MEMORANDUM

April 14, 2022

From: Amber Sharpe, Project Manager
David J. Powers & Associates, Inc
1871 The Alameda, Suite 200
San José, CA 95126

To: Chuck Griffen, Financial and Administrative Services Manager
Santa Clara County Library District
1370 Dell Avenue
Campbell, CA 95008

Re: 1344 Dell Avenue SCCL – Library Administrative Annex Building Project NOE Justification

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INTRODUCTION TO CATEGORICAL EXEMPTIONS

The California Environmental Quality Act (CEQA) Guidelines contain classes (or categories) of projects that have been determined not to have a significant effect on the environment and are therefore exempt from the provisions of CEQA. CEQA Guidelines Sections 15301 – 15333 constitute the list of categorically exempt projects and contain specific criteria that must be met in order for a project to be found exempt. Additionally, CEQA Guidelines Section 15300.2 includes a list of exceptions to exemptions, none of which may apply to a project in order for it to qualify for a categorical exemption, i.e., if an exception applies, a project is precluded from being found categorically exempt.

CEQA Guidelines Section 15303 – New Construction or Conversion of Small Structures sets forth criteria for projects characterized as new construction of small structures that may be found categorically exempt. The analysis below shows that: a) none of the exceptions contained in 15300.2 apply to the project and, b) the project is consistent with the criteria in Section 15303. The project proposed for 1344 Dell Avenue can be found categorically exempt from CEQA under Guidelines Section 15303.

PROJECT DESCRIPTION

Project Location and Overview

The Santa Clara County Library District's (SCCLD) administrative offices are located at 1370 Dell Avenue in the City of Campbell. The proposed project would construct a single-story, 8,045 square foot office building north of the existing SCCLD offices at 1344 Dell Avenue (APN: 424-33-092). The proposed administrative annex/office building would serve as an auxiliary office space to the existing offices on 1370 Dell Avenue. The approximately 1.2-acre project site consists of a paved parking lot, a driveway, and a small undeveloped area with trees. The project site is vacant and does not contain any structures. The site is bordered by the Camden percolation pond to the east,

commercial/retail uses to the north, Dell Avenue and office/light industrial uses to the west, and office/industrial uses to the south (including the SCCLD administrative offices immediately south of the site). A regional, vicinity, and aerial photograph of the project site are shown in Figure 1, Figure 2, and Figure 3 below.

The project site has a General Plan Land Use designation of Research and Development and is located in the C-M (Controlled Manufacturing) zoning district. Per the City of Campbell's General Plan, the Research and Development designation is intended for campus-like environments such as research and development facilities, offices, and corporate headquarters. The Controlled Manufacturing zoning district allows for a wide variety of uses including offices, manufacturing facilities, government offices and facilities, and research and development facilities.

Project Components

Administrative Annex Building

The proposed single-story, 8,045 square foot office building would be located along the eastern property line (see Figure 4) and contain offices, reading rooms, meeting rooms, and a lounge area for use by SCCLD staff and their reading program clients. The building would have a maximum height of approximately 22 feet (see Figure 5).

Site Access and Trip Generation

Access to the project site would be provided via a new 24-foot-wide driveway on Dell Avenue along the northern property line. The proposed office building is anticipated to have a maximum of up 10 employees and 18 clients per day. Assuming that employees would generate up to six vehicle trips per day[1] and clients would generate up to two trips per day, the project would generate a total of 96 daily vehicle trips.

Landscaping

Based on Tree Removal and Protection Plan 16.0 (dated February 8, 2021), the project site contains 13 trees, including three "protected" trees.[2] The project would remove 12 trees and relocate one 16-

[1] Each employee is assumed to generate two trips to and from work, two trips during lunch, and two trips for an off-site meeting. Based on the Institute of Transportation Engineers Trip General Manual, 11th Edition, the weekday daily trip rate for a single tenant office space is 13.07 trips per 1,000 square feet. This would equate to 105 trips per day for the proposed office space.

[2] Per Chapter 21.32 of the City of Campbell's Municipal Code, a "protected" tree is any tree or multi-trunk tree with at least one trunk measuring twelve inches or greater in diameter (thirty-eight inches or greater in circumference), measured four feet above the adjacent grade.

inch City-protected queen palm tree on-site. The proposed project would plant new trees as part of the project landscaping.

Utility Improvements and Stormwater Control

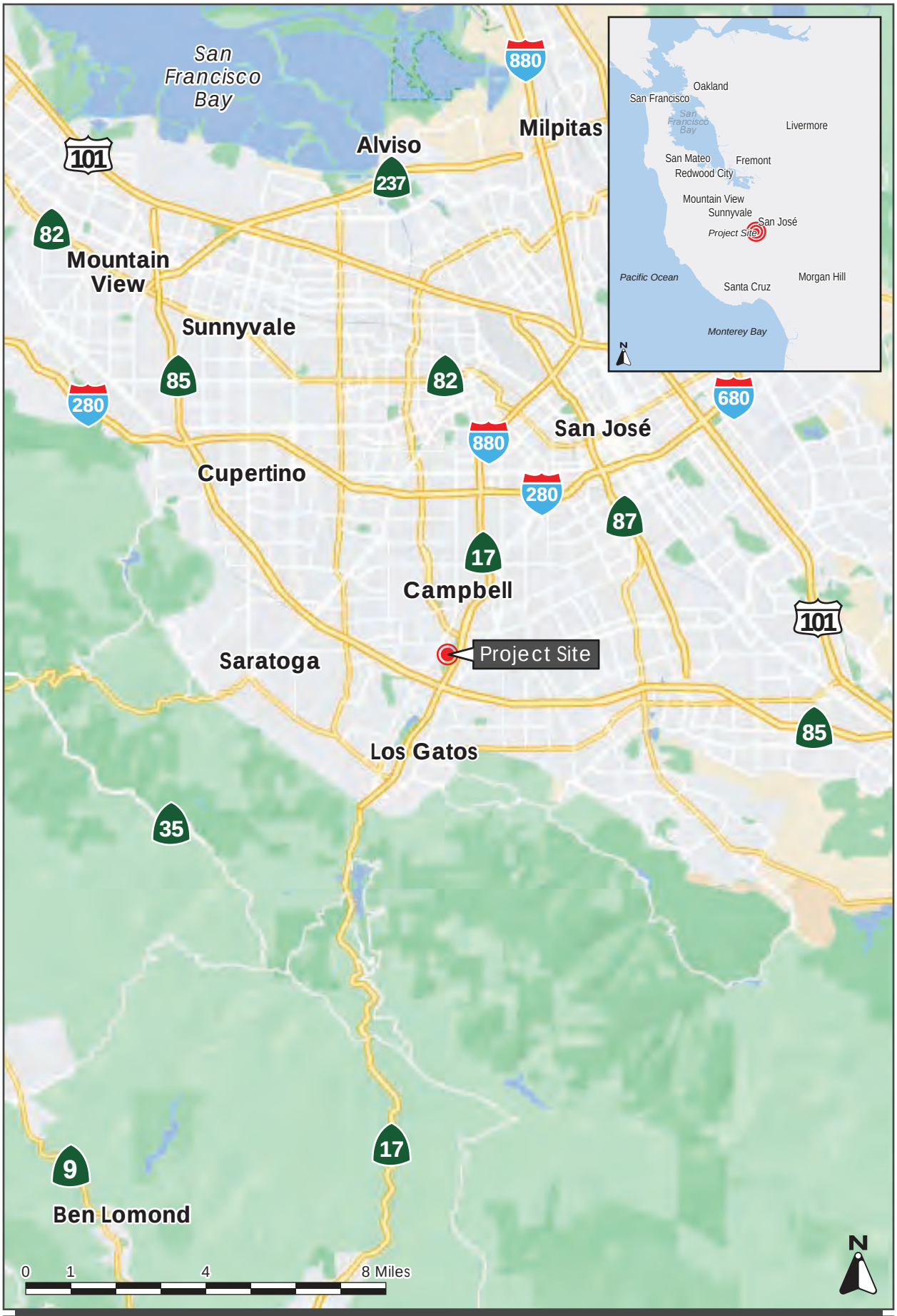
The project would construct new water and sewer lines that would connect to existing four-inch sewer lines and four to 18-inch water lines in Dell Avenue.

The 50,935 square foot project site is currently comprised of 73 percent of impervious surfaces (including the surface parking lot and driveway) and 27 percent of pervious surfaces (undeveloped northeast corner of the site). The project would construct a new office building that would replace the existing pervious area. Landscaping would be located along the boundaries of the site and within the parking lot area. With the development of the proposed project, the project site would be 91 percent impervious and nine percent pervious. The project proposes a new 12-inch storm drain on-site, which would connect to the City's existing stormwater system. Stormwater runoff from the site would be directed to on-site biotreatment/landscaped areas or stormwater chambers, then directed to the City's stormwater system.

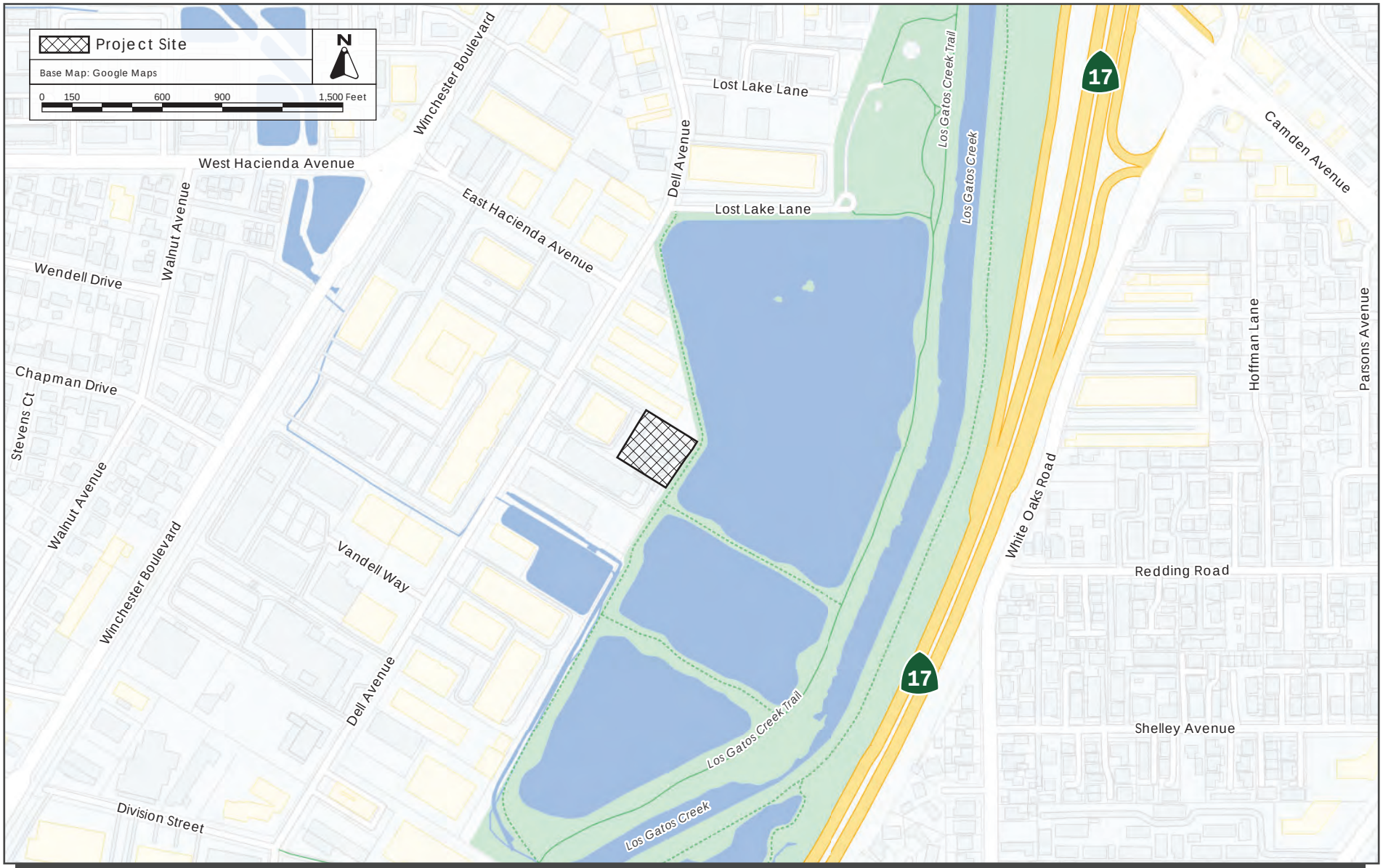
The proposed project would include a 125 kilovolt amp (kVA) emergency generator powered by 176 horsepower (HP) on the southwest corner of the project site. The proposed generator would be enclosed and would connect to underground conduits to the main electrical lines.

Grading and Construction

Project construction activities would include parking lot demolition, site preparation, grading and excavation, building construction, and utility installation. It is estimated that project construction would take a total of approximately 16 months and require excavation at a maximum depth of five feet below ground surface. Excavation and removal of approximately 1,625 cubic yards of soil would be necessary to accommodate the proposed building foundation and footings.



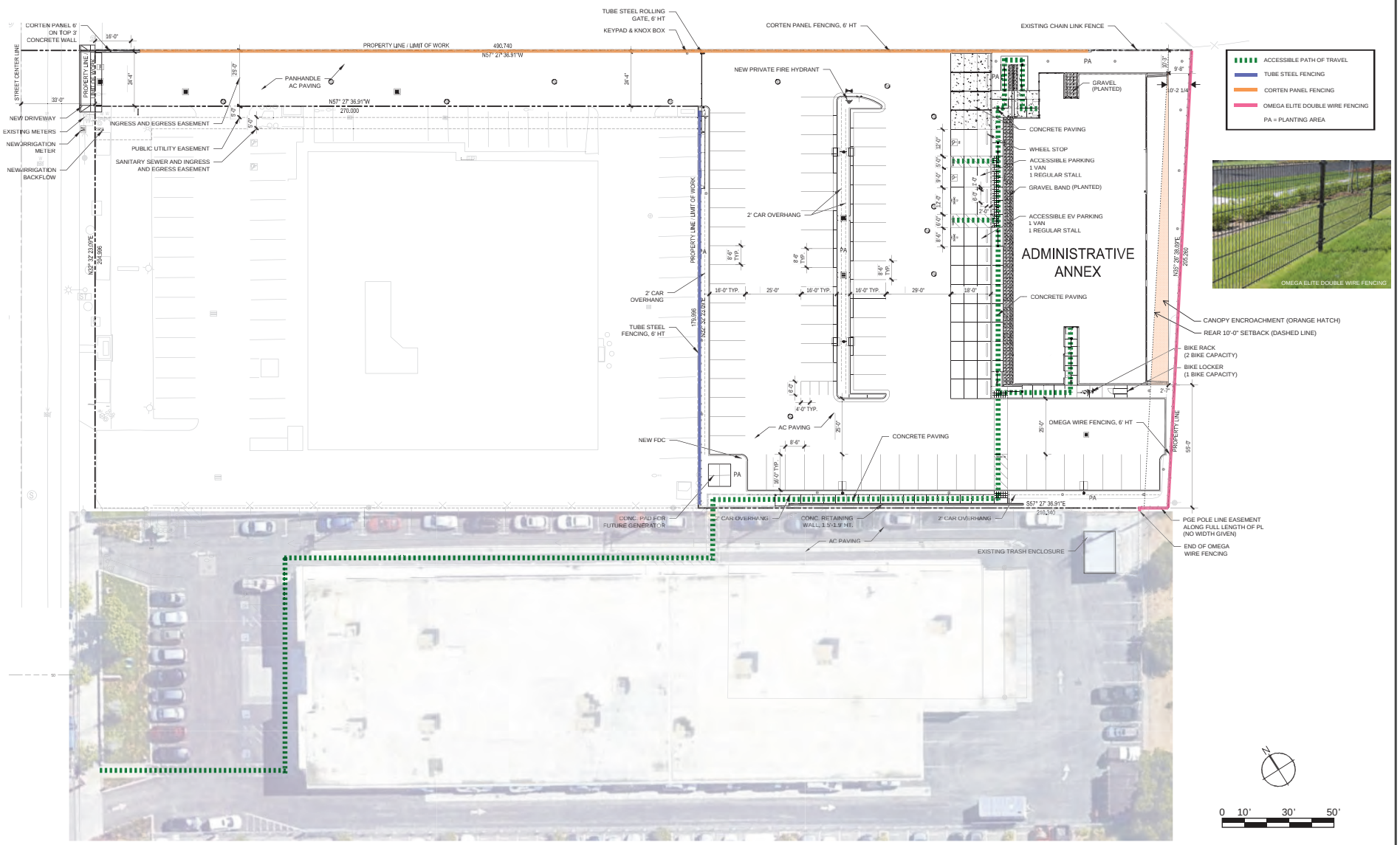
REGIONAL MAP | FIGURE 1



VICINITY MAP

FIGURE 2

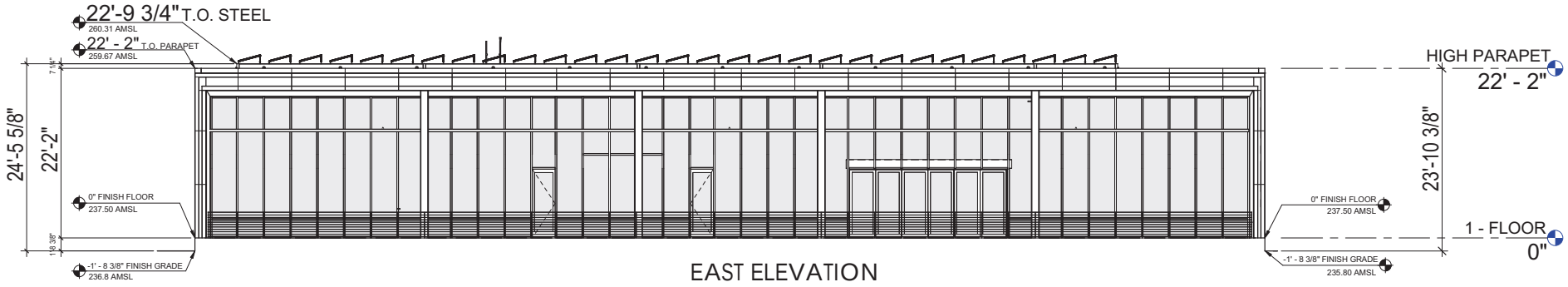
AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3



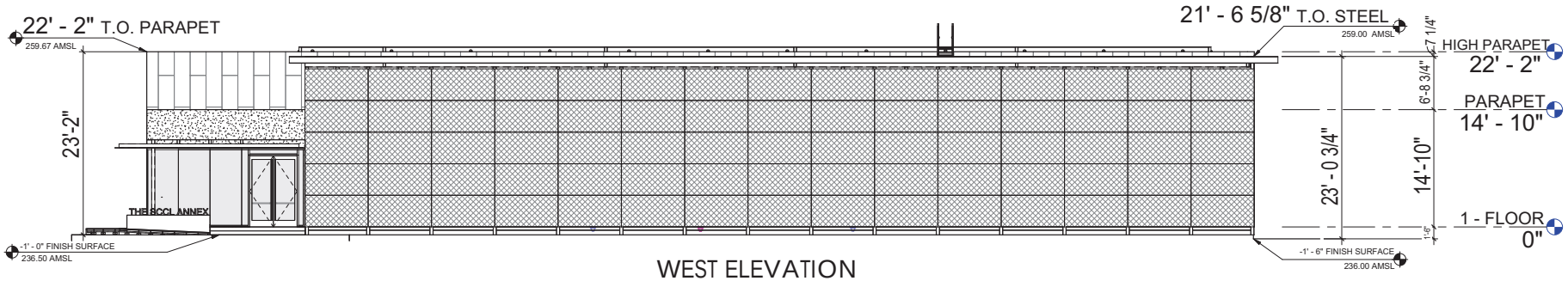
Source: LPA Design Studios, February 8, 2021.

CONCEPTUAL SITE PLAN

FIGURE 4



EAST ELEVATION



WEST ELEVATION

Source: LPA Design Studios, September 17, 2020.

CONCEPTUAL BUILDING ELEVATIONS

FIGURE 5

I. EXCEPTIONS TO CATEGORICAL EXEMPTIONS

This section documents that none of the exceptions in CEQA Guidelines Section 15300.2 would disqualify the project from being found categorically exempt.

CEQA Guidelines Section 15300.2 – Exceptions

(a) Location: Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

The project site is located in an urban area. The project site is bordered by the Camden percolation ponds to the east, commercial/retail uses to the north, Dell Avenue and office/light industrial uses to the west, and office/industrial uses to the south (i.e., the SCCLD administrative offices). Given the site's proximity to the Camden percolation pond which supports, and is attractive to, birds, an Avian Collision Risk Assessment and Collision Reduction Plan was completed for the project by H.T. Harvey and Associates in January 2021 (refer to Appendix A). The percolation pond is a facility managed by Valley Water for groundwater recharge and not an environmental resource of critical concern that has been mapped by a federal, state, or local agency.

Based on the assessment of bird use of the pond and project site, habitat conditions on the site are of low quality for most native birds found in the region due to the scarcity of vegetation, the lack of any native vegetation, and the small size of vegetated habitat patches. No special-status birds (i.e., species of conservation concern) are expected to occur regularly on-site. The proposed project would include additional landscaping which could provide habitat structure and foraging opportunities. However, given the limited extent of the proposed vegetation and small number of trees to be planted, any increase in birds using the site would be minimal. Based on the collision risk assessment, it is recommended that bird safe design elements (e.g., low reflectivity glazing), measures to minimize lighting, and other collision reduction measures be incorporated into the project design.

The majority of the proposed building's east façade includes glazing. Due to the potential for the building's east façade, which is predominantly glazed and faces bird habitat at Los Gatos Creek County Park, to result in bird collisions, the following bird-safe building design guidelines will be required as conditions of approval to minimize collisions with this façade.

Conditions of Approval

- All glazing used on the building's east façade shall have a reflectivity index of 15 percent or lower to reduce the potential for birds to collide with glazing when they perceive reflections of sky and/or water in glazing as an open flight path, rather than as solid glass.

In addition, due to the potential for night lighting throughout the site to disorient birds flying at Los Gatos Creek County Park, the project shall implement the following bird-safe design considerations for all new interior and exterior lighting on the project site:

- Minimize exterior lighting to the extent feasible, except as needed for safety. All exterior lights shall be directed toward facilities on the project site (e.g., rather than directed upward or outward) and shielded to ensure that light is not directed outward toward the pond area.

- If up-lights cannot be eliminated from the project design, all up-light fixtures shall be switched off no later than midnight during the primary spring migration (i.e., February 15 through May 31) and fall migration (i.e., August 15 through November 30) seasons.

- Occupancy sensors on interior lights, with the exception of emergency lights or lights needed for safety purposes, shall be programmed to shut off during non-work hours, between 10:00 p.m. and sunrise.

With the project's incorporation of these measures, the project is not anticipated to result in significant bird collisions due to its location. The project site is not mapped as a sensitive area and the project is not anticipated to have a significant impact on an environmental resource of concern.

(b) Cumulative Impact: All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

The proposed 8,045 square foot administrative annex building would serve SCCLD staff and clients for the SCCLD's reading program. The proposed building would have up to 10 SCCLD staff and 18 clients that would utilize the building each day. This would result in a total of 56 daily vehicle trips to and from the site. While most of the project's impacts would be limited to the project site and immediate surroundings, emissions of greenhouse gas emissions and regional criteria pollutants would have potential to have a broader impact. The cumulative impacts of these emissions are discussed below.

Greenhouse Gas Emissions

Global climate change is by its very nature a cumulative impact. Individual projects that comply with a local agency's Climate Action Plan would result in a less than significant greenhouse gas impact (GHG) impact. Since neither the SCCLD nor the City of Campbell have a Climate Action Plan in place, a quantitative GHG analysis is required. The BAAQMD's CEQA Air Quality Guidelines prepared for the statewide AB 32 2020 target recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed Assembly Bill (AB) 32. The proposed administrative annex/office building would be occupied in 2024 and, therefore, a threshold that addresses a future target is appropriate, based on the targets established in Senate Bill (SB) 32 to reduce statewide emissions 40 percent below 2020 levels by 2030.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO2e/year/service population and a bright-line threshold of 660 MT CO2e/year based on the GHG reduction goals of EO B-30-15. The service

population metric of 2.8 is calculated for 2030 based on predictions from BAAQMD. The 2030 bright-line threshold of 660 MT CO_2e/year is a 40 percent reduction of the 2020 1,100 MT $CO2_e$/year threshold. To be considered significant, a project's emissions must exceed both the bright-line threshold, which assesses the magnitude of a project's emissions, and the service population threshold, which evaluates the efficiency of a project's emissions on a per capita or job basis.

A quantitative GHG analysis was completed for the project using the California Emissions Estimator Model 2020.4.0 (CalEEMod, refer to Appendix B for the results). The operational GHG emissions (or metric tons of carbon dioxide equivalent [MT CO_2e/year]) for the project would be approximately 50 MT CO_2e. Thirty-seven (37) MT CO_2e/year would be from vehicle emissions, seven (7) MT CO_2e/year would be from building energy usage, four (4) MT CO_2e/year from solid waste, two (2) MT CO_2e/year from water, and less than 0.002 MT CO_2e/year from architectural coatings. Neither the SCCLD, the City of Campbell nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions. The total construction GHG emissions for the project is estimated to be 263 MT CO^2e/year. Since the project's operational GHG emissions would be well below the 2030 target, the project would not result in a significant contribution to cumulative GHG impacts.

Regional Criteria Pollutants and Toxic Air Contaminants

In its CEQA Air Quality Guidelines, BAAQMD developed operational and construction-related screening criteria to provide lead agencies and project applicants with a conservative indication of whether a proposed project could result in potentially significant air quality impacts. If the size of the project is below the BAAQMD screening criteria and implements BAAQMD-recommended Best Management Practices (BMPS) for construction, then the lead agency does not need to perform a detailed air quality assessment to compare the project's emissions to the BAAQMD significance thresholds. The project would have minimal operational emissions due to a low number of new vehicle trips (96 daily trips).

Project construction and operations would generate regional criteria pollutants that would contribute to cumulative regional air quality impacts. BAAQMD has adopted thresholds for screening levels for land uses to indicate whether a project would contribute a significant cumulative regional air quality impact. The proposed office building would be 8,045 square feet and would not exceed the operational criteria pollutant screening threshold of 64,000 square feet for government office uses and, therefore, would not result in a cumulatively considerable contribution to operational emissions.

The proposed project would include a 125 kVA emergency generator powered by 176 HP on the southwest corner of the project site. Generators are typically tested periodically and would power the buildings in the event of a power failure. It is assumed the generator would be operated primarily for testing and maintenance purposes that require approximately one hour per month of operation. The California Air Resources Board (CARB) and BAAQMD requirements limit the generator engine operations to 50 hours each per year of non-emergency operation. The engines would be required to meet CARB and U.S. Environmental Protection Agency (EPA) emission standards and consume commercially available California low-sulfur diesel fuel. The project's generator operations would comply with the above requirements and, therefore, would not result in significant operational criteria pollutant emissions. Therefore, the project's operational emissions would not result in a cumulatively considerable net increase in criteria pollutants.

The proposed project size is also below the construction-related screening size threshold of 259,000 square feet of government office building land use type. In addition, the City has adopted BAAQMD' BMPs as a standard measures (listed below).

Construction Best Management Practices

- **Construction-related Air Quality.** The following measures shall be implemented during all phases of construction to control dust and exhaust at the project site:
    - Water active construction areas at least twice daily or as often as needed to control dust emissions.
    - Cover trucks hauling soil, sand, and other loose materials and/or ensure that all trucks hauling such materials maintain at least two feet of freeboard.
    - Remove visible mud or dirt track-out onto adjacent public roads using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
    - Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
    - Pave new or improved roadways, driveways, and sidewalks as soon as possible.
    - Lay building pads as soon as possible after grading unless seeding or soil binders are used.
    - Replant vegetation in disturbed areas as quickly as possible.
    - Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
    - Minimize idling times either by shutting off equipment when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Provide clear signage for construction workers at all access points.
    - Maintain and property tune construction equipment in accordance with manufacturer's specifications. Check all equipment by a certified mechanic and record a determination of running in proper condition prior to operation.
    - Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints.

With implementation of the above construction BMPs, the project's construction emissions would not result in a cumulatively considerable net increase in criteria pollutants.

Sensitive Receptors

The project site is surrounded by the Camden percolation pond to the east, commercial/retail uses to the north, Dell Avenue and office/light industrial uses to the west, and office/industrial uses to the south. Toxic air contaminants (TACs) are a broad class of compounds known to have health effects. TACs could be released from diesel-operated construction equipment or operational sources such as

diesel emergency generators. As previously stated, the proposed project would include a 176 HP emergency generator on the southwest corner of the project site. Based on BAAQMD CEQA Air Quality Guidelines, TAC sources have the potential to impact off-site sensitive receptors (e.g., residences, schools, hospitals) located within 1,000 feet of a project site. There are no sensitive receptors within 1,000 feet of the project site. The nearest sensitive receptors are residences, 1,200 feet west of the site, across State Route (SR) 17. Therefore, the project would not contribute toward any cumulative impacts to sensitive receptors from TAC emissions given the site is located a sufficient distance from any sensitive receptors.

Vehicle Miles Traveled

As stated in the project description, up to 10 employees and 18 clients would use the proposed administrative annex building daily. The project would, therefore, generate up to 96 daily vehicle trips. The effects of proposed projects in the City of Campbell on VMT are evaluated using the methodology outlined in the City of Campbell's VMT policy. Based on the City's VMT policy, projects shall be presumed to have a less than significant transportation impact if they meet the applicable screening criteria. The proposed project would meet the small project screening criteria, which states that any development that would generate fewer than 110 daily vehicle trips per day would have a less than significant VMT impact. Since the proposed project would generate up less than 110 daily vehicle trips, the project would have a less than significant VMT impact. Since VMT is a Citywide (cumulative) issue, the project would have a less than cumulatively considerable contribution to the significant cumulative VMT impact.

(c) Significant Effect: A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The proposed project and project site do not contain any features that are unique or that would constitute 'unusual' circumstances for an administrative office building. As stated above, percolation ponds are located to the east of the building and those ponds may attract wildlife including birds. However, the ponds are not mapped as sensitive habitat and with the implementation of the bird safe design guidelines (conditions of approval), the project would not have a significant impact due to bird collisions.

Based on a review of historical photographs completed as a part of the Cultural Resources Assessment, the project site and surrounding area were used for agricultural purposes from 1948 to 1955, with orchards and open fields occupying the surrounding area. The previous agricultural uses were typical for the project area and not unusual. It is possible that soils could contain residual pesticides and metals. However, past agricultural uses and potential for soil contaminants is not an unusual circumstance for the Santa Clara Valley, it is common and can be addressed during construction. Below are conditions of approval that would be implemented during construction to address potential soil contamination.

Conditions of Approval:

- Prior to issuance of grading permits, the City shall retain a qualified hazardous materials contractor to perform a soil investigation to determine the levels of contamination from pesticides and lead. If the residual contaminants are not detected and/or are found to be below the environmental screening levels for public health and the environment in accordance with Santa Clara County Department of Environmental Health (SCCDEH), Regional Water Quality Control Board (RWQCB), or the California Department of Toxic Substances Control (DTSC) requirements, no further mitigation is required. The results of the soil investigation shall be submitted to the Building Official.

- If residual contaminants are found and are above regulatory environmental screening levels for public health and the environment, the project proponent shall enter the Site Cleanup Program with the SCCDEH. The SCCDEH may require the project proponent to implement appropriate management procedures, such as removal of the contaminated soil and implementation of a Site Management Plan (SMP), Removal Action Workplan (RAP), or equivalent document. Copies of all environmental investigations and evidence of SCCDEH oversight shall be submitted to the Building Official.

In 1955, the American Legion Post 99 West Valley Event Center was constructed. The event center served as a space for veterans and their families to participate in a variety of social and philanthropic activities including barbeques, weddings, and quinceañeras until 2012. The event center was demolished in 2018. The historic uses of the site were typical agricultural and event center uses which do not create an unusual circumstance.

Other environmental resources are discussed further in this memorandum, none of which present unusual circumstances for the project site or proposed office building. Standard measures/conditions of approval that are required by local, State, and Federal regulations would be implemented as part of the project to minimize and avoid construction-related impacts. The proposed project would, therefore, not result in a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways: A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

State Route (SR) 9 from the Santa Cruz County line to the Los Gatos City limit is the nearest officially designated state scenic highway.[3] The project site is approximately three miles northeast of the nearest officially designated segment of SR 9. Therefore, the project would not result in any damage to scenic resources within a highway officially designated as a state scenic highway.

[3] California Department of Transportation. *List of Eligible and Officially Designated State Scenic Highways.* Accessed March 17. 2022. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

(e) Hazardous Waste Sites: A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

The project site is not included on any lists compiled pursuant to Section 65962.5 of the Government Code. Therefore, no exceptions to the exemption apply under 15300.2(e).[4] For this reason, exception (e) is not applicable to this project.

(f) Historical Resources: A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

Under existing conditions, the project site does not contain any structures and is not in proximity to any historic structures. Based on the City of Campbell's Landmarks, Historic Districts, and Structures of Merit Inventory, the nearest historic structures to the project site are located within a historic district on Alice Avenue, approximately one mile north of the site. Given there are no structures on the project site and the distance of the site to the nearest historic structures, the project would have no impact historic structures.

A Cultural Resources Assessment dated March 2, 2022, was prepared by PaleoWest, LLC for the project site. The Cultural Resources Assessment consisted of a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), archival research, outreach to the Native American Heritage Commission (NAHC), a Sacred Lands File search, and a survey of the site conducted by a PaleoWest archaeologist. The assessment found there were not previously identified historical or cultural resources on or within a quarter mile of the project site. In addition, NAHC responded to the Sacred Lands File search request on February 18, 2022 and stated that the search results for the project vicinity were negative.

NAHC also provided a list of tribes to provide notification to about the project. One tribe responded to the notification, Tamien Nation, who noted a concern about the project's proximity to Los Gatos Creek. Los Gatos Creek is located approximately 700 feet east of the site. The assessment concluded that the site has moderate sensitivity for prehistoric archaeological resources due to the site's proximity to Los Gatos Creek. As a result, Tamien Nation recommended preliminary archaeological testing at the site prior to construction.

Archaeological sensitivity near waterways is common throughout Santa Clara County. Portions of the site have been previously disturbed for construction, making the likelihood of encountering buried cultural resources low given the limited ground disturbance required to construct the project. However, the following conditions of approval would be implemented as part of the project to avoid impacts to unknown subsurface resources:

Conditions of Approval:

- Prior to construction of the project, the SCCLD shall complete a preliminary archaeological investigation testing (with a minimum of three test pits).

- Archaeological monitoring for ground disturbing activities associated with parking lot demolition and excavation shall be conducted.

[4] California Environmental Protection Agency. Cortese List Data Resources. Accessed March 17, 2022. https://calepa.ca.gov/sitecleanup/corteselist/.

- If suspected prehistoric or historic resources are encountered during excavation and/or grading of the site, construction personnel shall be instructed to immediately suspend all activity within a 50-foot radius and the District staff and the City's Planning Division shall be notified of the discovery. A licensed archaeologist shall be retained in order to 1) evaluate the find(s) to determine if they meet the definition of a historical or archaeological resource; and 2) submit a resource mitigation and monitoring reporting program with appropriate recommendations regarding the disposition of such finds prior to resumption of construction activities. A report of findings documenting any data recovery shall be submitted to the District, the City's Planning Division and the Northwest Information Center (if applicable). Project personnel shall not collect or move any cultural materials. The District shall implement the recommendations of the qualified archaeologist.

- In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The City Planning Division and the Santa Clara County Coroner's office shall be notified. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) immediately. Once the NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

Conclusion

Based on the analysis above, none of the exceptions to categorical exemptions detailed in CEQA Guidelines Section 15300.2 apply to the proposed project.

II. EXEMPTIONS

New Construction or Conversation of Small Structures Criteria

This section documents that the proposed project qualifies for a Class 3 New Construction of Small Structures exemption because it meets the criteria set forth in CEQA Guidelines Section 15303.

CEQA Guidelines Section 15303 – New Construction or Conversation of Small Structures

Class 3 consists of projects characterized by the construction and location of a limited number of small new facilities or structures, installation of small new equipment and facilities in small structures, and the conversation of existing small structures from one use to another with minor modifications to the exterior. The number of structures is the maximum allowed on any legal parcel. This includes the following examples.

(c) A store, motel, office, restaurant or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2,500 square feet in floor area. In urbanized areas, the exemption also applies to up to four such commercial building not exceeding 10,000 square feet in floor area on sites zoned for such use if not involved the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area in not environmentally sensitive.

The project proposes to build an 8,045 square foot office building on a vacant site within an urban area. The site is currently zoned Controlled Manufacturing which allows for a wide variety of uses including offices, manufacturing facilities, government offices and facilities, and research and development facilities. Operation of the proposed project could include the use and storage of small quantities of chemicals for janitorial cleaning and landscape maintenance. Compliance with applicable federal, state, and local handling, storage, and disposal requirements would avoid significant hazards to the public or the environment created by the routine transport, use, or disposal of these substances. The project would not affect access to public services and facilities. The area is not environmentally sensitive, and the project would not significantly affect birds that forage at the adjacent percolation ponds (with the implementation of bird safe guidelines).

(d) Water main, sewage, electrical, gas, and other utility extension, including street improvements, of reasonable length to serve such construction

The proposed project's utilities (water, sewer, stormwater lines) would connect to the City's existing utility systems. To provide access to the project site, the project would construct a new 24-foot-wide driveway to replace the existing driveway.

Conclusion

With incorporation of the Conditions of Approval discussed above, the proposed project meets the criteria for a Class 3 New Construction or Conversation of Small Structures exemption. None of the exceptions to the exemptions set forth in CEQA Guidelines Section 15300.2 apply to the project.

Appendix A – H.T. Harvey & Associates, Bird Collision Assessment
Appendix B – CalEEMod Results
Appendix C – Cultural Resources Assessment (This assessment is not attached to this document since it contains sensitive information; the assessment is on file at the Santa Clara County Library District.)

Appendix A

Collision Risk Assessment
1344 Dell Avenue Administrative Annex Building Project

January 15, 2021

Brett Stollenwerk
Santa Clara County Library District
1370 Dell Avenue
Campbell, CA 95008

Subject: Santa Clara County Library District Administrative Annex Building – Avian Collision Risk Assessment and Collision Reduction Plan (HTH #4497-01)

Dear Mr. Stollenwerk:

Per your request, H. T. Harvey & Associates has performed an assessment of avian collision risk for the proposed Library Administrative Annex Building at 1344 Dell Avenue in Campbell, California. It is our understanding that the project entails the removal of existing pavement and landscape vegetation on the site and construction of a new 8,045 square-foot office building. We further understand that you are requesting our assistance with the preparation of a bird collision reduction plan for the project as required by the City of Campbell.

In summary, avian collisions with the glass facades of the proposed building can potentially occur due to the location of the site adjacent to Los Gatos Creek County Park, which supports large numbers of birds, and due to the incorporation of considerable amounts of glass in the building's east facade. Although proposed landscape vegetation on the site is limited, and several features of the architecture of the proposed building reduce the potential for avian collisions with the building, we provide recommendations to reduce collisions with this façade in our assessment below.

Statement of Qualifications

This assessment was prepared by Steve Rottenborn and me. Briefly, our qualifications are as follows (résumés attached):

- I am a wildlife ecologist with a B.S. in Ecology from the University of California, San Diego and an M.S. in Fish and Wildlife Management from Montana State University, where my Master's thesis focused on factors affecting the nest survival of yellow warblers (*Setophaga petechia*), dusky flycatchers (*Empidonax oberholseri*), and warbling vireos (*Vireo gilvus*). Trained as an ornithologist, I specialize in the nesting ecology of passerine birds, with a broad range of avian field experience from across the United States. I am an avid

birder, and I volunteered as a bird bander for the San Francisco Bay Bird Observatory, where I banded, sexed, and aged resident and migrant passerine species from 2010–2020. I have spent hundreds of hours in the field conducting nesting bird surveys for H. T. Harvey & Associates projects over the past 13 years, and have found hundreds of passerine nests as well as many nests of raptors.

- Steve Rottenborn has a Ph.D. in biological sciences from Stanford University, where his doctoral dissertation focused on the effects of urbanization on riparian bird communities in the South San Francisco Bay area. He has been an active birder for more than 35 years and has conducted or assisted with research on birds since 1990. He has served for 9 years as an elected member of the California Bird Records Committee (including 3 years as chair) and for 13 years as a Regional Editor for the Northern California region of the journal North American Birds. He is a member of the Scientific Advisory Board for the San Francisco Bay Bird Observatory, the Technical Advisory Committee for the South Bay Salt Ponds Restoration Project, and the Board of Directors of the Western Field Ornithologists.

In addition, H. T. Harvey & Associates ornithologist Matthew Louder, Ph.D., and I conducted a reconnaissance-level survey of the project site on January 8, 2021 to characterize potential bird use of the site and immediately surrounding areas.

Although the subject of bird-friendly design is relatively new to the West Coast, we have performed avian collision risk assessments and identified measures to reduce collision risk for several projects in the Bay Area, including projects in the cities of San Francisco, Oakland, South San Francisco, Redwood City, Menlo Park, Palo Alto, Mountain View, Santa Clara, Sunnyvale, and San José.

Assessment of Bird Use

Existing Conditions

Habitat conditions and bird occurrence in the immediate vicinity of the project site (i.e., on the site and on immediately adjacent lands) are typical of much of the urbanized San Francisco Bay area. The approximately 1.2-acre project site consists of existing pavement with several nonnative landscape trees and an approximately 0.3-acre area of nonnative grasses and weeds mixed with bare ground (Photos 1 and 2). The site is located immediately adjacent to the percolation ponds at Los Gatos Creek County Park to the east, and is otherwise surrounded by high-density commercial development.

Photo 1. Paved hardscape with narrow, interrupted areas of landscaping on the project site.

Photo 2. An approximately 0.3-acre area of nonnative grasses, weeds, and bare ground on the project site.

Habitat conditions on the site are of low quality for most native birds found in the region due to the scarcity of vegetation, the lack of any native vegetation, the absence of well-layered vegetation (e.g., with ground cover, shrub, and canopy tree layers in the same areas), and the small size of the vegetated habitat patches. Trees on the site include nonnative crepe myrtle (*Lagerstroemia* sp.), flowering plum (*Prunus cerasifera*), eastern redbud (*Cercis canadensis*), Afghan pine (*Pinus brutia*), Hollywood juniper (*Juniperus chinensis*), and queen palm (*Syagrus romanzoffiana*). Nonnative vegetation supports fewer of the resources required by native birds than native vegetation, and the structural simplicity of the vegetation further limits resources available to birds. Nevertheless, there is a suite of common, urban-adapted bird species that occur in such urban areas that are expected to occur on the site regularly. These include the native Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*), dark-eyed junco (*Junco hyemalis*), and house finch (*Haemorhous mexicanus*), as well as the non-native European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*). All of these birds are year-round residents that can potentially nest on or immediately adjacent to the project site. A number of other species, primarily migrants or winter visitors (i.e., nonbreeders), are expected to occur occasionally on the site as well, including the white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), and yellow-rumped warbler (*Setophaga coronata*). For example, low numbers of migrants are expected to forage in the ornamental vegetation on the site. However, no bird species are expected to occur on the site in large numbers, and all of the species expected to occur regularly are regionally abundant species. No special-status birds (i.e., species of conservation concern) are expected to nest or occur regularly on the site.

The habitat conditions located to the north, west, and south of the project site are very similar to those on the project site itself. These areas are dominated by commercial/office uses and have landscaping similar to that on the project site (Figure 1). As a result, bird use of these surrounding areas is as described above for the project site.

Figure 1. The project site (delineated in yellow) and surroundings are dominated by commercial/office uses, similar to that on the project site. Los Gatos Creek County Park is located to the east of the project site.

The managed ponds of Los Gatos Creek County Park located immediately east of the project site provide foraging habitat for a wide variety of waterfowl, herons, egrets, gulls, and shorebirds (Photo 3). Numbers of birds using these habitats are highest in winter and during migration, but several species are present year-round in these areas as well. These birds are closely tied to wetlands and aquatic habitats, and they are not expected to occur within developed areas such as the project site.

Photo 3. Ponds at Los Gatos County Creek Park adjacent to the project site provide habitat for a variety of birds.

Vegetation along pond edges adjacent to the project site consists of a narrow band of nonnative grasses and weeds with small numbers of nonnative trees, as well as pedestrian trails (Photo 3) (Figure 1). The grasses and weeds within these areas are regularly mown and provide minimal cover, nesting, or foraging opportunities for birds. In addition, as discussed above for the habitats on the project site, the nonnative vegetation and trees within these areas supports fewer of the resources required by native birds than native vegetation, and the structural simplicity of the vegetation further limits resources available to birds.

Los Gatos Creek flows south to north along the eastern boundary of Los Gatos Creek County Park. Much of this channel is maintained free of vegetation for flood control purposes; however, a section of the creek located approximately 940 feet southeast of the project site supports dense riparian trees that provide nesting and foraging habitat for a number of species of birds. Riparian habitats in California generally support exceptionally rich bird communities and contribute disproportionately to landscape-level species diversity, and the presence of this riparian habitat at Los Gatos Creek County Park is expected to increase the diversity and abundance of bird species that occur there.

Although some songbirds that migrate along the Pacific Flyway and travel through the site vicinity are expected to be attracted to Los Gatos Creek County Park, the portions of the park closest to the proposed project site are not heavily used by migrating songbirds. The project site is located approximately 10.3 miles inland from the Bay and is isolated from Bay habitats by dense urban development. Further, the riparian habitat at Los Gatos Creek County Park is highly fragmented due to the surrounding high-density urban development and the presence of bridges, road crossings, and channelization along nearby portions of the river, and therefore lacks connectivity to higher-quality riparian habitats in the region. Thus, based on the low quality of the habitat on the site and at Los Gatos Creek County Park, as well as the isolation of this habitat from the edge of the Bay and from higher-quality habitats in the region, only modest numbers of birds migrating along the Pacific Flyway are expected to be attracted to this park during migration. Nevertheless, some songbirds that migrate along the Pacific Flyway and travel through the site vicinity will be attracted to Los Gatos Creek County Park and disperse and forage adjacent to the site. Further, Los Gatos Creek County Park is used regularly by resident birds that are present in the vicinity year-round and are attracted to the these areas for foraging and nesting opportunities.

Proposed Conditions

Under proposed conditions, the numbers of birds that use the site are expected to increase somewhat due to the proposed expansion of landscape areas on the site. The project's planting plans include a mix of native and nonnative trees, shrubs, and herbaceous plants. Seven native western sycamore (*Platanus racemosa*) trees will be planted on the site, and one existing nonnative queen palm will be relocated and retained. Shrubs and herbaceous plants to be planted on the site include native toyon (*Heteromeles arbutifolia*) and Berkeley sedge (*Carex tumulicola*) as well as nonnative river wattle (*Acacia cognata*), bottlebrush (*Callistemon* sp.), stone crop (*Sedum spurium*), and reed grass (*Calamagrostis* sp.). This vegetation will be limited in extent and primarily located around the building and the site periphery; the majority of open areas on the site will consist of hardscape parking areas. This future landscape vegetation is expected to provide somewhat greater habitat structure and foraging opportunities for landbirds compared to existing conditions, primarily due to the presence of native California sycamore trees, which provide higher-quality nesting and foraging resources for birds compared to the nonnative trees that are currently present on the site. However, due to the limited extent of this proposed vegetation as well as the small number of trees to be planted on the site, any increase in the abundance of landbirds using the site following construction is expected to be modest.

Assessment of Collision Risk due to Glazing

Because birds do not necessarily perceive glass as an obstacle, windows or other structures that reflect the sky, trees, or other habitat may not be perceived as obstacles, and birds may collide with these structures. Similarly, transparent windows can result in bird collisions when they allow birds to perceive an unobstructed flight route through the glass (such as at corners), and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through glass to reach vegetation. A number of factors play a role in determining the risk of bird collisions with buildings, including the amount and type of glass used, lighting, properties of the building (e.g., size, design, and orientation), type and location of vegetation around the building, and building location.

As noted above, relatively low numbers of native, resident birds occur in the project vicinity. As a result, the number of resident landbirds (i.e., breeding or overwintering birds) that may collide with the project building will be relatively low. However, modest numbers of migrant landbirds will be attracted to the project vicinity, especially the habitat at Los Gatos Creek County Park as described above. These migrants will be attracted to the green vegetation and trees on the project site as potential foraging resources, and they will be susceptible to collisions with the proposed building if they cannot detect the glass as a solid structure to be avoided. The highest collision risk would likely occur when inclement weather enters the region on a night of heavy bird migration, when clouds and fog make it difficult for birds to find high-quality stopover sites once they reach ground level.

Several features of the architecture of the proposed building would reduce the potential for avian collisions. Based on the project plans, the building's north, west, and south facades are predominantly opaque, with limited glazing (Figures 2 and 3). Further, no free-standing glass walls or transparent glass corners are included in the design that would create a collision hazard due to see-through conditions. No vegetated roofs, terraces, or decks are proposed.

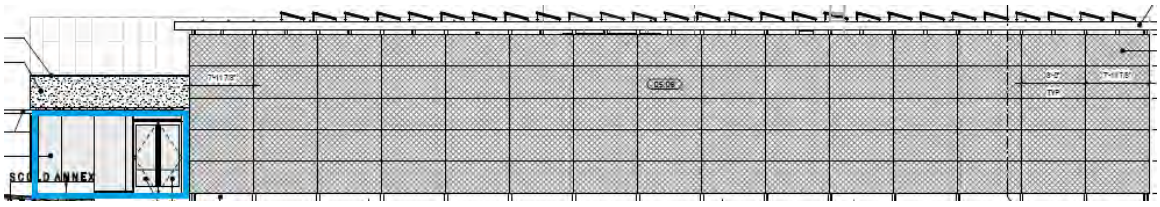


Figure 2. Glazing on the building's west façade (outlined in blue) is limited to the building entrance at the northwest corner.

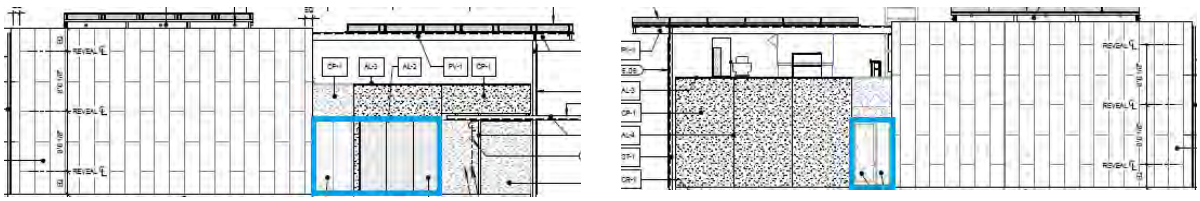


Figure 3. Glazing on the building's north façade (left) and south façade (right), outlined in blue, is limited in extent and does not create see-through conditions, such as at corners, with glazing on the east and west facades.

The extensive glazing proposed on the building's east façade poses some collision risk to birds. While this glazing is visually disrupted by narrow vertical and horizontal mullions, it nonetheless presents a large surface in which birds can potentially perceive reflected sky, water, and/or vegetation and collide with the glass as they attempt to reach those reflections (Figure 4). However, no vegetation is proposed on the building's interior, and no transparent glass corners are present that would create see-through conditions such that birds would attempt to fly through this glazing to reach vegetation on the north or south side of the building. Thus, bird collisions with this façade are expected to occur due to reflections of the sky, water, or vegetation in the glazing, rather than to transparency/see-through conditions.

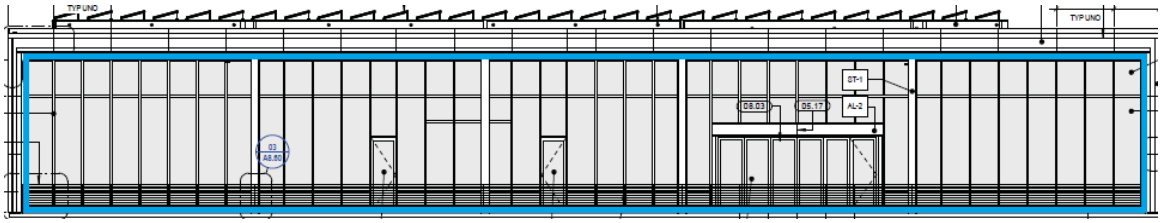


Figure 4. Glazing on the building's east façade, outlined in blue, is extensive, and includes the majority of the façade area. A deck surrounded by a metal guardrail is present in front of this façade; this deck is located in between the façade and proposed landscape vegetation.

The project's landscape plan shows low-growing vegetation will be planted along the building's exterior consisting of ceanothus, toyon, and bottlebrush. In addition, seven western sycamore trees will be planted on the south and west sides of the building; however, no trees will be planted in front of the building's east facade. Birds using Los Gatos Creek County Park to the east are expected to be attracted to the landscape vegetation on the site, ostensibly increasing the possibility that they will see vegetation reflected in glass on adjacent facades and collide with those facades. However, an unvegetated exterior deck is present in between this façade and the proposed landscape vegetation, only low-growing vegetation will be planted in front of this façade, and no trees are present opposite this façade at Los Gatos Creek County Park (Figure 1). As a result, vegetation is not expected to be reflected in this façade, and bird collisions with this façade are not expected to occur due to reflected vegetation. Nevertheless, collisions may still occur due to the reflection of sky and/or water in glazing on the building's east façade. The bird collision reduction measures provided under *Bird Collision Reduction Recommendations* below would incorporate bird-safe design elements (i.e., low-reflectivity glazing) into the project design to minimize this effect. Because only modest numbers of birds are expected to be attracted to the site, and the proposed landscape plan is not expected to draw birds towards project glazing or cause vegetation to be reflected in the glazing, it is our opinion that additional bird-safe design measures (e.g., fritted glazing) are not needed to minimize collisions with this façade.

Assessment of Lighting Impacts

Visibility of Project Lights to Birds

Construction of the project will create new sources of lighting on the project site. Lighting would be the result of light fixtures illuminating buildings, building architectural lighting, pedestrian lighting, and artistic lighting. Depending on the location, direction, and intensity of exterior lighting, this lighting can potentially spill into adjacent areas, thereby resulting in an increase in lighting compared to existing conditions. The project is surrounded to the north, west, and south by commercially developed areas that do not support bird communities that might be substantially affected by illuminance from the project. However, birds inhabiting Los Gatos Creek County Park to the east may be affected by an increase in lighting. The following is a summary of the anticipated visibility of proposed lighting to birds on the project site:

- Surface-mounted wall grazer fixtures S1-9, S1-23, S1-27, and S1-28 (360 lumens/foot, 3000 K) will be located on the building's west façade along the perforated screen. These lights will be shielded from Los Gatos Creek County Park by the proposed building.
- Surface-mounted fixtures S3 (1594 lumens, 3000 K) will be located on the periphery of the deck that faces Los Gatos Creek County Park. These cylinder lights will project light both upward and downward, and light from these figures will be visible to birds at Los Gatos Creek County Park.
- Wall-mounted area lights W1 (204 lumens, 3000 K) will be located along the recessed exit corridor on the south side of the building. These lights will be fully shielded and directed downwards, and will be shielded from Los Gatos Creek County Park by the proposed building.
- Linear accent lights ZC1-12 (3000 K) will be located at the site's entry sign. These lights will be concealed and shielded from Los Gatos Creek County Park by buildings.
- Pole-mounted fixtures ZN1-SL2 (11,539 lumens, 3000 K), ZN1-T4W (11,697 lumens, 3000K), and ZN2-T4FT (11,849 lumens, 3000K) will be located in parking areas. These lights will be shielded and directed downwards, and will have motion sensors for dimming operation. Several of these fixtures are located within direct line-of-sight of Los Gatos Creek County Park (i.e., on the south side of the building), and some light from these fixtures will be visible to birds using Los Gatos Creek County Park. However, this lighting is effectively minimized with shielding and motion sensors.

In summary, we expect birds at Los Gatos Creek County Park to be able to perceive luminance from fixtures S3 (surface-mounted cylinders) and ZN1-SL2, ZN1-T4W, and ZN2-T4FT (pole-mounted lights).

Project Measures to Minimize Lighting

The project will implement the following measures to minimize lighting on the project site:

- As discussed above, many of the proposed exterior fixtures are shielded and directed.

- Pole-mounted parking lot lights are equipped with motion sensors for dimming operation.
- Interior lights will be equipped with occupancy sensors to switch non-emergency lights off when the building is not in use.

General Site Lighting Impacts

Many animals are sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season[1,2]. Artificial light has been used as a means of manipulating breeding behavior and productivity in captive birds for decades[2], and has been shown to influence the territorial singing behavior of wild birds[2,3,4]. While it is difficult to extrapolate results of experiments on captive birds to wild populations, it is known that photoperiod (the relative amount of light and dark in a 24-hour period) is an essential cue triggering physiological processes as diverse as growth, metabolism, development, breeding behavior, and molting[2]. This suggests that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts on wildlife populations.

Artificial lighting may indirectly impact birds by increasing the nocturnal activity of predators such as owls, hawks, and mammalian predators[3,5,6,7]. The presence of artificial light may also influence habitat use by breeding birds[2,8] by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

Birds using the project site and nearby areas at Los Gatos Creek County Park may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if light fixtures S3 (surface-mounted cylinders) and ZN1-SL2, ZN1-T4W, and ZN2-T4FT (pole-mounted lights) on the project site produce appreciably greater illuminance within these areas compared to existing conditions. The bird collision reduction measures provided under *Bird Collision Reduction Measures* below would incorporate bird-safe design elements into the lighting design (i.e., minimize exterior lighting, and ensure that all lighting is shielded and directed) to minimize this effect.

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[1] Ringer, R. K. 1972. Effect of light and behavior on nutrition. J. Anim. Sci. 35: 642-647.
[2] de Molenaar, J. G., M. E. Sanders and D. A. Jonkers. 2006. Road Lighting and Grassland Birds: Local Influence of Road Lighting on a Black-tailed Godwit Population in Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 114-136.
[3] Longcore, T. and C. Rich. 2004. Ecological Light Pollution. Front. Ecol. Environ. 2(4): 191-198.
[4] Miller, M. W. 2006. Apparent Effects of Light Pollution on Singing Behavior of American Robins. Condor 108(1): 130-139.
[5] Negro, J. J., J. Bustamante, C. Melguizo, J. L. Ruiz, and J. M. Grande. 2000. Nocturnal activity of lesser kestrels under artificial lighting conditions in Seville, Spain. J. Raptor Res. 34(4): 327-329.
[6] DeCandido R. and D. Allen. 2006. Nocturnal hunting by peregrine falcons at the Empire State Building, New York City. Wilson J. Ornithol. 118(1): 53-58.
[7] Beier, P. 2006. Effects of artificial night lighting on mammals in Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 19-42.
[8] Rogers, D. I., T. Piersma, and C. J. Hassell. 2006. Roost availability may constrain shorebird distribution: Exploring the energetic costs of roosting and disturbance around a tropical bay. Biol. Conserv. 33(4): 225-235.

The International Dark Sky Association[9] recommends using lighting with a color temperature of no more than 3,000 Kelvins to minimize harmful effects on humans and wildlife. However, the effects of different light wavelengths on various species of birds are not consistent[10]. Some studies have shown that using blue and green lights may be less disorienting to birds compared to red lights[11], but it is known that birds can be disoriented by red lights[12] and blue lights[13]. The American Bird Conservancy's Bird-Friendly Building Design guidance states that manipulating light color shows promise in its potential to reduce bird collisions with buildings, but additional study is needed to determine what colors should be used[12]. Instead, the American Bird Conservancy recommends reducing exterior building and site lighting, which has been proven to reduce bird mortality[12]. The City of San Francisco's Standards for Bird-Safe Buildings recommends that project proponents "consider" reducing red wavelengths where lighting is necessary, but this measure is not required; rather, they require avoidance of uplighting in lighting designs[14]. As a result, the recommend bird collision reduction measures provided under *Bird Collision Reduction Measures* below focus on minimizing lighting, rather than restricting lighting temperatures. Reducing, shielding, and directing lights on the project site and avoiding uplighting effectively limits the effects of lights by minimizing skyglow and the spillage of light outwards into adjacent natural areas, and is consistent with local (City of San Francisco) and national (American Bird Conservancy) standards for minimizing bird collisions.

Because up-lighting can affect birds in different ways than general site lighting, the impacts of project up-lighting on birds are assessed separately in the following section.

Up-Lighting Impacts

There are two primary ways in which the luminance of up-lights might impact the movements of birds. First, local birds using habitats on the site may become disoriented during flights among foraging areas and fly toward the lights, colliding with the lights or with nearby structures such as the proposed buildings. Second, nocturnally migrating birds far above the site may alter their flight direction or behavior upon seeing the lights; the birds may be drawn toward the lights or may become disoriented, potentially striking objects such as buildings, adjacent power lines, or even the lights themselves. Both local birds and migrating birds are much more likely to be impacted by up-lighting during foggy or rainy weather, when visibility is poor[15,16].

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[9] International Dark Sky Association. 2021. Recommended solutions to light pollution include using only lighting with a color temperature of 3000K and below (less blue light that is more harmful to many animal species). Available: https://www.darksky.org/our-work/lighting/lighting-for-citizens/lighting-basics/#:~:text=IDA%20recommends%20using%20lighting%20that,are%20rich%20in%20blue%20light.

[10] Owens, A.C., Cochard, P., Durrant, J., Farnworth, B., Perkin, E.K. and Seymoure, B., 2020. Light pollution is a driver of insect declines. Biological Conservation, 241, p.108259.

[11] Poot, Hanneke, et al. "Green light for nocturnally migrating birds." Ecology and society 13.2 (2008).

[12] Sheppard, C. and G. Phillips. Bird-Friendly Building Design, 2nd Ed. The Plains, VA: American Bird Conservancy, 2015.

[13] Xuebing Zhao, Min Zhang, Xianli Che, Fasheng Zou, Blue light attracts nocturnally migrating birds, The Condor, Volume 122, Issue 2, 5 May 2020, duaa002, https://doi.org/10.1093/condor/duaa002.

[14] San Francisco Planning Department. 2011. Standards for Bird-Safe Buildings. Planning Department. July 14, 2011.

[15] Longcore, T. and C. Rich. 2004. Ecological Light Pollution. Front. Ecol. Environ. 2(4): 191-198.

[16] Gauthreaux, S. A. and C. G. Belser. 2006. Effects of Artificial Night Lighting on Migrating Birds in Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 67-93.

Local Birds. Gulls and terns may be especially vulnerable to artificial lights because many species are nocturnal foragers that have evolved to search out bioluminescent prey[17,18,19] and thus are strongly attracted to bright light sources. When these birds approach an artificial light, they seem unwilling to leave it and may become "trapped" within the sphere of the light source for hours or even days, often flying themselves to exhaustion or death[19]. Although none of the gull and tern species that use Los Gatos Creek County Park are primarily nocturnal foragers, there is some possibility that gulls, which often fly at night, may fly in areas where they would be disoriented by the proposed up-lights under conditions dark enough that the lights would affect the birds. Shorebirds forage in the San Francisco Bay nocturnally as well as diurnally, and move frequently between foraging locations in response to tide levels and prey availability. Biologists and hunters have long used sudden bright light as a means of blinding and trapping shorebirds[20,21], so evidence that shorebirds are affected by bright light is well established. Though impacts of a consistent bright light are undocumented, it is possible that shorebirds, like other bird species, may be disoriented by a very bright light in their flight path. However, the number of shorebirds foraging or flying over the project site is expected to be relatively low, as shorebirds do not congregate in large numbers at or near the project site. Passerine species have also been documented responding to increased illumination in their habitats with nocturnal foraging and territorial defense behaviors[2,4,15], but absent significant illumination, they typically do not forage at night, leaving them less susceptible to the attraction and disorientation caused by luminance when they are not migrating.

Migrating Birds. Hundreds of bird species migrate nocturnally in order to avoid diurnal predators and minimize energy expenditures. Bird migration over land typically occurs at altitudes of up to 5,000 feet, but is highly variable by species, region, and weather conditions[22,23]. In general, night-migrating birds optimize their altitude based on local conditions, and most songbird and soaring bird migration over land occurs at altitudes below 2,000 feet while waterfowl and shorebirds typically migrate at higher altitudes[22,23]. Birds flying at higher altitudes may not be affected as strongly by the proposed up-lighting. However, birds flying at lower altitudes over the project site to optimize flight conditions, to descend/ascend to and from stopover sites in the vicinity, or due to foggy or rainy weather would potentially encounter light from up-lights on the project site.

Evidence that migrating birds are attracted to artificial light sources is abundant in the literature as early as the late 1800s[16]. Although the mechanism causing migrating birds to be attracted to bright lights is unknown, the attraction is well documented[15,16]. Migrating birds are frequently drawn from their migratory flight paths into

[17] Imber, M. J. 1975. Behavior of Petrels in Relation to the Moon and Artificial Lights. Notornis 22: 302-306.
[18] Reed, J. R., J. L. Sincock, and J. P. Hailman. 1985. Light Attraction in Endangered Procellariiform Birds: Reduction by Shielding Upward Radiation. Auk 102(2): 377-383.
[19] Montevecchi, W. A. 2006. Influences of Artificial Light on Marine Birds in Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 95-113.
[20] Gerstenberg, R. H. and S. W. Harris. 1976. Trapping and Marking of Shorebirds at Humboldt Bay, California. Bird Banding 47(1): 1-7.
[21] Potts, W. K. and T. A. Sordahl. 1979. The Gong Method for Capturing Shorebirds and Other Ground-roosting Species. North Amer. Bird Band. 4(3): 106-107.
[22] Kerlinger, P. 1995. How Birds Migrate. Stackpoll Books, Mechanicsburg, PA. 228 pp.
[23] Newton, I. 2008. The Migration Ecology of Birds. Academic Press, London, UK. 976 pp.

the vicinity of an artificial light source, where they will reduce their flight speeds, increase vocalizations, and/or end up circling the lit area, effectively "captured" by the light[12,16,24,25]. When birds are drawn to artificial lights during their migration, they may become disoriented and possibly blinded by the intensity of the light[16]. A study of bird responses to up-lighting from 250-watt (equivalent to 3,750-lumen) spotlights placed on the roof of a 533-foot tall building and directed upwards at a company logo documented behavioral changes in more than 90% of the birds that were visually observed flying over the building at night[26]. The disorienting and blinding effects of artificial lights directly impact migratory birds by causing collisions with light structures, buildings, communication and power structures, or even the ground[16]. Indirect impacts on migrating birds might include orientation mistakes and increased length of migration due to light-driven detours.

It is unknown what light levels adversely affect migrating birds, and at what distances birds respond to lights[12]. In general, vertical beams are known to capture higher numbers of birds flying at lower altitudes. High-powered 7,000-watt (equivalent to 105,000-lumen) spotlights that reach altitudes of up to 4 miles (21,120 feet) in the sky have been shown to capture birds migrating at varying altitudes, with most effects occurring below 2,600 feet (where most migration occurs); however, effects were also documented at the upper limits of bird migration at approximately 13,200 feet[12]. One study of vertical lights projecting up to 3,280 feet found that higher numbers of birds were captured at altitudes below 650 feet, but this effect was influenced by wind direction and the birds' flight speed[27]. These studies have not analyzed the capacity for vertical lights to attract migrating birds flying beyond their altitudinal range, and the potential for the project up-lights to affect birds flying at various altitudes is unknown. Thus, birds that encounter beams from up-lights are likely to respond to the lights, and may become disoriented or attracted to the lights to the point that they collide with buildings or other nearby structures, but the range of the effect of the lights is unknown.

Up-Lighting Impacts. As stated above, it is unknown what light levels are safe for birds and at what distances birds respond to lights[12]. Observations of bird behavioral responses to up-lights indicate that their behaviors return to normal quickly once up-lights are completely switched off[25], but no studies are available that demonstrate bird behavioral responses to reduced or dimmed up-lights. In general, up-lights within very dark areas are more likely to "capture" and disorient migrating birds, whereas up-lights in brightly lit areas (e.g., highly urban areas, such as Campbell) are less likely to capture birds[28]. Birds are also known to be more susceptible to capture by artificial light when they are descending from night migration flights in the early mornings compared to when they ascend in the evenings; as a result, switching off up-lights after midnight can

[24] Herbert, A. D. 1970. Spatial Disorientation in Birds. Wilson Bull. 82(4): 400-419.
[25] Van Doren, B.M., K.G. Horton, A.M. Dokter, H. Klinck, S.B. Elbin, and A. Farnsworth. 2017. High-intensity urban light installation dramatically alters nocturnal bird migration. Proceedings of the National Academy of Sciences of the United States of America: 114 (42): 11175-11180.
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[27] Bolshakov, C.V., V.N. Bulyuk, A.Y. Sinelschikova, and M.V. Vorotkov. 2013. Influence of the vertical light beam on numbers and flight trajectories of night-migrating songbirds. Avian Ecology and Behavior 24: 35-49.
[28] Sheppard, C. 2017. Telephone conversation with Robin Carle of H. T. Harvey & Associates regarding the potential for different types and intensities of up-lighting to affect migrating birds. October 26, 2017.

minimize adverse effects on migrating birds[28]. However, more powerful up-lights (e.g., 3,000 lumen spotlights) may create issues for migrating birds regardless of the time of night they are used[28].

In our opinion, due to the project's location along the Pacific Flyway and the close proximity of Los Gatos Creek County Park, which provides a stopover site for migrating birds, relatively large numbers of birds compared to other areas of Cupertino and surrounding areas are expected to fly past the site over the long term. Enough individuals of common migrating species can potentially become disoriented by up-lights and collide with structures over the long term to result in a substantial impact on populations of these species. The bird collision reduction measures provided in the following section would incorporate bird-safe design elements into the lighting design to minimize this effect.

Bird Collision Reduction Recommendations

Due to the potential for the building's east façade, which is predominantly glazed and faces bird habitat at Los Gatos Creek County Park, to result in bird collisions, we recommend that the project implement the following bird-safe building design consideration to minimize collisions with this façade:

- All glazing used on the building's east façade shall have a reflectivity index of 15% or lower to reduce the potential for birds to collide with glazing when they perceive reflections of sky and/or water in glazing as an open flight path, rather than as solid glass.

In addition, due to the potential for night lighting throughout the site to disorient birds flying at Los Gatos Creek County Park, the project shall implement the following bird-safe design considerations for all new interior and exterior lighting on the project site:

- Minimize exterior lighting to the extent feasible, except as needed for safety. All exterior lights shall be directed toward facilities on the project site (e.g., rather than directed upward or outward) and shielded to ensure that light is not directed outward toward coastal habitats.
- If up-lights cannot be eliminated from the project design, all up-light fixtures (i.e., fixtures S3) shall be switched off no later than midnight during the primary spring migration (i.e., February 15 through May 31) and fall migration (i.e., August 15 through November 30) seasons.
- Occupancy sensors on interior lights, with the exception of emergency lights or lights needed for safety purposes, shall be programmed to shut off during non-work hours and between 10:00 p.m. and sunrise.

Summary

Because birds are present in the vicinity of the proposed building, and glazed facades of the building may not always be perceived by birds as physical impediments to flight, we expect some avian collisions with the proposed building to occur. Among the project components, we expect collision risk to be highest with the building's east façade, which is predominantly glazed.

Due to the potential for migratory landbirds to be attracted to Los Gatos Creek County Park, as well as the potential collision hazard due to extensive glazing on the eastern façade of the building, there is potential for modest numbers of migrant landbirds to collide with the building. In contrast, due to the relatively low quality of the habitat on and adjacent to the site, we expect the frequency of collisions of resident birds to be fairly low due to the low numbers of resident birds that will use the area over the long-term. As a result, avian injury or mortality due to bird collisions with the proposed building would potentially affect moderate numbers of migratory landbirds that travel through Los Gatos Creek County Park during the spring and fall, but is not expected to affect large numbers of resident birds.

We reviewed the design of the proposed project to identify potential avian collision hazards. Due to the presence of a collision hazard associated with the building's east façade, we recommend the project implement the following measures to minimize the potential for collisions:

- All glazing used on the building's east façade shall have a reflectivity index of 15% or lower to reduce the potential for birds to collide with glazing when they perceive reflections of sky and/or water in glazing as an open flight path, rather than as solid glass.
- Minimize exterior lighting to the extent feasible, except as needed for safety. All exterior lights shall be directed toward facilities on the project site (e.g., rather than directed upward or outward) and shielded to ensure that light is not directed outward toward coastal habitats.
- If up-lights cannot be eliminated from the project design, all up-light fixtures (i.e., fixtures S3) shall be switched off no later than midnight during the primary spring migration (i.e., February 15 through May 31) and fall migration (i.e., August 15 through November 30) seasons.
- Occupancy sensors on interior lights, with the exception of emergency lights or lights needed for safety purposes, shall be programmed to shut off during non-work hours and between 10:00 p.m. and sunrise.

Please feel free to contact me at (408) 677-8737 or rcarle@harveyecology.com , or Steve Rottenborn at (408) 722-0931, if you have any questions regarding this assessment. Thank you very much for contacting H. T. Harvey & Associates about this project.

Sincerely,

Robin Carle, M.S.
Associate Wildlife Ecologist/Project Manager

Attachments: Résumés

Stephen C. Rottenborn, PhD
Principal, Wildlife Ecology

srottenborn@harveyecology.com
408.458.3205

H. T. HARVEY & ASSOCIATES
Ecological Consultants

HIGHLIGHTS

- Avian ecology
- Wetlands and riparian systems ecology
- Endangered Species Act consultations and compliance
- Environmental impact assessment
- Management of complex projects

EDUCATION

PhD, Biological Sciences, Stanford University

BS, Biology, College of William and Mary

PERMITS AND LICENSES

- USFWS 10(a)(1)(A) recovery permit, authorized to conduct surveys for snowy plover, California Ridgway's rail
- CDFW MOU to conduct broadcast surveys for California Ridgway's and black rail
- CDFW scientific collecting permit

PROFESSIONAL EXPERIENCE

Principal, H. T. Harvey & Associates, 1997–2000, 2004–present

Ecology Section Chief/Environmental Scientist, Wetland Studies and Solutions, Inc., 2000–04

Independent Consultant, 1989–97

MEMBERSHIPS AND AFFILIATIONS

Chair, California Bird Records Committee, 2016–present

Member, Board of Directors, Western Field Ornithologists, 2014–present

Scientific Associate/Scientific Advisory Board, San Francisco Bay Bird Observatory, 1999–2004, 2009–present

PUBLICATIONS

Rottenborn, S. C. 2000. Nest-site selection and reproductive success of red-shouldered hawks in central California. Journal of Raptor Research 34:18-25.

Rottenborn, S. C. 1999. Predicting the impacts of urbanization on riparian bird communities. Biological Conservation 88:289-299.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Steve Rottenborn is a principal in the Wildlife Ecology group at H. T. Harvey & Associates. He specializes in resolving issues related to special-status wildlife species and in meeting the wildlife-related requirements of federal and state environmental laws and regulations. Combining his research and training as a wildlife biologist and avian ecologist, Steve has built an impressive professional career that is highlighted by a particular interest in wetland and riparian communities, as well as the effects of human activities on bird populations and communities. Steve's experience extends to numerous additional special-status animal species. The breadth of his ecological training and project experience enables him to expertly manage multidisciplinary projects involving a broad array of biological issues.

He has contributed to more than 600 projects involving wildlife impact assessment, NEPA/CEQA documentation, biological constraints analysis, endangered species issues (including California and Federal Endangered Species Act consultations), permitting, and restoration. Steve has conducted surveys for a variety of wildlife taxa, including a number of threatened and endangered species, and contributes to the design of habitat restoration and monitoring plans. In his role as project manager and principal-in-charge for numerous projects, he has supervised data collection and analysis, report preparation, and agency and client coordination.

PROJECT EXAMPLES

Served as principal-in-charge of H. T. Harvey's work on all biological resources tasks for the **Envision San José 2040 General Plan Update** and its EIR.

Served as senior wildlife ecologist for the **Coyote Creek Trail Master Plan for the City of San José**.

Spearheaded **biological planning, permitting, and Federal Endangered Species Act consultation** for several large redevelopment projects involving both development and habitat restoration, including the Candlestick Point – Hunters Point Shipyard project, Alameda Point project, and Concord Reuse project.

Served as project manager or principal-in-charge for **more than 65 task orders for Santa Clara Valley Water District on-call projects.**

Served as **senior wildlife ecology expert on the South Bay Salt Pond restoration project** — the largest (~15,000-acre) restoration project of its kind in the western United States.

Serves as principal-in-charge for H. T. Harvey's work performing biological resources-related planning for the Santa Clara Valley Water District's seismic retrofit projects involving **Anderson, Calero, Guadalupe, and Almaden dams.**

Robin J. Carle, MS

Senior Wildlife Ecologist

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H. T. HARVEY & ASSOCIATES
Ecological Consultants

HIGHLIGHTS

- Avian ecology
- Environmental impact assessments (NEPA/CEQA)
- Nesting bird surveys, monitoring, and deterrence
- Protocol-level surveys for burrowing owls and California Ridgeway's rails
- California red-legged frog and California tiger salamander surveys
- San Joaquin kit fox surveys
- San Francisco dusky-footed woodrat surveys and relocations

EDUCATION

MS, Fish and Wildlife Management, Montana State University

BS, Ecology, Behavior, and Evolution, University of California, San Diego

PERMITS AND LICENSES

USFWS 10(a)(1)(A) for the California tiger salamander

CDFW Scientific Collecting Permit for mammals, amphibians, reptiles, and vernal pool/terrestrial invertebrates

Listed under CDFW letter permits to assist with research on bats, California tiger salamanders, California Ridgeway's rails, and California black rails

PROFESSIONAL EXPERIENCE

Senior wildlife ecologist, H. T. Harvey & Associates, 2015–present

Wildlife ecologist, H. T. Harvey & Associates, 2007–2014

Volunteer bird bander, San Francisco Bay Bird Observatory, 2010–present

Avian field technician, West Virginia University, 2006

Graduate teaching assistant, Montana State University, 2003–2006

Avian field technician, Point Blue Conservation Science (formerly PRBO Conservation Science), 2004

PROFESSIONAL PROFILE

Robin Carle is a wildlife ecologist and ornithologist at H. T. Harvey & Associates, with more than a decade of experience working in the greater San Francisco Bay Area. Her expertise is in the nesting ecology of passerine birds, and her graduate research focused on how local habitat features and larger landscape-level human effects combine to influence the nesting productivity of passerine birds in the Greater Yellowstone region.

With an in-depth knowledge of regulatory requirements for special-status species, Robin has contributed to all aspects of client projects, including NEPA/CEQA documentation, environmental impact assessments, habitat conservation plans, biological constraints analyses, special-status species surveys and documentation, and construction monitoring. Her strong understanding of CEQA and of the state and federal Endangered Species Acts allows her to prepare environmental documents that fully satisfy the regulatory requirements of the agencies that issue discretionary permits. In addition, Robin has spent hundreds of hours conducting surveys for nesting birds and burrowing owls for H. T. Harvey & Associates projects and has worked extensively with amphibians and mammals. Robin has conducted diurnal, nocturnal, and larval surveys for California tiger salamanders and California red-legged frogs; acoustic and visual surveys for roosting bats; surveys and nest resource relocations for San Francisco dusky-footed woodrats; den surveys for San Joaquin kit foxes and American badgers; trail camera surveys to document wildlife movement; and burrow-scoping surveys using fiber-optic orthoscopic cameras. She has been approved as a qualified biologist on numerous project-specific USFWS and CDFW permits to conduct biological monitoring and site surveys for state and federally protected wildlife species.

PROJECT EXAMPLES

Served as project manager for issues related to nesting birds for various **Stanford University** and **Stanford University Medical Center** construction projects from 2016–2017.

Served as project manager for the preparation of a NES and BA to facilitate FESA and CESA consultation for the **Highway 101 Pedestrian/Bicycle Overcrossing** project in Palo Alto, California from 2015–2017.

Prepared bird-safe design recommendations, compliance documentation, and/or bird-strike monitoring plans for the **Charleston East**, **Microsoft Silicon Valley Campus**, **1625 Plymouth**, and **Shashi Hotel** projects in Mountain View, California in 2016 and 2017.

Assisted with the preparation of a NES and BA to facilitate FESA and CESA consultation for the **Stevens Canyon Road Bridges** project, and served as project manager for all preconstruction surveys and construction monitoring work from 2015–2017.

Appendix B

CalEEMod Results
1344 Dell Avenue Administrative Annex Building Project

1344 Dell Avenue Library, Campbell - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1344 Dell Avenue Library, Campbell

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	8.04	1000sqft	0.20	8,045.00	0
Parking Lot	86.00	Space	1.00	34,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Silicon Valley Clean Energy				
CO2 Intensity (lb/MWhr)	2	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage is the same acreage as the project site.

Construction Phase - total construction period is estimated at 16 months

Mobile Land Use Mitigation -

Vehicle Trips - Number of daily trips = 96

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	305.00
tblConstructionPhase	PhaseEndDate	8/14/2023	1/8/2024
tblConstructionPhase	PhaseEndDate	8/28/2023	1/22/2024
tblConstructionPhase	PhaseEndDate	9/11/2023	2/5/2024
tblConstructionPhase	PhaseStartDate	8/15/2023	1/9/2024

1344 Dell Avenue Library, Campbell - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseStartDate	8/29/2023	1/23/2024
tblLandUse	LandUseSquareFeet	8,040.00	8,045.00
tblLandUse	LotAcreage	0.18	0.20
tblLandUse	LotAcreage	0.77	1.00
tblVehicleTrips	WD_TR	22.59	11.93

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0550	0.4673	0.4274	7.9000e-004	0.0252	0.0221	0.0473	0.0112	0.0210	0.0321	0.0000	67.4985	67.4985	0.0134	5.1000e-004	67.9834
2023	0.2045	1.5667	1.7015	3.2000e-003	0.0235	0.0672	0.0907	6.3900e-003	0.0649	0.0713	0.0000	267.5162	267.5162	0.0409	3.0300e-003	269.4404
2024	0.0590	0.0697	0.0938	1.6000e-004	1.1800e-003	3.0700e-003	4.2500e-003	3.2000e-004	2.9200e-003	3.2300e-003	0.0000	13.7891	13.7891	2.8700e-003	8.0000e-005	13.8851
Maximum	**0.2045**	**1.5667**	**1.7015**	**3.2000e-003**	**0.0252**	**0.0672**	**0.0907**	**0.0112**	**0.0649**	**0.0713**	**0.0000**	**267.5162**	**267.5162**	**0.0409**	**3.0300e-003**	**269.4404**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

1344 Dell Avenue Library, Campbell - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2022	0.0550	0.4673	0.4274	7.9000e-004	0.0252	0.0221	0.0473	0.0112	0.0210	0.0321	0.0000	67.4985	67.4985	0.0134	5.1000e-004	67.9833
2023	0.2045	1.5667	1.7015	3.2000e-003	0.0235	0.0672	0.0907	6.3900e-003	0.0649	0.0713	0.0000	267.5160	267.5160	0.0409	3.0300e-003	269.4402
2024	0.0590	0.0697	0.0938	1.6000e-004	1.1800e-003	3.0700e-003	4.2500e-003	3.2000e-004	2.9200e-003	3.2300e-003	0.0000	13.7891	13.7891	2.8700e-003	8.0000e-005	13.8851
Maximum	**0.2045**	**1.5667**	**1.7015**	**3.2000e-003**	**0.0252**	**0.0672**	**0.0907**	**0.0112**	**0.0649**	**0.0713**	**0.0000**	**267.5160**	**267.5160**	**0.0409**	**3.0300e-003**	**269.4402**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-3-2022**	**1-2-2023**	0.5256	0.5256
2	**1-3-2023**	**4-2-2023**	0.4383	0.4383
3	**4-3-2023**	**7-2-2023**	0.4424	0.4424
4	**7-3-2023**	**10-2-2023**	0.4473	0.4473
5	**10-3-2023**	**1-2-2024**	0.4476	0.4476
6	**1-3-2024**	**4-2-2024**	0.1178	0.1178
		Highest	0.5256	0.5256

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0386	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0911	7.0911	1.3000e-004	1.3000e-004	7.1324

1344 Dell Avenue Library, Campbell - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mobile	0.0237	0.0235	0.2048	4.0000e-004	0.0434	2.9000e-004	0.0437	0.0116	2.7000e-004	0.0119	0.0000	36.5418	36.5418	2.6800e-003	1.8800e-003	37.1681
Waste						0.0000	0.0000		0.0000	0.0000	1.5184	0.0000	1.5184	0.0897	0.0000	3.7617
Water						0.0000	0.0000		0.0000	0.0000	0.5067	0.0110	0.5177	0.0521	1.2300e-003	2.1850
Total	**0.0631**	**0.0299**	**0.2110**	**4.4000e-004**	**0.0434**	**7.8000e-004**	**0.0442**	**0.0116**	**7.6000e-004**	**0.0124**	**2.0251**	**43.6456**	**45.6706**	**0.1446**	**3.2400e-003**	**50.2491**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0386	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0911	7.0911	1.3000e-004	1.3000e-004	7.1324
Mobile	0.0237	0.0235	0.2048	4.0000e-004	0.0434	2.9000e-004	0.0437	0.0116	2.7000e-004	0.0119	0.0000	36.5418	36.5418	2.6800e-003	1.8800e-003	37.1681
Waste						0.0000	0.0000		0.0000	0.0000	1.5184	0.0000	1.5184	0.0897	0.0000	3.7617
Water						0.0000	0.0000		0.0000	0.0000	0.5067	0.0110	0.5177	0.0521	1.2300e-003	2.1850
Total	**0.0631**	**0.0299**	**0.2110**	**4.4000e-004**	**0.0434**	**7.8000e-004**	**0.0442**	**0.0116**	**7.6000e-004**	**0.0124**	**2.0251**	**43.6456**	**45.6706**	**0.1446**	**3.2400e-003**	**50.2491**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

1344 Dell Avenue Library, Campbell - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/3/2022	10/28/2022	5	20	
2	Site Preparation	Site Preparation	10/29/2022	11/1/2022	5	2	
3	Grading	Grading	11/2/2022	11/7/2022	5	4	
4	Building Construction	Building Construction	11/8/2022	1/8/2024	5	305	
5	Paving	Paving	1/9/2024	1/22/2024	5	10	
6	Architectural Coating	Architectural Coating	1/23/2024	2/5/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 12,068; Non-Residential Outdoor: 4,023; Striped Parking Area: 2,064 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	17.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**		**8.3800e-003**	**8.3800e-003**		**7.8300e-003**	**7.8300e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.6000e-004	3.1300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	0.8100	0.8100	3.0000e-005	2.0000e-005	0.8177
Total	**3.5000e-004**	**2.6000e-004**	**3.1300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.8100**	**0.8100**	**3.0000e-005**	**2.0000e-005**	**0.8177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**		**8.3800e-003**	**8.3800e-003**		**7.8300e-003**	**7.8300e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.6000e-004	3.1300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	0.8100	0.8100	3.0000e-005	2.0000e-005	0.8177
Total	**3.5000e-004**	**2.6000e-004**	**3.1300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.8100**	**0.8100**	**3.0000e-005**	**2.0000e-005**	**0.8177**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0146	7.0900e-003	2.0000e-005		6.2000e-004	6.2000e-004		5.7000e-004	5.7000e-004	0.0000	1.5115	1.5115	4.9000e-004	0.0000	1.5238
Total	**1.3100e-003**	**0.0146**	**7.0900e-003**	**2.0000e-005**	**6.2700e-003**	**6.2000e-004**	**6.8900e-003**	**3.0000e-003**	**5.7000e-004**	**3.5700e-003**	**0.0000**	**1.5115**	**1.5115**	**4.9000e-004**	**0.0000**	**1.5238**

Unmitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0499	0.0499	0.0000	0.0000	0.0503
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0499**	**0.0499**	**0.0000**	**0.0000**	**0.0503**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0146	7.0900e-003	2.0000e-005		6.2000e-004	6.2000e-004		5.7000e-004	5.7000e-004	0.0000	1.5115	1.5115	4.9000e-004	0.0000	1.5238
Total	**1.3100e-003**	**0.0146**	**7.0900e-003**	**2.0000e-005**	**6.2700e-003**	**6.2000e-004**	**6.8900e-003**	**3.0000e-003**	**5.7000e-004**	**3.5700e-003**	**0.0000**	**1.5115**	**1.5115**	**4.9000e-004**	**0.0000**	**1.5238**

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0499	0.0499	0.0000	0.0000	0.0503
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0499**	**0.0499**	**0.0000**	**0.0000**	**0.0503**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
Total	**3.0800e-003**	**0.0340**	**0.0184**	**4.0000e-005**	**0.0142**	**1.4800e-003**	**0.0157**	**6.8500e-003**	**1.3700e-003**	**8.2200e-003**	**0.0000**	**3.6205**	**3.6205**	**1.1700e-003**	**0.0000**	**3.6498**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1246	0.1246	0.0000	0.0000	0.1258
Total	**5.0000e-005**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1246**	**0.1246**	**0.0000**	**0.0000**	**0.1258**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
Total	**3.0800e-003**	**0.0340**	**0.0184**	**4.0000e-005**	**0.0142**	**1.4800e-003**	**0.0157**	**6.8500e-003**	**1.3700e-003**	**8.2200e-003**	**0.0000**	**3.6205**	**3.6205**	**1.1700e-003**	**0.0000**	**3.6498**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1246	0.1246	0.0000	0.0000	0.1258
Total	**5.0000e-005**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1246**	**0.1246**	**0.0000**	**0.0000**	**0.1258**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0322	0.2438	0.2482	4.3000e-004		0.0115	0.0115		0.0111	0.0111	0.0000	35.4075	35.4075	6.1700e-003	0.0000	35.5617
Total	**0.0322**	**0.2438**	**0.2482**	**4.3000e-004**		**0.0115**	**0.0115**		**0.0111**	**0.0111**	**0.0000**	**35.4075**	**35.4075**	**6.1700e-003**	**0.0000**	**35.5617**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	7.6900e-003	2.2500e-003	3.0000e-005	9.0000e-004	8.0000e-005	9.8000e-004	2.6000e-004	8.0000e-005	3.4000e-004	0.0000	2.8312	2.8312	6.0000e-005	4.2000e-004	2.9573

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	8.9000e-004	6.5000e-004	7.9900e-003	2.0000e-005	2.6300e-003	1.0000e-005	2.6400e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0656	2.0656	6.0000e-005	6.0000e-005	2.0851
Total	**1.1900e-003**	**8.3400e-003**	**0.0102**	**5.0000e-005**	**3.5300e-003**	**9.0000e-005**	**3.6200e-003**	**9.6000e-004**	**9.0000e-005**	**1.0500e-003**	**0.0000**	**4.8968**	**4.8968**	**1.2000e-004**	**4.8000e-004**	**5.0424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0322	0.2438	0.2482	4.3000e-004		0.0115	0.0115		0.0111	0.0111	0.0000	35.4075	35.4075	6.1700e-003	0.0000	35.5616
Total	**0.0322**	**0.2438**	**0.2482**	**4.3000e-004**		**0.0115**	**0.0115**		**0.0111**	**0.0111**	**0.0000**	**35.4075**	**35.4075**	**6.1700e-003**	**0.0000**	**35.5616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	7.6900e-003	2.2500e-003	3.0000e-005	9.0000e-004	8.0000e-005	9.8000e-004	2.6000e-004	8.0000e-005	3.4000e-004	0.0000	2.8312	2.8312	6.0000e-005	4.2000e-004	2.9573
Worker	8.9000e-004	6.5000e-004	7.9900e-003	2.0000e-005	2.6300e-003	1.0000e-005	2.6400e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0656	2.0656	6.0000e-005	6.0000e-005	2.0851
Total	**1.1900e-003**	**8.3400e-003**	**0.0102**	**5.0000e-005**	**3.5300e-003**	**9.0000e-005**	**3.6200e-003**	**9.6000e-004**	**9.0000e-005**	**1.0500e-003**	**0.0000**	**4.8968**	**4.8968**	**1.2000e-004**	**4.8000e-004**	**5.0424**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1980	1.5224	1.6394	2.8700e-003		0.0669	0.0669		0.0646	0.0646	0.0000	236.0789	236.0789	0.0401	0.0000	237.0811
Total	**0.1980**	**1.5224**	**1.6394**	**2.8700e-003**		**0.0669**	**0.0669**		**0.0646**	**0.0646**	**0.0000**	**236.0789**	**236.0789**	**0.0401**	**0.0000**	**237.0811**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0405	0.0128	1.9000e-004	5.9900e-003	2.4000e-004	6.2300e-003	1.7300e-003	2.3000e-004	1.9600e-003	0.0000	18.0936	18.0936	3.8000e-004	2.6600e-003	18.8952
Worker	5.5200e-003	3.8500e-003	0.0493	1.5000e-004	0.0175	9.0000e-005	0.0176	4.6600e-003	8.0000e-005	4.7400e-003	0.0000	13.3438	13.3438	3.8000e-004	3.7000e-004	13.4642
Total	**6.5200e-003**	**0.0444**	**0.0621**	**3.4000e-004**	**0.0235**	**3.3000e-004**	**0.0238**	**6.3900e-003**	**3.1000e-004**	**6.7000e-003**	**0.0000**	**31.4374**	**31.4374**	**7.6000e-004**	**3.0300e-003**	**32.3594**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1980	1.5224	1.6394	2.8700e-003		0.0669	0.0669		0.0646	0.0646	0.0000	236.0786	236.0786	0.0401	0.0000	237.0808
Total	**0.1980**	**1.5224**	**1.6394**	**2.8700e-003**		**0.0669**	**0.0669**		**0.0646**	**0.0646**	**0.0000**	**236.0786**	**236.0786**	**0.0401**	**0.0000**	**237.0808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0405	0.0128	1.9000e-004	5.9900e-003	2.4000e-004	6.2300e-003	1.7300e-003	2.3000e-004	1.9600e-003	0.0000	18.0936	18.0936	3.8000e-004	2.6600e-003	18.8952
Worker	5.5200e-003	3.8500e-003	0.0493	1.5000e-004	0.0175	9.0000e-005	0.0176	4.6600e-003	8.0000e-005	4.7400e-003	0.0000	13.3438	13.3438	3.8000e-004	3.7000e-004	13.4642
Total	**6.5200e-003**	**0.0444**	**0.0621**	**3.4000e-004**	**0.0235**	**3.3000e-004**	**0.0238**	**6.3900e-003**	**3.1000e-004**	**6.7000e-003**	**0.0000**	**31.4374**	**31.4374**	**7.6000e-004**	**3.0300e-003**	**32.3594**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0332	0.0376	7.0000e-005		1.3500e-003	1.3500e-003		1.3000e-003	1.3000e-003	0.0000	5.4483	5.4483	9.1000e-004	0.0000	5.4710
Total	**4.2600e-003**	**0.0332**	**0.0376**	**7.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.4483**	**5.4483**	**9.1000e-004**	**0.0000**	**5.4710**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	9.4000e-004	2.9000e-004	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4114	0.4114	1.0000e-005	6.0000e-005	0.4296
Worker	1.2000e-004	8.0000e-005	1.0600e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2981	0.2981	1.0000e-005	1.0000e-005	0.3007
Total	**1.4000e-004**	**1.0200e-003**	**1.3500e-003**	**0.0000**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.7095**	**0.7095**	**2.0000e-005**	**7.0000e-005**	**0.7303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	4.2600e-003	0.0332	0.0376	7.0000e-005		1.3500e-003	1.3500e-003		1.3000e-003	1.3000e-003	0.0000	5.4483	5.4483	9.1000e-004	0.0000	5.4710
Total	**4.2600e-003**	**0.0332**	**0.0376**	**7.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.4483**	**5.4483**	**9.1000e-004**	**0.0000**	**5.4710**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	9.4000e-004	2.9000e-004	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4114	0.4114	1.0000e-005	6.0000e-005	0.4296
Worker	1.2000e-004	8.0000e-005	1.0600e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2981	0.2981	1.0000e-005	1.0000e-005	0.3007
Total	**1.4000e-004**	**1.0200e-003**	**1.3500e-003**	**0.0000**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.7095**	**0.7095**	**2.0000e-005**	**7.0000e-005**	**0.7303**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**4.4000e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3500e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.3799	0.3799	1.0000e-005	1.0000e-005	0.3832
Total	**1.5000e-004**	**1.0000e-004**	**1.3500e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.3799**	**0.3799**	**1.0000e-005**	**1.0000e-005**	**0.3832**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4000e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3500e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.3799	0.3799	1.0000e-005	1.0000e-005	0.3832
Total	**1.5000e-004**	**1.0000e-004**	**1.3500e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.3799**	**0.3799**	**1.0000e-005**	**1.0000e-005**	**0.3832**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.0500**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	3.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0877	0.0877	0.0000	0.0000	0.0884
Total	**4.0000e-005**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0877**	**0.0877**	**0.0000**	**0.0000**	**0.0884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.0500**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	3.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0877	0.0877	0.0000	0.0000	0.0884
Total	**4.0000e-005**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0877**	**0.0877**	**0.0000**	**0.0000**	**0.0884**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0237	0.0235	0.2048	4.0000e-004	0.0434	2.9000e-004	0.0437	0.0116	2.7000e-004	0.0119	0.0000	36.5418	36.5418	2.6800e-003	1.8800e-003	37.1681
Unmitigated	0.0237	0.0235	0.2048	4.0000e-004	0.0434	2.9000e-004	0.0437	0.0116	2.7000e-004	0.0119	0.0000	36.5418	36.5418	2.6800e-003	1.8800e-003	37.1681

4.2 Trip Summary Information

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Government Office Building	95.94	0.00	0.00	117,518	117,518
Parking Lot	0.00	0.00	0.00		
Total	95.94	0.00	0.00	117,518	117,518

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776
Parking Lot	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.1362	0.1362	0.0000	0.0000	0.1362
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.1362	0.1362	0.0000	0.0000	0.1362

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NaturalGas Mitigated	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9549	6.9549	1.3000e-004	1.3000e-004	6.9962
NaturalGas Unmitigated	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9549	6.9549	1.3000e-004	1.3000e-004	6.9962

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Government Office Building	130329	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9549	6.9549	1.3000e-004	1.3000e-004	6.9962
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0000e-004**	**6.3900e-003**	**5.3700e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9549**	**6.9549**	**1.3000e-004**	**1.3000e-004**	**6.9962**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Government Office Building	130329	7.0000e-004	6.3900e-003	5.3700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9549	6.9549	1.3000e-004	1.3000e-004	6.9962
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0000e-004**	**6.3900e-003**	**5.3700e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9549**	**6.9549**	**1.3000e-004**	**1.3000e-004**	**6.9962**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government Office Building	138133	0.1253	0.0000	0.0000	0.1253
Parking Lot	12040	0.0109	0.0000	0.0000	0.0109
Total		**0.1362**	**0.0000**	**0.0000**	**0.1362**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government Office Building	138133	0.1253	0.0000	0.0000	0.1253
Parking Lot	12040	0.0109	0.0000	0.0000	0.0109
Total		**0.1362**	**0.0000**	**0.0000**	**0.1362**

6.0 Area Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0386	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Unmitigated	0.0386	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**0.0386**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

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Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**0.0386**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.5177	0.0521	1.2300e-003	2.1850
Unmitigated	0.5177	0.0521	1.2300e-003	2.1850

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	1.59722 / 0.978944	0.5177	0.0521	1.2300e-003	2.1850
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.5177**	**0.0521**	**1.2300e-003**	**2.1850**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	1.59722 / 0.978944	0.5177	0.0521	1.2300e-003	2.1850
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.5177**	**0.0521**	**1.2300e-003**	**2.1850**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.5184	0.0897	0.0000	3.7617
Unmitigated	1.5184	0.0897	0.0000	3.7617

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government Office Building	7.48	1.5184	0.0897	0.0000	3.7617
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5184**	**0.0897**	**0.0000**	**3.7617**

Mitigated

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	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government Office Building	7.48	1.5184	0.0897	0.0000	3.7617
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5184**	**0.0897**	**0.0000**	**3.7617**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C

The Cultural Resources Assessment contains sensitive information and can be found on file at the Santa Clara County Library District