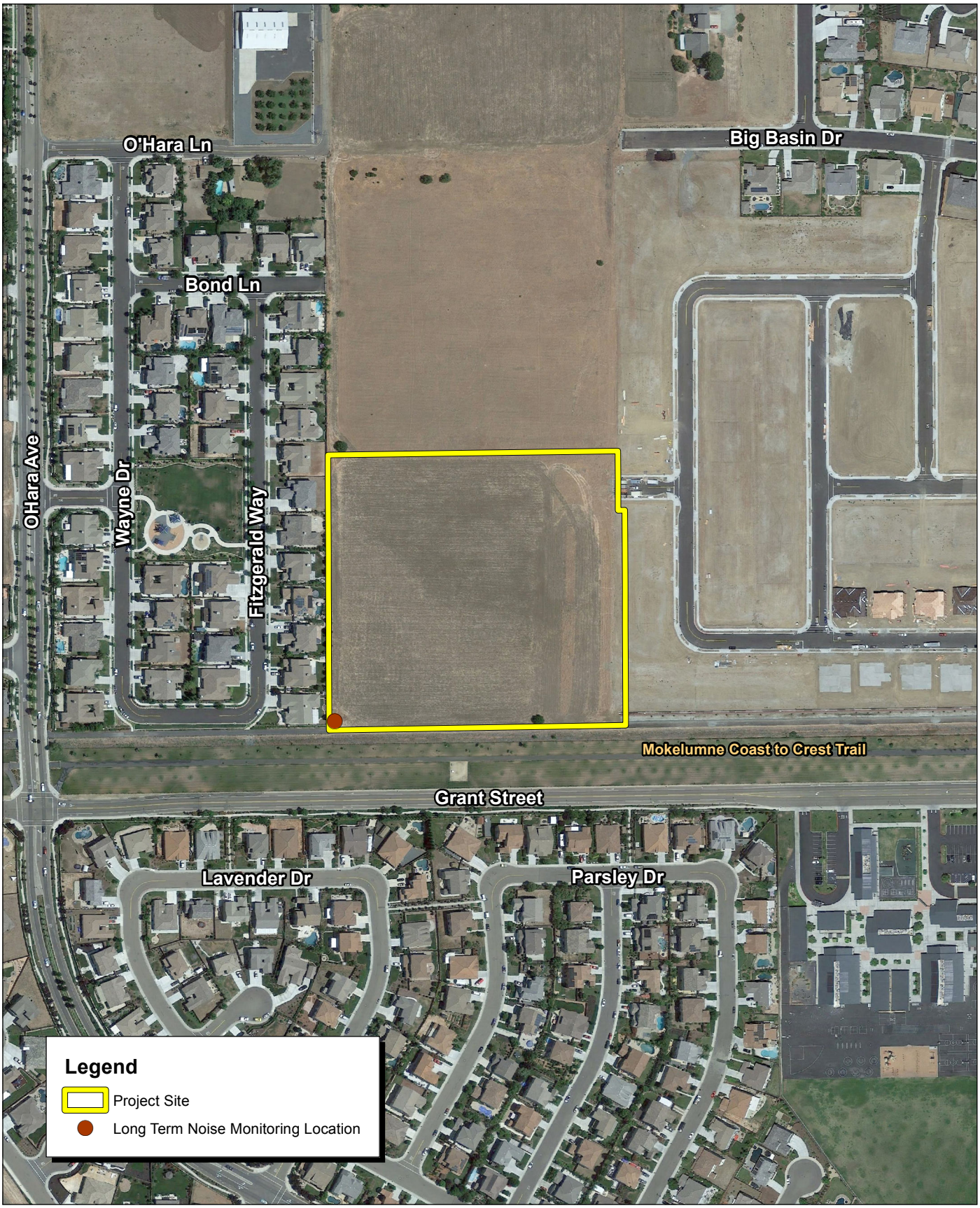
The City of Brentwood addresses noise in the Noise Element of the General Plan (City of Brentwood 2014) and in the Municipal Code (City of Brentwood 2002).

The City has established land use noise compatible thresholds for new land use development. According to the policies of the General Plan, noise environments up to 60 dBA L_{dn} are considered "normally acceptable" for new single-family residential land use developments. Environments with ambient noise levels from 60 dBA to 75 dBA L_{dn} are also considered "conditionally acceptable" for new single-family residential land use developments; as such, development may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features are included in the project design.

According to General Plan Policy N 1-7, a significant impact would occur if the project results in an exceedance of the noise level standards contained in the noise element, or if the project would result in an increase in ambient noise levels by more than 3 dBA, whichever is greater. For transportation noise impacts, where existing traffic noise levels are less than 60 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, an increase of more than 5 dBA L_{dn} in roadway noise levels is considered a significant increase. Where existing traffic noise levels range between 60 dBA and 65 dBA L_{dn}, an increase of more than 3 dBA L_{dn} in roadway noise levels is considered a significant increase; and an increase of more than 1.5 dBA L_{dn} is considered significant where existing traffic noise levels are greater than 65 dBA L_{dn}.

The City has established standards for stationary (non-transportation) noise sources for receiving residential land uses. According to Table N-2 of the General Plan Noise Element, noise levels from stationary noise sources should not exceed 55 dBA L_{eq} or 70 dBA L_{max} as measured at any outdoor active use area of residentially zoned land uses during the hours of 7:00 a.m. to 10:00 p.m., and should not exceed 45 dBA L_{eq} or 65 dBA L_{max} during the hours of 10:00 p.m. to 7:00 a.m.

The noise ordinance of the Municipal Code also address the City's noise standards. Section 9.32.030(B) outlines the City's noise performance standards by land use. For example, producing noise levels greater than 60 dBA L_{eq} for a total of more than 30 minutes within any consecutive 60 minutes as measured at a receiving residential property line is prohibited.



Source: Google Earth Pro, 2014.

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Exhibit 5
Long Term Noise Monitoring Location

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Section 9.32.050 of the Municipal Code outlines the City's standards for noise producing construction activities. For example, the operation of heavy construction equipment that would produce noise levels in excess of the noise performance standards is restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday; 9:00 a.m. to 4:00 p.m. on Saturdays; and is prohibited on Sundays and city holidays. Similarly, the operation of carpentry construction equipment, such as mechanically powered saws, sanders, drills, grinders or similar tools, in such a manner that would produce noise levels in excess of the noise performance standards is restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 9:00 a.m. to 5:00 p.m. on Saturdays; and is prohibited on Sundays and city holidays.

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than significant with mitigation incorporated. Noise levels in the project area would be influenced by construction activities and from the ongoing operation of the proposed project.

Short-Term Construction Impacts

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the project site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance, the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 11 lists typical construction equipment noise levels, based on a distance of 50 feet between the equipment and a noise receptor. Because the noisiest construction equipment is earthmoving equipment, the site preparation phase is expected to be the loudest phase of construction. The site preparation construction phase is expected to require the use of front-end loaders, compactors, hydraulic backhoes, and haul trucks. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings. Impact equipment such as pile drivers is not expected to be used during construction of this project.

Table 11: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Pickup Truck	No	55
Pumps	No	77
Air Compressors	No	80
Backhoe	No	80
Front-End Loaders	No	80
Portable Generators	No	82
Dump Truck	No	84
Tractors	No	84
Auger Drill Rig	No	85
Concrete Mixer Truck	No	85
Cranes	No	85
Dozers	No	85
Excavators	No	85
Graders	No	85
Jackhammers	Yes	85
Man Lift	No	85
Paver	No	85
Pneumatic Tools	No	85
Rollers	No	85
Scrapers	No	85
Concrete/Industrial Saws	No	90
Impact Pile Driver	Yes	95
Vibratory Pile Driver	No	95
Source: FHWA, 2006.		

Some of the loudest equipment that construction of the proposed project is expected to require includes graders, bulldozers, pavers, concrete mixer trucks, roller compactors, backhoes, and front loaders. A characteristic of noise is that each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 90 dBA L_{max} at a distance of 50 feet from an active construction area.

The nearest existing off-site noise sensitive land use are the single-family residential uses on Fitzgerald Way whose properties border the project site. The nearest façade of these homes is located approximately 22 feet from the project property line. The Federal Highway Administration's Roadway Construction Noise Model was used to calculate construction noise impacts on the nearest sensitive receptors during the loudest phase of construction. If multiple pieces of the loudest construction equipment operate simultaneously on the nearest lots to these closest off-site sensitive receptors, construction noise levels during the site preparation, the loudest phase of construction, could range up to approximately 92 dBA L_{max} and average approximately 88 dBA L_{eq} during the loudest daytime construction operations.

As previously indicated, Section 9.32.050 of the Brentwood Municipal Plan outlines the City's standards for noise producing construction activities. The operation of heavy construction equipment that would produce noise levels in excess of the noise performance standards is restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday; 9:00 a.m. to 4:00 p.m. on Saturdays; and is prohibited on Sundays and city holidays. Similarly, the operation of carpentry construction equipment, such as mechanically powered saws, sanders, drills, grinders or similar tools, in such a manner that would produce noise levels in excess of the noise performance standards is restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 9:00 a.m. to 5:00 p.m. on Saturdays, and is prohibited on Sundays and city holidays.

Therefore, compliance with the City's permissible hours of construction outlined in Section 9.32.050 of the Municipal Code, as well as implementation of the best management noise reduction techniques and practices outlined in MM NOI-1, would ensure potential short-term construction noise levels would be reduced to a less than significant impact on sensitive receptors in the project vicinity.

Mitigation Measure

MM NOI-1 Implementation of the following multi-part mitigation measure is required to reduce potential construction period noise impacts:

- Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 8:00 a.m. and 5:00 p.m. on weekdays, and between 9:00 a.m. and 4:00 p.m. on Saturdays. Noise producing construction activities that would result in exceedance of the City's noise performance standards shall not be permitted at any time on Sundays or City holidays.
- All equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited (i.e., idling in excess of 5 minutes).

- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.
- Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing prior to commencement of site preparation construction activities.
- The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

Long-Term Operational Impacts

Mobile-Source Noise Impacts

The existing ambient noise environment was documented through the long-term ambient noise measurement effort. Existing ambient noise conditions were then compared for compliance with the City's land use compatibility standards for new residential land use development. Measured ambient noise exposure at the project site was 50.7 dBA L_{dn} with hourly average noise levels ranging from approximately 40 dBA to 51 dBA L_{eq} and maximum levels of approximately 56 dBA to 76 dBA L_{max}. These noise levels are below the City's normally acceptable threshold of 60 dBA L_{dn} for new residential development. Therefore, existing noise levels on the project site would result in a less than significant impact on the proposed land use development.

According to General Plan Policy N 1-7, a significant impact would also occur if the project would result in an exceedance of the noise level standards contained in the General Plan Noise Element, or if the project would result in an increase in ambient noise levels by more than 3 dBA, whichever is greater. For transportation noise impacts, where existing traffic noise levels are less than 60 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, an increase of more than 5 dBA L_{dn} in roadway noise levels is considered a significant increase.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. Traffic data used in the model was obtained from the Transportation Impact Study for Brentwood Union School District Fourth Middle School Campus, prepared by Fehr & Peers (2009), in which buildout of the proposed project was assumed in the cumulative impact analysis. The resultant noise levels were weighed and summed over a 24-hour period in order to determine the L_{dn} values. The traffic noise modeling input and output files are included in Appendix G of this document.

The modeling results show that future traffic noise levels along roadway segments adjacent to or in the vicinity of the project site would range up to approximately 53 dBA L_{dn} at 50 feet from the centerline of the nearest travel lane. These noise levels are than 3 dBA greater than the existing

measured ambient noise levels (51.4 dBA L_{dn}) on the project site. Therefore, project-related traffic noise impacts on both on- and off-site noise sensitive land uses would be less than significant.

Stationary-Source Noise

The City has also established standards for stationary (non-transportation) noise sources for receiving residential land uses. According to Table N-2 of the General Plan Noise Element, noise levels from stationary noise sources should not exceed 55 dBA L_{eq} or 70 dBA L_{max} as measured at any outdoor active use area of residentially zoned land uses during the hours of 7:00 a.m. to 10:00 p.m., and should not exceed 45 dBA L_{eq} or 65 dBA L_{max} during the hours of 10:00 p.m. to 7:00 a.m.

The proposed project would also include stationary noise sources such as new mechanical equipment, including heating, ventilation, and air conditioning (HVAC) systems. At the time of preparation of this analysis, details of mechanical ventilation systems were not available; therefore, a reference noise level for typical HVAC systems was used. Noise levels from typical residential mechanical ventilation equipment are anticipated to range up to approximately 60 dBA L_{max} at a distance of 25 feet. Proposed HVAC systems could be located as close as approximately 50 feet from the nearest off-site receptors. In addition, existing fencing at the receiving properties would provide an additional reduction of up to 5 dBA. Therefore, noise generated by proposed mechanical ventilation systems would attenuate to less than 49 dBA L_{max} as measured at the nearest off-site sensitive receptors. These noise levels are below the City's stationary noise source performance standards, even for nighttime use, and would be considered a less than significant impact on off-site sensitive receptors.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact. Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. Construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project related impacts are expressed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 12.

Table 12: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer – small	0.003	58

Table 12 (cont.): Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Jackhammer	0.035	79
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer - Large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112
Source: Compilation of scientific and academic literature, generated by FTA and FHWA.		

Propagation of vibration through soil can be calculated using the vibration reference equation:

*PPV = PPV ref * (25/D)^n (in/sec)*

Where:

PPV = reference measurement at 5 feet from vibration source
D = distance from equipment to property line
N = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2006), an “n” value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.

The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document (FTA 2006). The FTA guidelines include thresholds for construction vibration impacts for various structural categories, as shown in Table 13.

Table 13: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced – Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non Engineer Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Source: FTA, 2006.		

Of the equipment used during construction, the small vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Impact equipment such as pile drivers is not expected to be used during construction of this project. Small vibratory rollers produce groundborne vibration levels ranging up to 0.101 inch per second (in/sec) peak particle velocity (PPV) at 25 feet from the operating equipment. The nearest off-site structures is the single-family residential structure at 2000 Fitzgerald Way, located approximately 22 feet from the project property line and approximately 50 feet from the construction footprint of the nearest proposed residential structure. At this distance groundborne vibration levels could range up to 0.036 PPV from operation of a small vibratory roller at the construction site. This is well below the industry standard vibration damage criteria of 0.2 PPV for this type of structure, a building of engineered timber and masonry construction (see Table 13). Therefore, construction-related groundborne vibration impacts would be considered less than significant.

Upon completion of construction, the project would not include any features that would produce groundborne vibrations. As such, implementation of the proposed project would not result in any permanent vibration sources that would expose persons within the project vicinity to excessive groundborne vibration levels. Therefore, project-related groundborne vibration impacts would be considered less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant impact. As addressed in Impact 12a), The modeling results show that future traffic noise levels along roadway segments adjacent to or in the vicinity of the project site would result in noise levels of approximately 53 dBA L_{dn}, which is less than 3 dBA greater than the existing measured ambient noise levels (50.7 dBA L_{dn}) on the project site. Therefore, project-related traffic would not result in a perceptible permanent increase in existing ambient noise levels along any

roadway segment in the project vicinity, and project-related traffic noise impacts on off-site sensitive land uses would be less than significant.

As shown in the discussion under Impact 12a), noise levels from project-related residential mechanical ventilation equipment would attenuate to less than 49 dBA L_{max} as measured at the nearest off-site sensitive receptors. Existing ambient noise levels are documented by the long-term ambient noise measurement to range from approximately 56 dBA to 73 dBA L_{max} in the project vicinity. Therefore, noise generated by residential mechanical ventilation equipment would not exceed existing ambient noise levels nor result in a substantial permanent increase in ambient noise levels compared with conditions existing without the project.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant with mitigation incorporated. As addressed in Impact 12a), project-related construction activities could result in high intermittent noise levels of up to 92 dBA L_{max} at the closest noise sensitive land uses. Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance, the effect on longer term (hourly or daily) ambient noise levels would be small. Implementation of MM NOI-1 requiring standard construction noise reduction measures and compliance with the City's Municipal Code ordinances establishing permissible hours of noise-producing construction activity would reduce short-term construction impacts to a less than significant level.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than significant impact. The closest public airport is the Byron Airport, located over 9 miles southeast of the project site. In addition, the Buchanan Field Airport, is located approximately 18.5 miles northwest of the project site, and the Livermore Municipal Airport is located approximately 18.9 miles south of the project site. The project site is located outside of the 60 dBA CNEL airport noise contours of these airports. While aircraft noise is occasionally audible on the project site from aircraft flyovers, aircraft noise associated with nearby airport activity would not expose people residing or working in the project area to excessive noise levels. Therefore, impacts associated with public airport noise would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No impact. The closest private airstrip is the Funny Farm Airport, located approximately 4.3 miles northwest of the project site. While aircraft noise is occasionally audible on the project site from aircraft flyovers, aircraft noise associated with nearby private airstrip activity would not expose people residing or working in the project area to excessive noise levels. Therefore, no impacts associated with private airstrip noise would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Population and Housing *Would the project:*				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

This section describes the existing population and housing setting and the potential effects from project implementation on the project site and its surrounding area. Descriptions and analysis in this section is based on information provided by the U.S. Census Bureau, the California Employment Development Department (EDD), the Association of Bay Area Governments (ABAG), and the Brentwood General Plan adopted in July 2014.

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than significant impact. According to the most recent Bay Area Census, the City of Brentwood, has a population of 51,481 persons (U.S. Census Bureau 2014). The City's General Plan Update EIR (City of Brentwood, 2014) assumes an average household size of 3.22 for forecasting growth. The project would create 27 new residences resulting in a potential population increase of approximately 87 people and representing an approximately 0.2 percent increase in city population. According to the Association of Bay Area Government's (ABAG's) projections, the City is projected to increase by 8,619 persons between 2010 and 2040. The project's potential population increase is within the expected growth rates and would not represent a significant portion of the expected growth rates. Furthermore, the growth would be considered planned growth because the project site is designated for residential redevelopment. Finally, the project would not remove any barriers to growth and instead would represent infill between existing and future residential areas. As such, impacts would be less than significant.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No impact. The project site does not contain any housing. This precludes impacts related to displacement of housing. No impacts would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No impact. As previously indicated the project site does not contain any housing. This precludes impacts related to displacement of people. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Public Services *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Evaluation

Would the project:

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

Less than significant impact. The City of Brentwood receives fire protection from the East Contra Costa Fire Protection District (ECCFPD). The ECCFPD, which was formed in 2002, provides fire suppression and dispatches emergency services for a 250-mile area, including the City of Brentwood. The ECCFPD includes five stations and one administrative office.

The ECCFPD would respond to calls for service to the project site. The nearest ECCFPD station is located approximately 3.5 miles northeast of the project site and maintains an 8-minute response time for all emergency response calls within Brentwood. Project implementation would generate an additional 84 persons, resulting in a corresponding increased demand for fire protection services. Because the project is in an urban area with existing fire protections services, no new facilities are anticipated.

In accordance with California Government Code Section 53090, the project would be required to pay a fee to offset the increased demand and pay for the additional services. In addition, the buildings would be designed and constructed consistent with current state and local building requirements, including the California Fire Code, and be subject to design review and inspection for fire safety

considerations. Consistent with General Plan Action CSF-4b, the project has been submitted to the ECCFPD for review and no concerns regarding the provision of services or site access were indicated. With payment of legislated development fees, impacts would be less than significant.

b) Police protection?

Less than significant impact. The City of Brentwood Police Department provides law enforcement services to the project site with one station located in Brentwood, at the southeast corner of Guthrie Lane and Brentwood Boulevard. The Police Department also maintains a 3- to 5-minute response time for all emergency response calls within Brentwood.

Demand for police protection services would be increased by the corresponding increase of 84 persons at the site. Because the project is in an urban area with existing police protections services, no new facilities are anticipated.

In accordance with California Development Code Section 53090m, the project would be required to pay a fee to offset the increased demand and pay for any additional services. Consistent with General Plan Policy CSF3-5, the project has been submitted to the Police Department for review and no concerns regarding the provision of police protection services were indicated. With payment of legislated development fees, impacts would be less than significant.

c) Schools?

Less than significant impact. The project's 27 single-family residences could result in an increased demand for school services. Based on a student generation rate of 0.416 student per single-family residence (as used by the General Plan EIR), the project could generate as many as 11 new students (City of Brentwood 2014).

The project site would be served by the Brentwood Union School District (BUSD) and the Liberty Union High School District (LUHSD). BUSD has an enrollment total of 8,426 students, with kindergarten through 6th grade consisting of 6,345 students and 7th to 8th grade consisting of 2,081 students (Jack Schreder & Associates 2013). BUSD consists of eight elementary schools and three middle schools. The BUSD has a kindergarten through 6th grade capacity of 6,800 students and a 7th to 8th grade capacity of 1,940 students. There is additional room to accommodate additional students for kindergarten through 6th grade; however, middle schools are over capacity and additional needs are being met with the addition of portable classrooms.

LUHSD has an enrollment total of 7,916 9th grade through 12th grade students (Education Data Partnership 2014). LUHSD consists of three comprehensive high schools: Liberty High, Freedom High, and Heritage High. LUHSD also includes one alternative high school, Independence High School, and one continuation high school, La Paloma. All three comprehensive high schools were built with a capacity for 2,200 students. Currently, this capacity has been exceeded and additional needs are being met with the addition of portable classrooms.

The project's 11 potential new students represent a negligible 0.1-percent increase from current enrollment at both school districts combined. Furthermore, as indicated by General Plan Policy

CSF-5b and in accordance with SB 50, the project would be required to pay school impact fees to offset increases in service requirements. California Government Section 65996 provides for the collection of school impact fees to ensure that adequate school and related facilities will be available. Therefore, impacts would be less than significant.

d) Parks?

Less than significant impact. The addition of 27 single-family residences would increase the demand for park facilities in the area. The City of Brentwood General Plan sets a minimum overall citywide ratio of 5.0 acres of parkland per 1,000 residents for planning purposes. Park acreage can be further divided into 3.0 acres of neighborhood park per 1,000 residents and 2.0 acres of community park per 1,000 residents. According to the City of Brentwood Parks and Recreation Annual Report for Fiscal Year 2013/2014, the City currently exceeds its standard ratio, with 6.77 acres of parkland per 1,000 residents (including future dedication lands). In accordance with Municipal Code Section 16.150, the project applicant would be required to dedicate land, or pay a fee in-lieu thereof, or both, for park or recreational purposes. The project does not include the development of recreational facilities and would not require the construction or expansion of existing recreational facilities. With payment of in-lieu fees, impacts would be less than significant.

e) Other public facilities?

Less than significant impact. The addition of 27 single-family residences would create an incremental increase in the demand for library facilities and community centers. In accordance with California Development Code Section 53090, development impact fees would be required to offset any additional service needs. With payment of legislated development fees, impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Recreation				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Evaluation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than significant impact. Seedling Park and Caboose Park are the closest parks and recreational facilities, located within walking distance of the project site at 0.2 mile and 0.5 mile, respectively. Additionally, the Wheatfield Park is 0.6 mile from the project site. The project could add as many as 84 persons to the City of Brentwood, which may increase demand for parks or other recreational facilities. In accordance with Municipal Code Section 16.150, the project applicant would be required to dedicate land, pay a fee in-lieu, or both, for park or recreational purposes. No parkland is planned on-site; therefore, the applicant would pay in-lieu fees, and impacts would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No impact. The project does not include recreational facilities and would not require the construction or expansion of existing recreational facilities. No impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Transportation/Traffic *Would the project:*				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Environmental Evaluation

Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than significant impact. Brentwood General Plan Policy CIR 1-5 requires a level of service (LOS) D or better at intersections within Brentwood that are not on designated Routes of Regional Significance, and LOS E or better at intersections within the Downtown Specific Plan area. The closest Route of Regional Significance is Lone Tree Way, approximately 2,000 feet to the north. The project is not located within the Downtown Specific Plan area. At unsignalized intersections, controlled movements operating at LOS E or LOS F are allowable if the intersection is projected to operate at LOS C or better overall, and/or if the peak-hour signal warrant remains unmet.

Based on the Institute of Transportation Engineers (ITE) daily trip generation rate for single-family detached housing (ITE land use code 210), the project's 27 residential units would generate a total of 257 daily trips, with 20 trips occurring in the AM peak hour and 27 trips occurring in the PM peak hour. Because the project is not expected to generate more than 100 weekday PM peak-hour vehicle trips, a full transportation impact assessment is not required for compliance with Contra Costa County's Measure J, as indicated in the 2013 Contra Costa Congestion Management Program.

The project's limited addition of trips on adjacent roadways would not be expected to significantly impact LOS. Furthermore, the Transportation Impact Study prepared for the Brentwood Union School District – Fourth Middle School (Appendix H) considered buildout of the project site under the cumulative conditions scenario. This study concluded that intersections in the project vicinity would operate at acceptable levels and sufficient queuing space would be present for southbound left turn movements at the intersection of O'Hara Avenue and O'Hara Lane, which is the intersection expected to be most impacted by the project. Implementation of the future school would result in LOS impacts, but those impacts would be the responsibility of the school district to mitigate and such mitigation would be required in coordination with implementation of school construction. Therefore, the proposed residential project would not result in unacceptable LOS or conflict with policies establishing roadway intersection LOS.

The project would include sidewalks connecting to the surrounding network of sidewalks. The project's streets would also provide circulation for bicycles. In addition, the project is within 0.25 mile of an established Tri-Delta Transit bus route. As such, the project would be consistent with General Plan policies regarding multi-modal transportation.

In summary, the project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system. Impacts would be less than significant.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than significant impact. As discussed in Impact 16a), the project would not conflict with the 2013 Contra Costa Congestion Management Plan. Impacts would be less than significant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No impact. The closest public airport, Byron Airport – C83, is located over 9 miles from the project site. The closest private airstrip is located 3.8 miles east of the project site. The project site is not within a designated Airport Land Use Plan. The project does not include features that could change air traffic patterns such as tall buildings, smoke emissions, or wildlife attractants. No impacts would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No impact. The project extends the internal street network to be constructed in the adjoining tract, the Mangini subdivision, and an outlet to O'Hara Lane would be provided through the extension of Big Basin Drive to meet with O'Hara Lane. The resulting roads and intersections would be designed in accordance with City standards and would provide adequate ingress and egress for the proposed residences. The project does not involve any changes that would create new potentially hazardous conditions (restricted turning movements, unusual design features, etc.). No impact would occur.

e) Result in inadequate emergency access?

Potentially significant unless mitigation is incorporated. The project would include an internal network of streets connecting to an existing street. However, in the event the adjacent Mangini development to the north does not complete construction prior to this project's construction, the project proponent would need to construct a secondary roadway access through the adjacent Mangini development to connect to Bond Lane. The implementation of this Mitigation Measure would reduce impacts to a less than significant level.

Mitigation Measure

MM TRANS-1 In the event the adjacent project to the north (Mangini) is not constructed prior to this project's construction, the applicant shall be required to construct a secondary roadway access through the adjacent Mangini Development to connect to Bond Lane, to the satisfaction of the Director of Public Works/City Engineer.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No impact. The project would include sidewalks connecting to the surrounding network of sidewalks. The project's streets would also provide circulation for bicycles. In addition, the project is within 0.25 mile of an established Tri-Delta Transit bus route. As such, the project would be consistent with General Plan policies regarding transit, bicycle and pedestrian facilities. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Utilities and Service Systems *Would the project:*				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Evaluation

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than significant impact. The project site would be served with sanitary sewer service provided by the City of Brentwood, which treats effluent at the City of Brentwood Wastewater Treatment Plant. The wastewater treatment plant has a current capacity of 5 million gallons of wastewater per day (mgd) and was designed to facilitate an expansion to an average dry weather flow of 10 million

gallons of wastewater per day. As of 2012, the average dry weather flow to the wastewater treatment plan was 3.4 mgd. As such, sufficient capacity is available to accommodate the project.

The Wastewater Treatment Plant is subject to state and federal waste discharge and permitting requirements and, therefore, would ensure the project's effluent would not exceed applicable RWQCB wastewater treatment requirements. Stormwater would be collected on-site within one bioretention basin prior to off-site discharge. As such, compliance with all local, state, and federal regulations regarding water quality standards and wastewater treatment requirements would ensure impacts would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant impact. The project would include the construction of water and wastewater conveyance on-site. Water and sewer service connections would be located in adjacent road rights-of-way. Construction of these facilities has been considered in this document and would be subject to applicable mitigation measures. As previously indicated, the project site would be served with sanitary sewer service provided by the City of Brentwood, which treats effluent at the City of Brentwood Wastewater Treatment Plant. The wastewater treatment plant has a current capacity of 5 mgd of wastewater and was designed to facilitate an expansion to an average dry weather flow of 10 mgd of wastewater. As of 2012, the average dry weather flow to the wastewater treatment plant was 3.4 mgd. As such, sufficient capacity is available to accommodate the project.

The City of Brentwood's current water supply consists of both surface water from the Delta and groundwater from existing groundwater wells located in the San Joaquin Groundwater Basin. There are five sources of water supply for the City:

- Randall-Bold Water Treatment Plant: Treated surface water purchased from Contra Costa Water District originally from diverted water from the Old River, Middle River, and Rough Slough delivered via the Contra Costa Canal.
- Raw Water: Surface Water purchased from East Contra Costa Irrigation District, delivered via the East Contra Costa Irrigation Canal.
- Groundwater: Groundwater from seven active groundwater wells within the City.
- City of Brentwood Water Treatment Plant: Supplier produced surface water originally from diverted water from the Old River, Middle River, and Rock Slough delivered via the Contra Costa Canal.
- Recycled Water: Tertiary treated wastewater from the City's wastewater treatment plant.

Water demand associated with the proposed project would be within the future water demand as outlined in the Urban Water Management Plan and City of Brentwood General Plan. The City anticipates an increase of 3,441 additional single-family residences between 2010 and 2020; the City's water supply would be adequate to meet this projected demand.

The proposed project is within the urban service area of the City of Brentwood where water and sewer services exist and are capable of serving the project. Therefore, the proposed project would not require the expansion of existing or construction of new water or sewer treatment facilities. Impacts would be less than significant.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant impact. The project would increase the amount of impervious surface cover and increase stormwater runoff. However, the project includes the construction of one bioretention basin that would collect stormwater runoff prior to discharge into the existing stormwater system, consistent with low impact development design strategies and C.3 requirements. The bioretention basins have been designed and would be constructed to provide sufficient stormwater storage, as indicated by the sizing calculations prepared for the project (Carlson Barbee & Gibson 2014). No off-site stormwater facility construction or expansion would be required. Construction of the on-site stormwater drainage infrastructure has been considered in this document and would be subject to applicable mitigation measures. As such, impacts would be less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than significant impact. The proposed project consists of development of new residential uses and is within the urban service area of the City of Brentwood. The project's water supply needs would be served by the City of Brentwood via connections to existing infrastructure adjoining the project site. As indicated by the City of Brentwood's Urban Water Management Plan, adequate supplies are available through 2035 during normal and multiple dry years. The City of Brentwood's Water Division has adequate supplies to service the development and continuous operation of the proposed project. Therefore, sufficient water supplies are available to serve the project and impacts would be less than significant.

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than significant impact. The project site would be served with sanitary sewer service provided by the City of Brentwood, which treats effluent at the City of Brentwood Wastewater Treatment Plant. The wastewater treatment plant has a current capacity of 5 mgd of wastewater and was designed to facilitate an expansion to an average dry weather flow of 10 mgd of wastewater. As of 2012, the average dry weather flow to the wastewater treatment plan was 3.4 mgd. As such, sufficient capacity is available to accommodate the project in addition to existing commitments. Impacts would be less than significant.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than significant impact. Construction and operation of the project would generate solid waste, which would be served by existing solid waste disposal services as provided by the City of Brentwood. Solid waste and recyclables from the City of Brentwood are taken to the City-owned Brentwood Transfer Station, located in northeastern Brentwood. There, recyclables are separated out and shipped to recycling markets. Solid waste is transferred to the Keller Canyon Landfill in Pittsburg, which serves all of Contra Costa County.

The Brentwood Transfer Station is permitted to handle 400 tons of solid waste per day of municipal solid waste, and it is currently operating at approximately 39 percent capacity (CalRecycle 2014). The Keller Canyon Landfill is permitted to accept 3,500 tons of waste per day and is currently operating at approximately 84 percent capacity (CalRecycle 2014). According to the 2014 Solid Waste Facility Permit for Keller Canyon Landfill, an estimated 56 million cubic yards of capacity remain and the estimated closure date is 2050 (CalRecycle 2014). As such, sufficient capacity is available to serve the project.

In addition, construction and demolition solid waste would be recycled and disposed of in compliance with the 2010 California Green Building Code Standards, and Brentwood's Municipal Code Section 8.40, which requires a waste management plan and diversion of at least 50 percent of construction and demolition debris. As such, the project would divert construction and demolition debris from landfills such that it would not have a significant impact on landfill capacity and would comply with regulations set by the City of Brentwood. Impacts would be less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No impact. The project would be required to adhere to construction and demolition waste provisions stated in the current California Building Code and Brentwood's Municipal Code Section 8.40. Projects that comply with the current California Building Code would comply with federal, state, and local statutes and regulations related to solid waste. As such, no impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. Mandatory Findings of Significance				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less than significant with mitigation incorporated. As discussed in the preceding environmental checklist, with the implementation of mitigation measures included in this IS/MND, the project does not have the potential to significantly degrade the quality of the environment, including effects on animals or plants, or to eliminate historic or prehistoric resources. As such, impacts would be less than significant with the implementation of mitigation.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than significant with mitigation incorporated. As discussed in the previous environmental checklist, impacts resulting from construction or implementation of the project would be reduced to a less than significant level by project design characteristics or by implementing mitigation measures included in this IS/MND.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than significant with mitigation incorporated. As described throughout this environmental checklist, the project would not result in substantial environmental effects on human beings. Mitigation measures are identified in this IS/MND to reduce potential significant impacts to human beings related to air quality, geology, and noise. Implementation of these mitigation measures would ensure that the project would not result in impacts that would cause substantial adverse effects on human beings, either directly or indirectly.

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