Memo

455 Capitol Mall, Suite 300
Sacramento, CA 95814
916.444.7301

Date: June 5, 2024

To: Daniel Fama Senior Planner, Tracy Tam Associate Planner, and Rob Eastwood Community Development Director City of Campbell

From: Pat Angell and Molly Nagle, Ascent Environmental

Subject: Application 320 Virginia Avenue Project – State CEQA Guidelines Section 15332 Exemption Determination

The proposed Virginia Avenue Project (Project) is located at 320 Virginia Avenue in Campbell, California on a 2.44-acre vacant and undeveloped parcel west of the channelized San Tomas Aquinas Creek and east of Virgina Avenue. The site is bounded by a church on the north side of the property and existing residential units to the west and south. To the east, across from San Tomas Aquinas Creek is more residential development and San Tomas Expressway. The Project would utilize the net 2.08 acres of the site to construct up to 40 three-story townhome units. The Project would consist of approximately 73,248 net square feet of new residential units with an approximately 19.22 dwelling units per acre density for an estimated 100 residents (FirstCarbon Solutions 2024a, 2). The Project would also include 94 total parking spaces, including 14 on-site surface parking spaces. The Project would also include a common open space of about 9,435 square feet adjacent to Virginia Avenue and landscaped, walking paths, and private outdoor areas on the ground floor throughout the site. The Project would allow access from two driveways on Virginia Avenue. An internal network of private streets would provide access to townhome garages and guest parking. The site is within Campbell City Limits. The General Land Use Plan for the site is medium density residential with a standard of 18 to 25 units per acre. The Zoning District is T4 Neighborhood Medium (T4 N-M). The proposed project is in compliance with these designations. The Project proposes waivers to some of the City of Campbell Municipal Code standards and Multi-Family Development and Design Standards as allowed under California Government Code Sections 65915 through 65918 and consistent with Municipal Code Section 21.20.110.

The Project is within 50 feet of the top of the concrete lined bank of San Tomas Aquinas Creek and has demonstrated compliance with the Santa Clara County Water District *Guidelines and Standards for Land Use Near Streams* to protect stream resources. The project has prepared stormwater management plan, and grading and drainage plan. A stormwater pollution prevention plan (SWPPP) would be prepared and implemented as part of construction activities. Additionally, the project applicant has received a final letter of approval from Federal Emergency Management Agency (FEMA) for the Letter of Map Amendment (LOMA) that determines the project site to be outside of the 100-year floodplain (CEA pers. comm., 2023).

The project plans include a Grading and Drainage Plan and a Stormwater Management Plan. A SWPPP would include erosion and sediment control plans for the project site. A geotechnical report has been completed and is included in the Phase 1 Environmental Site Assessment. Soils at the site were characterized as clay loam with moderate infiltration rates.

The project applicant technical reports that include the Air Quality and Greenhouse Gas Emissions Report for the Virginia Avenue Project (FirstCarbon Solutions 2024a), Biological Resources Assessment for the Virginia Avenue Project (FirstCarbon Solutions 2024b), and Noise Impact Analysis Report for the Virginia Avenue Project (FirstCarbon Solutions 2024c) identified environmental protection measures that would be incorporated into the proposed project. The project applicant has committed to the environmental protection measures (Dahlin Group 2024). These measures include the following;

BOI-1: Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found):

- Removal of trees shall be limited to only those necessary to construct the proposed project as reflected in the relevant project approval documents.
- If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present.
- If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist shall delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).
- The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance, until the young have fledged.

BIO-2: Roosting Bat Pre-construction Survey and Avoidance. A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.). If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Grading shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from May 1 through October 1. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

BIO-3: Avoidance and Minimization of San Tomas Aquinas Creek. No substances toxic to fish and wildlife shall be discharged or allowed to leach into the creek. Reasonable precautions to protect aquatic habitats of the creek from pollution with harmful materials (e.g., fuels, oils, lubricants, and solvents) shall be implemented. Specifically, all potentially hazardous materials shall be controlled, cleaned up, and properly disposed of in accordance with the proposed project's water quality control permits and plans. Materials deleterious or toxic to fish and wildlife including, but not limited to, asphalt, tires, concrete, construction materials, treated wood, and creosote containing materials

shall not be stockpiled within 100 feet of the creek. Refueling and maintenance areas for equipment shall be limited to areas 100 feet from the creek.

At no time shall silt-laden runoff be allowed to enter the creek. Erosion control measures shall be utilized throughout all phases of construction where sediment runoff from the project may enter the creek. Best Management Practices (BMPs) to avoid erosion and uncontrolled stormwater runoff shall be implemented. BMPs typically include silt fencing, coir rolls, and/or straw bale dikes.

NOI -1: Implementation of the following multi-part environmental protection measure is required to reduce potential construction-period noise impacts: Prior to issuance of construction permits, the following language shall be included, verbatim, in the general notes section of all the civil plan construction documents.

- Construction activities at the project site shall be limited to the hours of 8:00 a.m. and 5:00 p.m. daily, Monday through Friday. Saturday hours of construction shall be 9:00 a.m. and 4:00 p.m. There shall be no construction activity on Sundays or public holidays (as defined by Title 5 United States Code [USC] Section 6103[a]).
- Establish standards for when a construction staging and phasing plan shall be required for new development projects and significant remodels.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.
- The required construction-related noise mitigation plan shall also specify that haul truck deliveries are to occur within the same range of hours specified for construction equipment.
- The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

AIR-1: During construction activities, all off-road equipment with engines greater than 50 horsepower shall meet either the United States Environmental Protection Agency (EPA) or California Air Resources Board (ARB) Tier IV off-road emission standards. The construction contractor shall maintain records documenting compliance with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

COS-6.2: If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS-6.3: Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process.

COS-6.b: Require all development, infrastructure, and other ground disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Planning Division shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Planning Division.
- If human remains are discovered during any ground disturbing activity, work shall stop until the Planning Division and the County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Planning Division. Adopt an ordinance codifying these requirements into the Campbell Municipal Code.

Categorical exemptions under State CEQA Guidelines Section 15300.2 and 15332 apply to the proposed project.

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.

(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.

(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.

(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.

(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.

(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.

15332. IN-FILL DEVELOPMENT PROJECTS

Class 32 consists of projects characterized as in-fill development meeting the conditions described in this section.

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

(c) The project site has no value as habitat for endangered, rare or threatened species.

(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

(e) The site can be adequately served by all required utilities and public services.

Below is a discussion of how the Project meets the above cited exceptions for the use of a categorical exemption under State CEQA Guidelines Section 15300.2 and 15332.

State CEQA Guidelines Section 15300.2 (items b through f):

- The Project is consistent with land use designation, zoning, and intensities established in the General Plan and would not contribute to significant cumulative impacts beyond what is anticipated under the General Plan and its EIR.

- The Project site is disturbed and is surrounded by existing development. The project applicant has identified environmental protection measures identified above that address environmental issues and protect the environment. There is no evidence that the Project or its site would create a significant effect on the environment due to unusual circumstances.

- The site does not contain scenic highways or other scenic resources and does not provide natural habitat.

- The site is not identified on any hazardous waste sites identified under California Government Code Section 65962.5. There have been remedial actions on the site to clean up a pump station, transformer pad, suction basin, motor control center, and five water supply wells and flow meter vaults that were previously on the site. The County of Santa Clara Department of Environmental Health (DEH) has found that the site investigation and remedial action carried out at the project site satisfy the requirements of the Remedial Action Agreement between the responsible party and the DEH as outlined in Section 101480 of the Health and Safety Code, and no further action related to the release of waste at the project site is required at this time and noted that residual contamination remains on-site in the soil, however the current project sire conditions are acceptable for the proposed residential land use (DEH 2022).

- There are no known historic resources on the Project site and the site is disturbed.

State CEQA Guidelines Section 15332 (items a through e):

- The Project is consistent with land use and intensities established in the General Plan and zoning. The applicant is requesting concessions and waivers to some of the Campbell Municipal Code standards and Multi-Family Development and Design Standards as allowed under California Government Code Sections 65915 through 65918 and consistent with Municipal Code Section 21.20.110.

- The Project site is within City boundaries, is surrounded existing development, and is less than five acres in size. The site is approximately 2.44 gross acres and 2.08 net acres..

- The Project site is disturbed and contains a ruderal or non-native vegetation community with gravel patches and ornamental trees (FirstCarbon Solutions 2024b). Wildlife activity on-site consists primarily of avian species and due to the location of the project in dense residential development, the site is not likely to provide a wildlife corridor (FirstCarbon Solution 2024b). The project site likely does not provide value as habitat for endangered, rare, or threatened plant species (FirstCarbon Solution 2024b, 33). Special-status wildlife species with potential to occur on-site are Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*) and functional groups such as nesting birds and roosting bats (FirstCarbon Solution 2024b, 34). As identified above, the project applicant has committed to the environmental protection measures for the species that may be present on-site (Dahlin Group 2024).

- The proposed housing units are assumed to be part of the General Plan VMT analysis. Since the General Plan EIR already adopted a statement of overriding considerations regarding its VMT impact, projects considered part of the City's General Plan VMT analysis would thus also receive environmental clearance related to VMT. Additionally, per City of Campbell requirements a memo was prepared by Hexagon Transportation Consultants Inc. that details that project's VMT and trip generation and determined that because the project is 1) consistent with the General Plan, 2) covered under the General Plan EIR VMT analysis, and 3) consistent with the City's VMT Policies, the proposed project is presumed to have a less-than-significant VMT impact per the City's VMT policy (Hexagon Transportation Consultants Inc. 2024).

- The Project is within the San Franscisco Bay Area Air Basin and under the jurisdiction of the Bay Area Air Quality Management District's construction and operational air pollutant screening levels provided in its CEQA Guide. Additionally, the Air Quality and Greenhouse Gas Emissions Report identified environmental protection measures that the project measures that the project applicant has committed to incorporating into the Project.

- No water quality impacts are expected. The Project site is subject to City water quality control requirements under Campbell Municipal Code Chapter 21.16.100, "Water Pollution," Campbell Municipal Code Chapter 20.80, "Environmental Impact and Grading and Erosion Control," and MM BIO-3 avoidance and minimization of San Tomas Aquinas Creek.

- Public services and utilities exist in the Project area and are available to serve the Project. The applicant has obtained will serve letter for the project from PG&E, West Valley Collection and Recycling, West Valley Sanitation District, and San Jose Water.

References

City of Campbell. 2024. Interactive GIS Viewer. Available: www.campbellca.gov/1424/City-Maps-Gallery. Accessed May 1, 2024.

CEA. 2023 (July 27). *320 Virginia Avenue Flood Zone Report*. Letter memorandum to City of Campbell. Campbell, CA.

County of Santa Clara Department of Environmental Health. 2022 (November). Case Closure Summary Report T10000008802. San Jose, CA.

Dahlin Group. 2024 (April). 320 Virginia Avenue Development Application Plans – Submittal 4. Campbell, CA.

DEH. *See* County of Santa Clara Department of Environmental Health.

FirstCarbon Solutions. 2024a (April). Air Quality and Greenhouse Gas Emissions Report, Virginia Avenue Project. Walnut Creek, CA.

———. 2024b (May). Biological Resources Assessment, Virginia Avenue Project. Walnut Creek, CA.

———. 2024c (May). Noise Impact Analysis Report, Virginia Avenue Project. Walnut Creek, CA.

Hexagon Transportation Consultants Inc. 2024 (May). Memorandum: Transportation Analysis for the Proposed Residential Development at 320 Virginia Avenue in Campbell, CA.

Civil Engineering Associates

28 Railway Avenue
Campbell, CA 95008
Tel: (408) 453-1066
Fax: (408) 453-1060

MEMO

Date: July 27, 2023

To: City of Campbell

Re: 320 Virginia Avenue - Flood Zone Report

The subject property is located adjacent to San Tomas Aquino Creek and portions of the FEMA 100-year A flood zone were mapped as encroaching onto the property. There is no base flood elevation (BFE) associated with the A Zone.

The applicant along with the assistance of CEA and Schaaf and Wheeler went through a LOMA process to remove the developable area of the property from the flood plain encroachment. The only area that remains is the area encumbered by the existing flood plain easement.

Please see approved final LOMA attached.

Sincerely,

John Gaylord

Federal Emergency Management Agency

Washington, D.C. 20472

November 29, 2021

MRS. VICTORIA BELLI
SCHAAF & WHEELER
1171 HOMESTEAD ROAD
SUITE 255
SANTA CLARA, CA 95050

CASE NO.: 22-09-0181A
COMMUNITY: CITY OF CAMPBELL, SANTA CLARA COUNTY, CALIFORNIA
COMMUNITY NO.: 060338

DEAR MRS. BELLI:

This is in reference to a request that the Federal Emergency Management Agency (FEMA) determine if the property described in the enclosed document is located within an identified Special Flood Hazard Area, the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood), on the effective National Flood Insurance Program (NFIP) map. Using the information submitted and the effective NFIP map, our determination is shown on the attached Letter of Map Amendment (LOMA) Determination Document. This determination document provides additional information regarding the effective NFIP map, the legal description of the property and our determination.

Additional documents are enclosed which provide information regarding the subject property and LOMAs. Please see the List of Enclosures below to determine which documents are enclosed. Other attachments specific to this request may be included as referenced in the Determination/Comment document. If you have any questions about this letter or any of the enclosures, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

LIST OF ENCLOSURES:

LOMA DETERMINATION DOCUMENT (REMOVAL)

cc: State/Commonwealth NFIP Coordinator
Community Map Repository
Region

Federal Emergency Management Agency
Washington, D.C. 20472

ADDITIONAL INFORMATION REGARDING LETTERS OF MAP AMENDMENT

When making determinations on requests for Letters of Map Amendment (LOMAs), the Department of Homeland Security's Federal Emergency Management Agency (FEMA) bases its determination on the flood hazard information available at the time of the determination. Requesters should be aware that flood conditions may change or new information may be generated that would supersede FEMA's determination. In such cases, the community will be informed by letter.

Requesters also should be aware that removal of a property (parcel of land or structure) from the Special Flood Hazard Area (SFHA) means FEMA has determined the property is not subject to inundation by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This does not mean the property is not subject to other flood hazards. The property could be inundated by a flood with a magnitude greater than the base flood or by localized flooding not shown on the effective National Flood Insurance Program (NFIP) map.

The effect of a LOMA is it removes the Federal requirement for the lender to require flood insurance coverage for the property described. The LOMA *is not* a waiver of the condition that the property owner maintain flood insurance coverage for the property. *Only* the lender can waive the flood insurance purchase requirement because the lender imposed the requirement. *The property owner must request and receive a written waiver from the lender before canceling the policy*. The lender may determine, on its own as a business decision, that it wishes to continue the flood insurance requirement to protect its financial risk on the loan.

The LOMA provides FEMA's comment on the mandatory flood insurance requirements of the NFIP as they apply to a particular property. A LOMA is not a building permit, nor should it be construed as such. Any development, new construction, or substantial improvement of a property impacted by a LOMA must comply with all applicable State and local criteria and other Federal criteria.

If a lender releases a property owner from the flood insurance requirement, and the property owner decides to cancel the policy and seek a refund, the NFIP will refund the premium paid for the current policy year, provided that no claim is pending or has been paid on the policy during the current policy year. The property owner must provide a written waiver of the insurance requirement from the lender to the property insurance agent or company servicing his or her policy. The agent or company will then process the refund request.

Even though structures are not located in an SFHA, as mentioned above, they could be flooded by a flooding event with a greater magnitude than the base flood. In fact, more than 25 percent of all claims paid by the NFIP are for policies for structures located outside the SFHA in Zones B, C, X (shaded), or X (unshaded). More than one-fourth of all policies purchased under the NFIP protect structures located in these zones. The risk to structures located outside SFHAs is just not as great as the risk to structures located in SFHAs. Finally, approximately 90 percent of all federally declared disasters are caused by flooding, and homeowners insurance does not provide financial protection from this flooding. Therefore, FEMA encourages the widest possible coverage under the NFIP.

LOMAs are based on minimum criteria established by the NFIP. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If a State, county, or community has adopted more restrictive and comprehensive floodplain management criteria, these criteria take precedence over the minimum Federal criteria.

In accordance with regulations adopted by the community when it made application to join the NFIP, letters issued to amend an NFIP map must be attached to the community's official record copy of the map. That map is available for public inspection at the community's official map repository. Therefore, FEMA sends copies of all such letters to the affected community's official map repository.

When a restudy is undertaken, or when a sufficient number of revisions or amendments occur on particular map panels, FEMA initiates the printing and distribution process for the affected panels. FEMA notifies community officials in writing when affected map panels are being physically revised and distributed. In such cases, FEMA attempts to reflect the results of the LOMA on the new map panel. If the results of particular LOMAs cannot be reflected on the new map panel because of scale limitations, FEMA notifies the community in writing and revalidates the LOMAs in that letter. LOMAs revalidated in this way usually will become effective 1 day after the effective date of the revised map.

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF CAMPBELL, SANTA CLARA COUNTY, CALIFORNIA	A portion of Lots 10 and 11, Subdivision of Lots 1, 2, and 3 of the property of E. N. Parr, as described in the Grant Deed recorded as Document No. 2056149, in Book 5288, Page 210, in the Office of the Recorder, Santa Clara County, California The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 060338	
AFFECTED MAP PANEL	NUMBER: 06085C0237H	
	DATE: 5/18/2009	
FLOODING SOURCE: SAN TOMAS AQUINO CREEK		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:37.282324, -121.962001 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
10-11	--	--	320 Virginia Avenue	Portion of Property	X (unshaded)	--	--	201.0 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
PORTIONS REMAIN IN THE SFHA
ZONE A

STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Patrick “Rick” F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

Being a portion of that certain parcel of land described in the Grant Deed granted from San Jose Church of God to San Jose Water Works, a California Corporation, recorded September 6, 1961 in Book 5288 of Official Records at Page 210, records of said Santa Clara County, more particularly described as follows: BEGINNING at the northwesterly corner of said parcel of land and also being a point on the centerline of Virginia Ave (public street); Thence departing from said centerline and heading easterly along the northerly boundary of said parcel North 89°49'00" East, a distance of 317.13 feet to a point on the westerly bank of the Arroyo San Tomas Aquino Creek; Thence heading southerly along said westerly bank South 12°07'00" East, a distance of 6.61 feet to a point on the westerly line of that certain flood control & storm water easement granted from San Jose Water Works to the Santa Clara County Flood Control and Water District, recorded September 21, 1971 in Book 9511 of Official Records at Page 600 (Doc. No 4096808), records of said Santa Clara County; Thence heading southerly along said westerly line, South 27°45'22" West, a distance of 421.61 feet to a point on the southerly boundary of said parcel of land; Thence departing from said westerly line and heading easterly along said southerly boundary South 89°35'00" East, a distance of 219.08 feet to the southeast corner of said parcel of land and being a point on the centerline of said Virginia Avenue; Thence northerly along the easterly boundary said parcel of land and said centerline of Virginia Ave, North 14°25'00" East for a distance of 389.21 feet to the POINT OF BEGINNING

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

ZONE A (This Additional Consideration applies to the preceding 1 Property.)

The National Flood Insurance Program map affecting this property depicts a Special Flood Hazard Area that was determined using the best flood hazard data available to FEMA, but without performing a detailed engineering analysis. The flood elevation used to make this determination is based on approximate methods and has not been formalized through the standard process for establishing base flood elevations published in the Flood Insurance Study. This flood elevation is subject to change.

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Mapping and Insurance eXchange toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

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County of Santa Clara
Department of Environmental Health

Hazardous Materials Compliance Division
Site Mitigation Program
1555 Berger Drive, Suite 300
San Jose, CA 95112-2716
(408)918-3400 FAX (408)280-6479

11/16/2022

APNs: 404-07-033

SENT VIA ELECTRONIC MAIL ONLY

Mr. Phyllip Nguyen
San Jose Water Company
1221A South Bascom Avenue
San Jose, CA 95128
(phyllip.nguyen@sjwater.com)

Re: Virginia Avenue Station
320 Virginia Avenue, Campbell, CA, Case No. 2016-15s
GeoTracker ID #: T10000008802

Dear Mr. Nguyen:

This letter confirms the completion of investigation and remedial action activities for the presence of hazardous constituents located at the above-described location (Site). Thank you for your cooperation throughout this investigation and remedial action. Your willingness and promptness in responding to our inquiries concerning this Site are greatly appreciated.

Based upon information in the GeoTracker case file, and with the provision that the information provided to this agency was accurate and representative of Site conditions, this agency finds that the Site investigation and remedial action carried out at the Site satisfy the requirements of the Remedial Action Agreement between the responsible party and the Department of Environmental Health (DEH) as outlined in Section 101480 of the Health and Safety Code, and no further action related to the release of waste at the Site is required at this time. It should be noted that any additional or previously unidentified contamination at this Site may require further investigation or cleanup.

The reports and/or technical documents that DEH relied on to evaluate case closure are located on GeoTracker at https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000008802.

Current Site Status: A pump station was located on the Site and included two booster pumps, a transformer and pad, a sump, a suction basin, a motor control center, five water supply wells, and five flow meter vaults. In 2019, the site was decommissioned, and all features were removed. San Jose Water Company (SJWC) sold the site in 2021 for residential development. Environmental site assessments were performed between 2015 and 2018 to identify whether constituents of concern were present or likely to be present that might require remediation or controls to protect future site users, construction workers, or the environment. These assessments identified a pesticide constituent, chlordane, and metals including cobalt, lead, and thallium at concentrations exceeding their respective residential Environmental Screening Levels (ESLs). The chlordane and metals impacted soil that exceeded their residential ESLs was excavated during site remediation activities in 2016. Concentrations of naturally occurring arsenic and nickel remain in site soils at concentrations that exceed their respective ESLs for construction worker exposure.

Board of Supervisors: Cindy Chavez, Mike Wasserman, Otto Lee, Susan Ellenberg, S. Joseph Simitian
County Executive: Jeffrey V. Smith

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Site Management Requirements: Residual contamination remains in on-site soil; however, current Site conditions are acceptable for the proposed residential land use. Concentrations of naturally occurring arsenic and nickel remain in Site soils at concentrations that exceed their respective ESLs for construction worker exposure and could pose an unacceptable risk under certain site development activities such as, but not limited to, site grading and excavation. SJWC has proposed to use its Facility-Wide Site Management Plan and Soil Hazards Communication Summary for future Site work to protect construction workers and contractors from exposure to metals exceeding the construction worker exposure ESLs and to ensure that Site soil is managed and disposed of appropriately. DEH shall be notified if there are proposed changes in land use and if any unexpected contamination or previously unidentified hazardous material is encountered in the future.

This notice is issued pursuant to subdivision (e) of Section 101480 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

DocuSigned by:
Marilyn Underwood
D1103599CB5C4C2...

Dr. Marilyn Underwood
Director
Department of Environmental Health

Attachment: Case Closure Summary Report

cc: John Wolfenden, RWQCB (john.wolfenden@waterboards.ca.gov)
Julie Pettijohn, DTSC (Julie.Pettijohn@dtsc.ca.gov)
Tom Lanphar, DTSC (Tom.Lanphar@dtsc.ca.gov)
Scott Connelly, Valley Oaks Partners, LLC (Property Owner) (scott@valleyoakpartners.com)
Jennifer Sonnichsen, ERRG (Jennifer.sonnichsen@errg.com)
GeoTracker

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CASE CLOSURE SUMMARY REPORT
Site Cleanup Program (SCP)

I. Agency Information

Agency Name: County of Santa Clara Department of Environmental Health	**Address:** 1555 Berger Drive, #300
City/State/Zip: San Jose, CA 95112	**Phone:** (408) 918-3400
Responsible Staff person: Gerald O'Regan	**Title:** Environmental Health Geologist

II. Case Information

Site Facility Name: SJWC Virginia Avenue Station	**GeoTracker Global ID:** T10000008802	**VCP Case No:** 2016-15s
Site Facility Address: 320 Virginia Ave., Campbell, CA 95008	**Assessor Parcel No:** 404-07-033	

Responsible Parties	**Address**	**Phone Number**
Mr. Phyllip Nguyen San Jose Water Company	1221 South Bascom Avenue San Jose, CA 95128	
Property Owner		
San Jose Water Company	110 West Taylor Street San Jose, CA 95110	

III. Release and Site Characterization Information

Cause and type of release: None.	**Was source removed to extent practical:** Yes	
Site characterization complete? Yes	**Regional Watershed Name:** Santa Clara Valley-West Valley	
Monitoring Wells installed? No	**Number:** 0	**Proper screen interval?** NA
Highest GW depth below ground surface: NA	**Lowest:** NA	**Flow Direction:** NA
Most Sensitive Current GW use: Potential Drinking Water		
Are Water Wells affected? No	**Hydrologic Unit:** Santa Clara Valley	
Is the Site on Municipal Water? Yes		
Distance to nearest Water Well(s): Approximately 580 feet northwest of site (Water Supply Well, Other). Approximately 1,800 feet northeast of site (Municipal Supply Well, cluster of 4).	**Well Type/Status:** Active	
Distance to nearest Surface Water(s): San Tomas Aquino Creek Channel located adjacent to and east of site. Channel is concrete lined.	**Has Surface Water(s) been affected?** No	
Off-site Beneficial use impacts (addresses/locations): None		
Conceptual Site Model complete? Yes	**Date of CSM:** Various Documents. See GeoTracker	

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IV. Treatment/Disposal Methods

Material	Amount (Include Units)	Action (Treatment or Disposal Method)	Date
Soil	70 cubic yards	Non-hazardous waste disposal (Newby Island Landfill, Milpitas)	12/20/2016

V. Site Data

CONTAMINANT CONCENTRATIONS IN SOIL[1]
Please see Attachment 3 for additional information on contaminant locations and concentrations

	Soil (ppm)			Soil (ppm)	
Contaminant	Max[2]	After[3]	Contaminant	Max[2]	After[3]
Cobalt	38.3[4]	23[7]	Chlordane	1,970[13]	251[6]
Lead	489[5]	72.8[8]			
Thallium	4.7j[6]	0.94[9]			
Arsenic	10.7[6]	6.0[10]			
Zinc	2,420[5]	326[11]			
Nickel	461[4]	245[12]			

Notes:

ppm = parts per million
ND = Not detected at or above laboratory reporting limits
NA = Not analyzed
j = Analyte reported as estimated concentration below reporting limit, but above the method detection limit.

1. This table presents maximum historical contaminant concentrations in soil and documented contaminant concentrations if confirmation sampling was conducted.
2. The maximum concentration listed is the highest concentration reported for a specific constituent in soil samples collected at the site.
3. Concentrations listed are for soil samples collected outside the areas of the remedial soil excavation completed in 2016
4. Soil sample VS-S6-0.5-WL3-060115 collected at a depth of 0.5-foot below ground surface (bgs) on June 1, 2015.
5. Soil sample VS-S2-0.5-Transf-060115 collected at a depth of 0.5-foot bgs on June 1, 2015.
6. Soil sample VS-S5-0.5-WL4-060115 collected at a depth of 0.5-foot bgs on June 1, 2015.
7. Soil sample VS-SB003-05 collected at a depth of 5 feet bgs on December 21, 2016.
8. Soil sample VS-SO10-12 collected at a depth of 1-foot bgs on August 21, 2018.
9. Soil sample VS-A01-16-12 collected at a depth of 1-foot bgs on August 14, 2015.
10. Soil sample VS-S3-0.5-WL1-060115 collected at a depth of 0.5-foot bgs on June 1, 2015.
11. Soil sample VS-S-CBASIN-081415 collected at a depth of 0-foot bgs on August 14, 2015.
12. Soil sample VS-A01-04-00 collected at a depth of 0-foot bgs on August 12, 2015.
13. Soil sample VS-A02-01 collected at a depth of 0-foot bgs on August 12, 2015.

VI. Closure

Contaminant and media type: Metals (arsenic, cobalt, lead, nickel, thallium, zinc) and pesticides (chlordane) in soil.		
Location/depth of residual contaminant mass left-in-place: In vicinity of releases.		
Does corrective action protect public health for current land use? Yes		
Should corrective action be reviewed if land uses change? Yes – See site management requirements below.		
Monitoring Wells destroyed? NA	**Number destroyed:** NA	**Number retained:** NA

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VII. Additional Comments

Site Management Requirements: The Virginia Avenue Station was previously used to operate five former drinking water wells and a pump station owned by San Jose Water Company (SJWC). Residual contamination in soil remains at the site that could pose an unacceptable risk under certain site development activities such as, but not limited to, site grading, excavation, or the installation of water wells. Therefore, the impact of the disturbance of any residual contamination or the installation of water well(s) in the vicinity of the residual contamination shall be assessed and appropriate action taken so that there is no significant impact to human health, safety, or the environment. This could necessitate additional sampling, health risk assessment, and mitigation measures. DEH and the appropriate planning and building department shall be notified prior to any changes in land use, grading activities, excavation, and installation of water wells. This notification shall include a statement that residual contamination exists on the property and list all mitigation actions, if any, necessary to ensure compliance with this site management requirement.

Background:

The site contained drinking water wells and a pump station operated by SJWC. Environmental site assessments were performed between June 2015 and October 2018 to identify whether constituents of concern were present or likely to be present that might require remediation or controls to protect future site users, construction workers, or the environment. SJWC planned to remove all site features and sell the property for redevelopment. A pesticide constituent, chlordane, was reported at a concentration exceeding its residential Environmental Screening Level (ESL) in one sample collected from surficial soil (reported at a depth of 0-foot bgs). Cobalt, lead, and thallium were reported at concentrations exceeding their respective residential ESLs in samples collected across the site at depths between 0- and 1-foot bgs. All chlordane and metals impacted soil that exceeded their respective residential ESLs was excavated during site remediation activities in 2016. Concentrations of naturally occurring arsenic and nickel remain in site soils at concentrations that exceed their respective ESLs for construction worker exposure. SJWC proposes to use its Facility-Wide Site Management Plan and Soil Hazards Communication Summary (a site-specific document) for future site work to protect SJWC construction workers and contractors from exposure to metals exceeding the construction worker exposure ESLs and to ensure that site soil is managed and disposed of appropriately.

The assessment work discussed in this case closure summary only addressed the contaminants identified by limited site assessments. If the site is developed for any use besides the current use, the DEH recommends a detailed site-wide assessment be performed with oversight from a regulatory agency.

VIII. Public Participation

In accordance with the DEH's Public Participation Plan and Section 101480 of the California Health and Safety Code, public notification was made to all identified interested parties on August 16, 2022. The DEH allowed 30 days for public comment. The public notification documents can be reviewed on the case page at: https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000008802.

The DEH received one comment from the following party:

- John Keary, Adjacent Property Owner (386 Virginia Avenue, Campbell, CA) regarding potential impact to his property

The DEH notified the Responsible Party of the comment that was received and requested the responsible party respond to the commenter.

Based on the comment and subsequent response, the DEH was unable to identify specific site conditions that would prevent case closure from proceeding.

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IX. Local Agency Representative Data

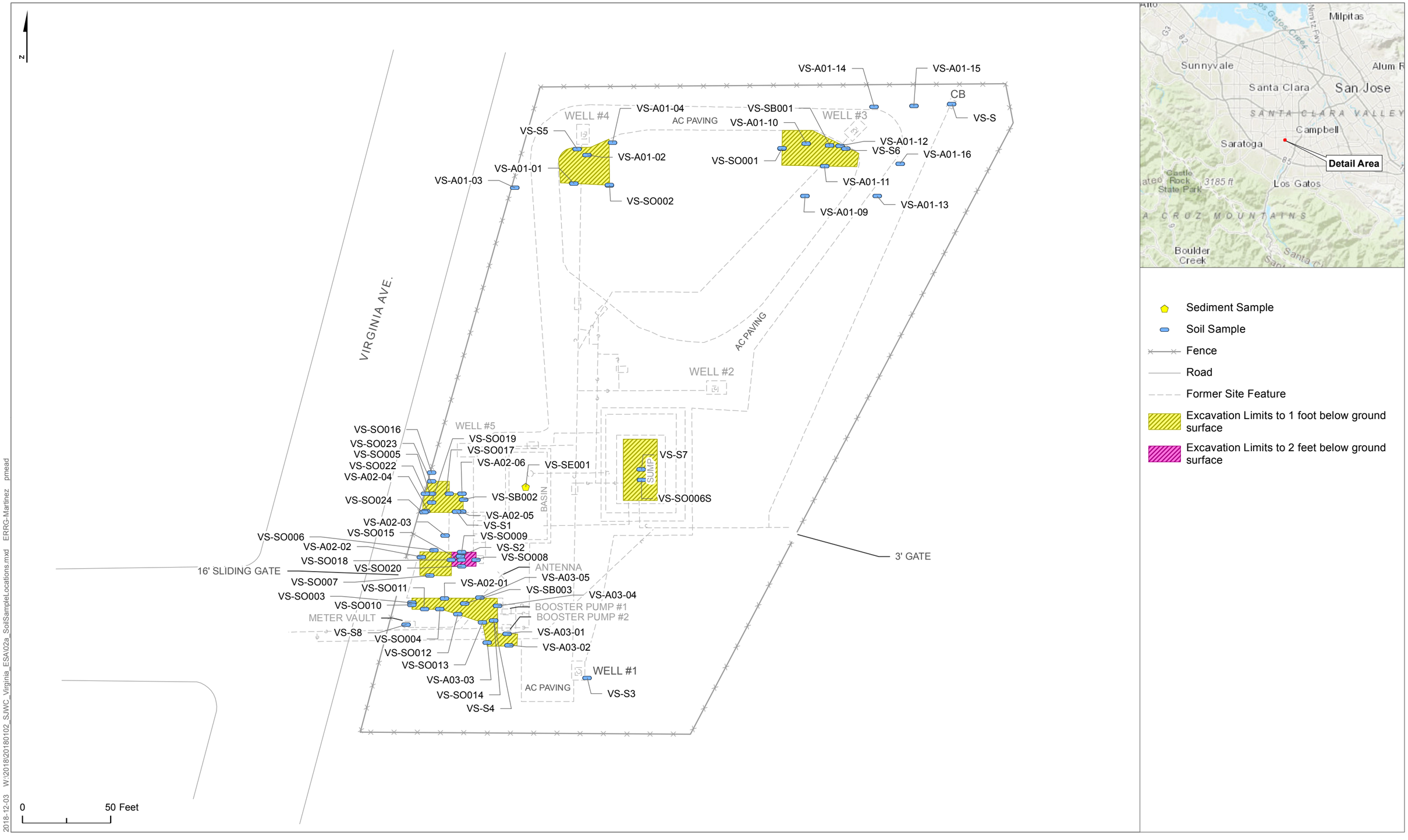
Prepared by: Joe Muzzio	Title: Environmental Health Geologist
Signature: DocuSigned by: Joseph Muzzio D453F046BB2E414...	Date: 11/15/2022
Reviewed by: Gerald O'Regan	Title: Senior Environmental Health Geologist
Signature: DocuSigned by: Gerald O'Regan 2DBED944B341A2A...	Date: 11/15/2022
Approved by*: Jennifer Kaahaaina	Title: Hazardous Materials Program Manager
Signature: DocuSigned by: Jennifer Kaahaaina 83E251BB21334C9...	Date: 11/15/2022

*This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions. The file for this case can be reviewed online at http://geotracker.waterboards.ca.gov/

Attachments:
1. Site Vicinity Map
2. Site Plans
3. Soil Analytical Data

Figure 1. Site Features and Vicinity Map
SJWC - Virginia Station
Campbell, California

ERRG



2018-12-03 W:\20180\20180102_SJWC_Virginia_ESA\02a_SoilSampleLocations.mxd ERRG-Martinez pmead

Figure 2a. Soil Sampling Locations

SJWC - Virginia Avenue Station, Campbell, California

ERRG

Figure 2b. Bulk Sampling Locations
SJWC - Virginia Avenue Station, Campbell, California

ERRG

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Table 1. Analytical Results for Metals

Sample ID No.	Site Area	Depth (feet bgs)	Date Collected	Unit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil																					
VS-S1-0.5-TRANSF-060115	Transformer Pad	0.5	6/1/2015	mg/kg	0.43 J	*6.3*	132	0.57 J	0.57 J	121	17	53.1	**93.2**	0.084	0.28 J	*133*	ND (1.8)	0.17 J	0.61 J	72.6	369
VS-S2-0.5-TRANSF-060115	Transformer Pad	0.5	6/1/2015	mg/kg	0.50 J	*9.7*	145	0.44 J	2.6	96.9	12.7	78.2	***489***	0.15	0.52 J	*126*	ND (1.9)	0.19 J	0.47 J	56.3	2,420
VS-S3-0.5-WL1-060115	Well #1	0.5	6/1/2015	mg/kg	0.73 J	*6.0*	75.1	0.36 J	0.38 J	103	12.7	42.6	48.9	0.25	1.0 J	*97.9*	ND (1.7)	0.12 J	**0.84 J**	34.5	128
VS-S4-0.5-BP-060115	Booster Pump	0.5	6/1/2015	mg/kg	1.6 J	*4.0*	159	0.47 J	10.9	84.9	13.1	48.1	**121**	3.6	0.27 J	*95.9*	ND (1.8)	0.18 J	0.39 J	51.2	549
VS-S5-0.5-WL4-060115	Well #4	0.5	6/1/2015	mg/kg	1.2 J	*10.7*	161	0.54 J	3.4 J	169	***31.8***	171	***238***	0.32	5.0 J	*206*	ND (8.3)	0.77 J	***4.7 J***	66.7	428
VS-S6-0.5-WL3-060115	Well #3	0.5	6/1/2015	mg/kg	3.6	*6.4*	116	0.32 J	0.61 J	245	***38.3***	311	38.5	0.46	2.2	*461*	ND (1.7)	0.37 J	**1.3 J**	37.9	103
VS-S7-0.5-SUMP-060115	Sump	0.5	6/1/2015	mg/kg	1.3 J	*4.8*	126	0.41 J	0.29 J	87.2	21.2	493	18.2	0.12	0.84 J	*117*	ND (1.7)	0.25 J	**0.99 J**	57.9	85.6
VS-S8-1.5-WVAULT-060115	Flow Meter Vault	1.5	6/1/2015	mg/kg	--	--	--	--	--	--	--	--	--	0.041	--	--	--	--	--	--	--
VS-S-CBASIN-081415	Catch Basin	0	8/14/2015	mg/kg	0.68 J	*2.4*	137	0.046 J	0.60 J	31.4	8.6	35.4	11.3	0.13	0.78 J	45.6	0.44 J	0.28 J	ND (0.11)	43.2	326
VS-A01-01-00	Well #4	0	8/12/2015	mg/kg	--	--	--	--	--	--	15.7	30.9	11.2	--	--	*108*	--	--	0.38 J	--	--
VS-A01-01-12	Well #4	1	8/12/2015	mg/kg	--	--	--	--	--	--	14.0	34.9	34.4	--	--	*128*	--	--	ND (0.12)	--	--
VS-A01-02-00	Well #4	0	8/12/2015	mg/kg	--	--	--	--	--	--	22.5	163	31.2	--	--	60.8	--	--	ND (0.33)	--	--
VS-A01-02-00 (DUP)[1]	Well #4	0	8/12/2015	mg/kg	--	--	--	--	--	--	**23.2**	185	36.7	--	--	66.5	--	--	ND (0.34)	--	--
VS-A01-02-12	Well #4	1	8/12/2015	mg/kg	--	--	--	--	--	--	16.8	45.4	12.7	--	--	*115*	--	--	0.35 J	--	--
VS-A01-03-00	Well #4	0	8/12/2015	mg/kg	--	--	--	--	--	--	14.6	52.9	14.2	--	--	*97.1*	--	--	0.45 J	--	--
VS-A01-03-12	Well #4	1	8/12/2015	mg/kg	--	--	--	--	--	--	15.2	32.7	15.6	--	--	*108*	--	--	0.42 J	--	--
VS-A01-04-00	Well #4	0	8/12/2015	mg/kg	--	--	--	--	--	--	20.2	31.9	33.1	--	--	*245*	--	--	0.48 J	--	--
VS-A01-04-12	Well #4	1	8/12/2015	mg/kg	--	--	--	--	--	--	15.9	37.9	15.9	--	--	*131*	--	--	0.58 J	--	--
VS-A01-09-00	Well #3	0	8/13/2015	mg/kg	--	--	--	--	--	--	13.1	49.9	15.0	--	--	80.8	--	--	0.59 J	--	--
VS-A01-09-00 (DUP)[1]	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	12.5	39.6	15.6	--	--	73.6	--	--	0.45 J	--	--
VS-A01-09-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	14.0	28.7	8.4	--	--	*90.1*	--	--	0.50 J	--	--
VS-A01-10-00	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	***35.1***	703	36.2	--	--	69.4	--	--	ND (0.35)	--	--
VS-A01-10-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	14.6	35.0	5.3	--	--	82.6	--	--	0.48 J	--	--
VS-A01-11-00	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	19.7	200	23.2	--	--	*93.6*	--	--	ND (0.11)	--	--
VS-A01-11-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	15.2	32.3	5.9	--	--	*103*	--	--	0.53 J	--	--
VS-A01-12-00	Well #3	0	8/13/2015	mg/kg	--	--	--	--	--	--	11.6	93.1	25.4	--	--	*104*	--	--	ND (0.11)	--	--
VS-A01-12-00 (DUP)[1]	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	10.5	77.9	28.5	--	--	62.6	--	--	ND (0.1)	--	--
VS-A01-12-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	10.5	51.9	15.5	--	--	67.9	--	--	0.40 J	--	--
VS-A01-13-00	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	14.4	31.7	27.9	--	--	*87.3*	--	--	0.50 J	--	--
VS-A01-13-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	16.0	30.3	7.2	--	--	*99.5*	--	--	0.45 J	--	--
VS-A01-14-00	Well #3	0	8/12/2015	mg/kg	--	--	--	--	--	--	18.1	52.9	25.3	--	--	*125*	--	--	0.32 J	--	--
VS-A01-14-12	Well #3	1	8/12/2015	mg/kg	--	--	--	--	--	--	14.8	30.7	14.6	--	--	*94.5*	--	--	0.31 J	--	--
VS-A01-15-00	Well #3	0	8/14/2015	mg/kg	--	--	--	--	--	--	14.9	38.1	25.5	--	--	*102*	--	--	0.24 J	--	--
VS-A01-15-12	Well #3	1	8/14/2015	mg/kg	--	--	--	--	--	--	14.4	24.8	7.8	--	--	80	--	--	ND (0.11)	--	--
VS-A01-16-00	Well #3	0	8/14/2015	mg/kg	--	--	--	--	--	--	13.5	29.4	29.2	--	--	*95.1*	--	--	0.75 J	--	--
VS-A01-16-00 (DUP)[1]	Well #3	0	8/14/2015	mg/kg	--	--	--	--	--	--	15.8	28.3	4.9	--	--	84.9	--	--	**0.80 J**	--	--
VS-A01-16-12	Well #3	1	8/14/2015	mg/kg	--	--	--	--	--	--	15.8	27.8	4.6	--	--	85.2	--	--	**0.94 J**	--	--
VS-A02-01-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	39.7	--	--	--	--	--	--	--	145
VS-A02-01-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	28.7	--	--	--	--	--	--	--	89.7
VS-A02-02-00	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	51.6	--	--	--	--	--	--	--	160
VS-A02-02-00 (DUP)[1]	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	47.4	--	--	--	--	--	--	--	135
VS-A02-02-12	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	51.9	--	--	--	--	--	--	--	58.3
VS-A02-03-00	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	49.7	--	--	--	--	--	--	--	171
VS-A02-03-12	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	14.9	--	--	--	--	--	--	--	58.8
VS-A02-04-00	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	62.6	--	--	--	--	--	--	--	153
VS-A02-04-12	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	9.6	--	--	--	--	--	--	--	50.5

Table 1. Analytical Results for Metals *(continued)*

Sample ID No.	Site Area	Depth (feet bgs)	Date Collected	Unit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil *(continued)*																					
VS-A02-05-00	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	42.7	--	--	--	--	--	--	--	136
VS-A02-05-00 (DUP)[1]	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	36.5	--	--	--	--	--	--	--	76.8
VS-A02-05-12	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	31.4	--	--	--	--	--	--	--	76.5
VS-A02-06-00	MCC	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	22.3	--	--	--	--	--	--	--	114
VS-A02-06-12	MCC	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	21.2	--	--	--	--	--	--	--	72.8
VS-A03-01-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	**93.0**	--	--	--	--	--	--	--	--
VS-A03-01-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	40.3	--	--	--	--	--	--	--	--
VS-A03-02-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	29.4	--	--	--	--	--	--	--	--
VS-A03-02-00 (DUP)[1]	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	54.5	--	--	--	--	--	--	--	--
VS-A03-02-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	48.7	--	--	--	--	--	--	--	--
VS-A03-03-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	34.1	--	--	--	--	--	--	--	--
VS-A03-03-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	11.8	--	--	--	--	--	--	--	--
VS-A03-04-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	52.5	--	--	--	--	--	--	--	--
VS-A03-04-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	28.6	--	--	--	--	--	--	--	--
VS-A03-05-00	Booster Pump	0	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	**84.0**	--	--	--	--	--	--	--	--
VS-A03-05-00 (DUP)[1]	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	18.8	--	--	--	--	--	--	--	--
VS-A03-05-12	Booster Pump	1	8/12/2015	mg/kg	--	--	--	--	--	--	--	--	7.2	--	--	--	--	--	--	--	--
VS-SB001-05	Well #3	5	12/21/2016	mg/kg	--	--	--	--	--	--	16	--	--	--	--	*89*	--	--	--	--	--
VS-SB001-10	Well #3	10	12/21/2016	mg/kg	--	--	--	--	--	--	11	--	--	--	--	63	--	--	--	--	--
VS-SB001-15	Well #3	15	12/21/2016	mg/kg	--	--	--	--	--	--	11	--	--	--	--	55	--	--	--	--	--
VS-SB001-15 (DUP)[1]	Well #3	15	12/21/2016	mg/kg	--	--	--	--	--	--	9.9	--	--	--	--	52	--	--	--	--	--
VS-SB001-20	Well #3	20	12/21/2016	mg/kg	--	--	--	--	--	--	9	--	--	--	--	45	--	--	--	--	--
VS-SB001-25	Well #3	25	12/21/2016	mg/kg	--	--	--	--	--	--	10	--	--	--	--	45	--	--	--	--	--
VS-SB002-05	Well #5	5	12/21/2016	mg/kg	--	--	--	--	--	--	19	--	--	--	--	*110*	--	--	--	--	--
VS-SB002-10	Well #5	10	12/21/2016	mg/kg	--	--	--	--	--	--	10	--	--	--	--	53	--	--	--	--	--
VS-SB002-10 (DUP)[1]	Well #5	10	12/21/2016	mg/kg	--	--	--	--	--	--	12	--	--	--	--	56	--	--	--	--	--
VS-SB002-15	Well #5	15	12/21/2016	mg/kg	--	--	--	--	--	--	9.6	--	--	--	--	40	--	--	--	--	--
VS-SB002-20	Well #5	20	12/21/2016	mg/kg	--	--	--	--	--	--	15	--	--	--	--	75	--	--	--	--	--
VS-SB002-25	Well #5	25	12/21/2016	mg/kg	--	--	--	--	--	--	8.9	--	--	--	--	43	--	--	--	--	--
VS-SB003-05	Booster Pump	5	12/21/2016	mg/kg	--	--	--	--	--	--	23	--	--	--	--	*140*	--	--	--	--	--
VS-SB003-05 (DUP)[1]	Booster Pump	5	12/21/2016	mg/kg	--	--	--	--	--	--	17	--	--	--	--	*99*	--	--	--	--	--
VS-SB003-10	Booster Pump	10	12/21/2016	mg/kg	--	--	--	--	--	--	17	--	--	--	--	*92*	--	--	--	--	--
VS-SB003-15	Booster Pump	15	12/21/2016	mg/kg	--	--	--	--	--	--	13	--	--	--	--	58	--	--	--	--	--
VS-SB003-20	Booster Pump	20	12/21/2016	mg/kg	--	--	--	--	--	--	12	--	--	--	--	57	--	--	--	--	--
VS-SB003-25	Booster Pump	25	12/21/2016	mg/kg	--	--	--	--	--	--	12	--	--	--	--	53	--	--	--	--	--
VS-SO001-00	Well #3	0	12/8/2016	mg/kg	--	--	--	--	--	--	17	--	--	--	--	--	--	--	--	--	--
VS-SO002-00	Well #4	0	12/8/2016	mg/kg	--	--	--	--	--	--	9.2	--	--	--	--	--	--	--	--	--	--
VS-SO005-00	Transformer Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	**91.2**	--	--	--	--	--	--	--	--
VS-SO005-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	35.4	--	--	--	--	--	--	--	--
VS-SO005-12	Transformer Pad	1	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	43.2	--	--	--	--	--	--	--	--
VS-SO006-00	Transformer Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	67.8	--	--	--	--	--	--	--	--
VS-SO006-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	65.4	--	--	--	--	--	--	--	--
VS-SO007-00	Transformer Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	66.2	--	--	--	--	--	--	--	--
VS-SO007-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	23.6	--	--	--	--	--	--	--	--
VS-SO008-00	Transformer Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	29.7	--	--	--	--	--	--	--	--
VS-SO008-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	51.8	--	--	--	--	--	--	--	--

Table 1. Analytical Results for Metals *(continued)*

Sample ID No.	Site Area	Depth (feet bgs)	Date Collected	Unit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil *(continued)*																					
VS-SO009-00	Transformer Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	37.5	--	--	--	--	--	--	--	--
VS-SO009-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	62.3	--	--	--	--	--	--	--	--
VS-SO010-00	Booster Pump Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	55.2	--	--	--	--	--	--	--	--
VS-SO010-12	Booster Pump Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	72.8	--	--	--	--	--	--	--	--
VS-SO011-00	Booster Pump Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	18.5	--	--	--	--	--	--	--	--
VS-SO011-12	Booster Pump Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	22.5	--	--	--	--	--	--	--	--
VS-SO012-00	Booster Pump Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	17.6	--	--	--	--	--	--	--	--
VS-SO012-12	Booster Pump Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	19.1	--	--	--	--	--	--	--	--
VS-SO013-00	Booster Pump Pad	0	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	17.3	--	--	--	--	--	--	--	--
VS-SO013-12	Booster Pump Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	32.1	--	--	--	--	--	--	--	--
VS-SO014-12	Booster Pump Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	25.4	--	--	--	--	--	--	--	--
VS-SO015-12	Transformer Pad	1	8/21/2018	mg/kg	--	--	--	--	--	--	--	--	**80.4**	--	--	--	--	--	--	--	--
VS-SO016-00	Transformer Pad	0	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	49.7	--	--	--	--	--	--	--	--
VS-SO016-12	Transformer Pad	1	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	6.54	--	--	--	--	--	--	--	--
VS-SO017-00	Transformer Pad	0	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	5.39	--	--	--	--	--	--	--	--
VS-SO017-12	Transformer Pad	1	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	1.33	--	--	--	--	--	--	--	--
VS-SO015-24	Transformer Pad	2	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	4.19	--	--	--	--	--	--	--	--
VS-SO018-00	Transformer Pad	0	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	6.2	--	--	--	--	--	--	--	--
VS-SO018-12	Transformer Pad	1	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	29.4	--	--	--	--	--	--	--	--
VS-SO018-24	Transformer Pad	2	9/11/2018	mg/kg	--	--	--	--	--	--	--	--	35.8	--	--	--	--	--	--	--	--
VS-SO019-00	Transformer Pad	0	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	9.34	--	--	--	--	--	--	--	--
VS-SO019-12	Transformer Pad	1	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	13.9	--	--	--	--	--	--	--	--
VS-SO020-00	Transformer Pad	0	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	15.7	--	--	--	--	--	--	--	--
VS-SO020-12	Transformer Pad	1	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	5.69	--	--	--	--	--	--	--	--
VS-SO020-24	Transformer Pad	2	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	9.04	--	--	--	--	--	--	--	--
VS-SO022-00	Transformer Pad	0	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	**100**	--	--	--	--	--	--	--	--
VS-SO022-12	Transformer Pad	1	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	26	--	--	--	--	--	--	--	--
VS-SO023-00	Transformer Pad	0	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	6.36	--	--	--	--	--	--	--	--
VS-SO023-12	Transformer Pad	1	9/21/2018	mg/kg	--	--	--	--	--	--	--	--	4.51	--	--	--	--	--	--	--	--
VS-SO024-00	Transformer Pad	0	10/10/2018	mg/kg	--	--	--	--	--	--	--	--	68.1	--	--	--	--	--	--	--	--
VS-SO024-00	Transformer Pad	1	10/10/2018	mg/kg	--	--	--	--	--	--	--	--	11.7	--	--	--	--	--	--	--	--
Sediment																					
VS-SE001-00	Suction Basin	0	12/5/2016	mg/kg	20	ND (0.071)	220	0.4	1.8	87	21	160	31	0.2	1.1	*140*	ND (0.16)	ND (0.039)	ND (0.14)	67.0	490
	Screening Criteria:		*Residential ESL* [2]	*mg/kg*	*31*	*11* [3]	*15,000*	*150*	*39*	*120,000* [4]	*23*	*3,100*	*80*	*13*	*390*	*820*	*390*	*390*	*0.78*	*390*	*23,000*
			Const. ESL [2]	*mg/kg*	*140*	*0.98*	*3,000*	*42*	*43*	*530,000* [4]	*28*	*14,000*	*160*	*44*	*1,800*	*86*	*1,700*	*1,800*	*3.5*	*470*	*110,000*
Paint																					
VS-P1-BASIN-060115	Basin	N/A	6/1/2015	mg/kg	42.3	1.9	1,820	0.24 J	2.8	1,410	148	28.1	***6,660***	17.8	1.7 J	5.9	1.2 J	1.1	0.17 J	9.9	1,610
VS-P2-MCC-060115	MCC	N/A	6/1/2015	mg/kg	121	9.7	38.5	<0.0092	21.8	**5,650**	3.4	116	***120,000***	0.15	252	7.9	1.9	1.2	<0.55	8.1	**72,000**
	Screening Criteria:		*TTLC* [5]	*mg/kg*	*500*	*500*	*10,000*	*75*	*100*	*2,500*	*8,000*	*2,500*	*1,000*	*20*	*3,500*	*2,000*	*100*	*500*	*700*	*2,400*	*5,000*
			HUD [6]	*mg/kg*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*5,000*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*
Wipe [7]																					
VS-W4-MCC-060115	MCC		6/1/2015	µg/100cm^2	--	--	--	--	--	--	--	--	--	0.11	--	--	--	--	--	--	--
VS-W5-MCC-060115	MCC		6/1/2015	µg/100cm^2	--	--	--	--	--	--	--	--	--	0.17	--	--	--	--	--	--	--
VS-W6-MCC-060115	MCC		6/1/2015	µg/100cm^2	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--
				Screening Criteria:										NE							

Table 1. Analytical Results for Metals *(continued)*

Sample ID No.	Site Area	Depth (feet bgs)	Date Collected	Unit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc

Notes:

For Soil Results:

Bold concentration exceeds the residential screening criterion

Italicized concentration exceeds the construction worker screening criterion

Bold and Italicized concentration exceeds both the residential and construction worker screening criteria

Shaded cells indicate samples were removed by excavation

For Paint Results:

Bold concentration exceeds the primary screening criterion listed

Italicized concentration exceeds the secondary screening criterion

Bold and Italicized concentration exceeds both the primary and secondary screening criteria

1. Duplicate samples are identified by Sample ID No. ending in '(DUP)', and immediately follow the primary sample result.
2. Direct Exposure Human Health Risk Levels Provided in "ESL Workbook (Feb. 2016, Rev 3)." Available Online at: <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml>.
3. Arsenic was compared with the background concentration recognized by the Water Board. The average background concentration for arsenic in soil in the San Francisco Bay region is greater than the Commercial/Industrial ESL; therefore, the background concentration was selected as the screening criterion for arsenic in soil. Duverge, 2011. "Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region." Available Online at: < http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/ESL/2011_Arsenic_Background_Duverge.pdf>.
4. The laboratory analyzed for total chromium; however, no ESL is available for total chromium. As a result, the ESLs for trivalent chromium was used for screening total chromium concentrations.
5. Department of Toxic Substances Control, 2015. *Title 22 California Code of Regulations,* Section 66261.24, "Characteristic of Toxicity." Available Online at: < https://www.dtsc.ca.gov/LawsRegsPolicies/Title22/>.
6. HUD, 2016. Title 42 Code of Federal Regulations, Section 4822(c), "Inspection requirements." Available Online at: < https://www.law.cornell.edu/uscode/text/42/4822>.
7. The laboratory (Curtis & Tompkins Laboratories) used the unit micrograms per sample (or µg/s) for wipe samples; however, each sample was collected over a 100-square-centimeter area, thus this unit is reflected on the figures and tables.

bgs = below ground surface

DTSC = Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency

ESL = environmental screening level

HERO = Human Health Risk

HUD = U.S. Department of Housing and Urban Development

J = indicates the analyte was detected as an estimated concentration below the reporting limit, but above the method detection limit

mg/kg = milligrams per kilogram

MCC = Motor Control Center

N/A = not applicable

NA = not available

NE = not established

TTLC = threshold limit concentration

µg/100cm^2 = micrograms per 100 square centimeters (the area from which the sample was collected)

< = not detected at concentration greater than reporting limit

-- = analyte was not included in the analyses for the sample

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Table 2. Analytical Results for Pesticides

Sample ID No.	Depth (feet bgs)	Date Collected	Unit	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan sulfate	Endosulfan-I	Endosulfan-II	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	Heptachlor	Methoxychlor	Toxaphene
VS-S1-0.5-TRANSF-060115	0.5	6/1/2015	µg/kg	8.3 J	7.3 J	26.6	<17	--	--	97.4 J	--	<2.4	--	--	--	--	--	--	<5.0	--	<94
VS-S3-0.5-WL1-060115	0.5	6/1/2015	µg/kg	23.8	371	96.6	<8.5	--	--	324	--	<1.2	--	--	--	--	--	--	<2.5	--	<46
VS-S4-0.5-BP-060115	0.5	6/1/2015	µg/kg	7.3 J	4.2 J	5.8 J	<8.3	--	--	110 J	--	<1.1	--	--	--	--	--	--	<2.3	--	<46
VS-S5-0.5-WL4-060115	0.5	6/1/2015	µg/kg	16.1	7.0 J	11.0 J	<7.9	--	--	251	--	<4.5	--	--	--	--	--	--	<9.7	--	<180
VS-S6-0.5-WL3-060115	0.5	6/1/2015	µg/kg	<17	<17	<17	<17	--	--	80.9 J	--	<2.3	--	--	--	--	--	--	<4.8	--	<91
Soil - Area 1																					
VS-A01-01-00	0	8/12/2015	µg/kg	<1.1	19.6	1.9 J	<2	<1.9	<1	<17	<1.1	<1.1	<1.2	<1.1	<2	<1	<1.2	<1.4	<2.4	<1.7	<46
VS-A01-01-12	1	8/12/2015	µg/kg	<4.2	34.5	7.2 J	<7.8	<7.4	<4	<67	<4.4	<4.5	<4.6	<4.2	<7.7	<3.9	<4.6	<5.4	<9.5	<6.7	<180
VS-A01-02-00	0	8/12/2015	µg/kg	<4.2	<4.3	<6.1	<7.8	<7.5	<4	<68	<4.4	<4.5	<4.6	<4.3	<7.8	<3.9	<4.6	<5.4	<9.6	<6.7	<180
VS-A01-02-00 (DUP)[1]	0	8/12/2015	µg/kg	<4.2	<4.3	<6.2	<7.9	<7.5	<4	<68	<4.5	<4.5	<4.6	<4.3	<7.8	<4	<4.7	<5.4	<9.7	<6.8	<180
VS-A01-02-12	1	8/12/2015	µg/kg	<4.2	6.8 J	<6.1	<7.8	<7.4	<4	<67	<4.4	<4.5	<4.6	<4.2	<7.7	<3.9	<4.6	<5.4	<9.5	<6.7	<180
VS-A01-03-00	0	8/12/2015	µg/kg	<21	<22	<31	<39	<38	<20	<340	<22	<23	<23	<21	<39	<20	<23	<27	<48	<34	<910
VS-A01-03-12	1	8/12/2015	µg/kg	<10	16.6 J	<15	<19	<19	<9.9	<170	<11	<11	<11	<11	<19	<9.8	<11	<13	<24	<17	<450
VS-A01-04-00	0	8/12/2015	µg/kg	<11	<11	<16	<20	<19	<10	<170	<11	<11	<12	<11	<20	<10	<12	<14	<24	<17	<460
VS-A01-04-12	1	8/12/2015	µg/kg	<4.2	277	25.0 J	<7.9	<7.5	<4	<68	<4.5	<4.5	<4.6	<4.3	<7.8	<4.0	<4.6	<5.4	<9.7	<6.8	<180
VS-A01-09-00 (DUP)[1]	0	8/12/2015	µg/kg	<4.2	17.0 J	<6.1	<7.8	<7.4	<4	<67	<4.4	<4.5	<4.6	<4.2	<7.7	<4.0	<4.6	<5.4	<9.6	<6.7	<180
VS-A01-09-00	0	8/12/2015	µg/kg	<4.2	20.2 J	<6.1	<7.8	<7.4	<4	<67	<4.4	<4.5	<4.6	<4.2	<7.7	<4.0	<4.6	<5.4	<9.5	<6.7	<180
VS-A01-09-12	1	8/12/2015	µg/kg	<0.21	3.2	0.48 J	<0.39	<0.37	<0.2	<3.3	<0.22	<0.22	<0.23	<0.21	<0.38	<0.2	<0.23	<0.27	<0.47	<0.33	<8.9
VS-A01-10-00	0	8/12/2015	µg/kg	<4.2	<4.3	<6.1	<7.8	<7.4	<4	<67	<4.4	<4.5	<4.6	<4.2	<7.7	<3.9	<4.6	<5.4	<9.5	<6.7	<180
VS-A01-10-12	1	8/12/2015	µg/kg	<0.21	4.1	0.75 J	<0.39	<0.38	<0.2	<3.4	<0.22	<0.23	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.1
VS-A01-11-00	0	8/12/2015	µg/kg	<2.1	<2.2	<3.1	<4	<3.8	<2	<34	<2.3	<2.3	<2.3	<2.2	<3.9	<2	<2.3	<2.7	<4.9	<3.4	<92
VS-A01-11-12	1	8/12/2015	µg/kg	<0.21	7.9	3.2	<0.4	<0.38	<0.2	<3.4	<0.23	<0.23	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.49	<0.34	<9.1
VS-A01-12-00	0	8/12/2015	µg/kg	<4.3	<4.3	<6.2	<7.9	<7.6	<4.1	<69	<4.5	<4.6	<4.7	<4.3	<7.9	<4.0	<4.7	<5.5	<9.7	<6.9	<180
VS-A01-12-00 (DUP)[1]	0	8/12/2015	µg/kg	<4.3	<4.4	<6.2	<8.0	<7.6	<4.1	<69	<4.5	<4.6	<4.7	<4.3	<7.9	<4.0	<4.7	<5.5	<9.8	<6.9	<180
VS-A01-12-12	1	8/12/2015	µg/kg	<2.1	<2.2	<3.1	<4	<3.8	<2	<34	<2.3	<2.3	<2.3	<2.2	<3.9	<2	<2.3	<2.7	<4.9	<3.4	<91
VS-A01-13-00	0	8/12/2015	µg/kg	<2.1	19.7	5.0 J	<4	<3.8	<2	<34	<2.3	<2.3	<2.3	<2.2	<3.9	<2	<2.3	<2.7	<4.9	<3.4	<91
VS-A01-13-12	1	8/12/2015	µg/kg	<0.21	3.4	1.4 J	<0.4	<0.38	<0.2	<3.4	<0.23	<0.23	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.49	<0.34	<9.2
VS-A01-14-00	0	8/12/2015	µg/kg	<21	<22	<31	<40	<38	<20	<340	<22	<23	<23	<22	<39	<20	<23	<27	<49	<34	<910
VS-A01-14-12	1	8/12/2015	µg/kg	<2.1	92.3	9.2 J	<3.9	<3.8	<2	<34	<2.2	<2.3	<2.3	<2.1	<3.9	<2	<2.3	<2.7	<4.8	<3.4	<91
VS-A01-15-00	0	8/14/2015	µg/kg	<11	72 J	21.4 J	<20	<19	<10	<170	<11	<11	<12	<11	<20	<10	<12	<14	<24	<17	<460
VS-A01-15-12	1	8/14/2015	µg/kg	<0.85	2.3 J	<1.2	<1.6	<1.5	<0.8	<14	<0.89	<0.9	<0.92	<0.86	<1.6	<0.79	<0.93	<1.1	<1.9	<1.4	<36
VS-A01-16-00	0	8/14/2015	µg/kg	<21	<21	<30	<39	<37	<20	<340	<22	<22	<23	<21	<39	<20	<23	<27	<48	<34	<890
VS-A01-16-00 (DUP)[1]	0	8/14/2015	µg/kg	<0.21	2.6	<0.31	<0.4	<0.38	<0.2	<3.4	<0.23	<0.23	<0.23	<0.22	<0.39	<0.5	<0.23	<0.27	<0.49	<0.34	<9.1
VS-A01-16-12	1	8/14/2015	µg/kg	<0.85	<0.86	<0.31	<1.6	<1.5	<0.80	<14	<0.89	<0.90	<0.92	<0.86	<1.6	<0.79	<0.93	<1.1	<1.9	<1.4	<36
VS-S-CBASIN-081415	0	8/14/2015	µg/kg	<4.3	<4.3	<6.2	<7.9	<7.6	<4	<69	<4.5	<4.5	<4.7	<4.3	<7.9	<4	<4.7	<5.5	<9.7	<6.8	<180
Soil - Area 2																					
VS-A02-01-00	0	8/12/2015	µg/kg	<11	41.9 J	16.9 J	<20	<19	<10	**1,970**	<11	<11	<12	<11	<20	<9.9	<12	<14	<24	<17	<450
VS-A02-01-12	1	8/12/2015	µg/kg	<10	72.1 J	30.1 J	<19	<19	<9.9	<170	<11	<11	<11	<11	<19	<9.8	<11	<13	<24	<17	<450
VS-A02-02-00	0	8/12/2015	µg/kg	<11	174	30.8 J	<20	<19	<10	<170	<11	<11	<12	<11	<19	<9.9	<12	<14	<24	<17	<450
VS-A02-02-00 (DUP)[1]	0	8/12/2015	µg/kg	<11	70.9 J	26.0 J	<20	<19	<10	<170	<11	<11	<12	<11	<19	<9.9	<12	<14	<24	<17	<450
VS-A02-02-12	1	8/12/2015	µg/kg	0.68 J	81.8	10.6	<0.39	<0.37	<0.2	<3.4	<0.22	<0.22	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<8.9
VS-A02-03-00	0	8/12/2015	µg/kg	10.9	254	96.6	<2	<1.9	<1	<17	<1.1	<1.1	<1.2	<1.1	<2	<0.99	<1.2	<1.4	<2.4	<1.7	<45
VS-A02-03-12	1	8/12/2015	µg/kg	0.98 J	93.4	19.7	<0.39	<0.38	<0.2	<3.4	<0.22	<0.23	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.1
VS-A02-04-00	0	8/12/2015	µg/kg	<11	1,270	114	<20	<19	<10	<170	<11	<11	<12	<11	<19	<9.9	<12	<14	<24	<17	<450
VS-A02-04-12	1	8/12/2015	µg/kg	<0.21	71.1	8.9	<0.39	<0.38	<0.2	<3.4	<0.22	<0.23	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.1
VS-A02-05-00	0	8/12/2015	µg/kg	<4.3	205	43.6	<7.9	<7.6	<4	<68	<4.5	<4.5	<4.6	<4.3	<7.8	<4	<4.7	<5.4	<9.7	<6.8	<180
VS-A02-05-00 (DUP)[1]	1	8/12/2015	µg/kg	0.45 J	28.7	23.8	<0.39	<0.38	<0.2	<3.4	<0.22	<0.22	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.1
VS-A02-05-12	1	8/12/2015	µg/kg	1.2 J	53.3	41.9	<0.39	<0.37	<0.2	<3.4	<0.22	<0.23	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<8.9
VS-A02-06-00	0	8/12/2015	µg/kg	<11	349	78.2 J	<20	<19	<10	<170	<11	<11	<12	<11	<19	<9.9	<12	<14	<24	<17	<450
VS-A02-06-12	1	8/12/2015	µg/kg	<4.2	129	23.8 J	<7.9	<7.5	<4	<68	<4.5	<4.5	<4.6	<4.3	<7.8	<4	<4.7	<5.4	<9.7	<6.8	<180
VS-SO003-00	0	12/8/2016	µg/kg	--	--	--	--	--	--	360	--	--	--	--	--	--	--	--	--	--	--
VS-SO004-00	0	12/8/2016	µg/kg	--	--	--	--	--	--	110	--	--	--	--	--	--	--	--	--	--	--
Soil - Area 3																					
VS-A03-01-00	0	8/12/2015	µg/kg	<2.1	19.3	9.4 J	<3.9	<3.7	<2.0	<34	<2.2	<2.2	<2.3	<2.1	<3.9	<2.0	<2.3	<2.7	<4.8	<3.4	<90
VS-A03-01-12	1	8/12/2015	µg/kg	<0.21	8.0	2.4	<0.39	<0.37	<0.2	<3.4	<0.22	<0.22	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.0
VS-A03-02-00	0	8/12/2015	µg/kg	<2.1	27.4	9.1 J	<4.0	<3.8	<2.0	<34	<2.2	<2.3	<2.3	<2.2	<3.9	<2.0	<2.3	<2.7	<4.9	<3.4	<91
VS-A03-02-00 (DUP)[1]	0	8/12/2015	µg/kg	<2.1	66.5	18.6	<4.0	<3.8	<2.0	<34	<2.3	<2.3	<2.3	<2.2	<3.9	<2.0	<2.3	<2.7	<4.9	<3.4	<91

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Table 2. Analytical Results for Pesticides *(continued)*

Sample ID No.	Depth (feet bgs)	Date Collected	Unit	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan sulfate	Endosulfan-I	Endosulfan-II	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	Heptachlor	Methoxychlor	Toxaphene
Soil - Area 3 *(continued)*																					
VS-A03-02-12	1	8/12/2015	µg/kg	<0.21	7.1	1.5 J	<0.4	<0.38	<0.2	<3.4	<0.23	<0.23	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.49	<0.34	<9.1
VS-A03-03-00	0	8/12/2015	µg/kg	3.0 J	19.8	13	<2	<1.9	<1	<17	<1.1	<1.1	<1.1	<1.1	<1.9	<0.99	<1.2	<1.3	<2.4	<1.7	<45
VS-A03-03-12	1	8/12/2015	µg/kg	<0.21	3.1	1.1 J	<0.39	<0.37	<0.2	<3.3	<0.22	<0.22	<0.23	<0.21	<0.38	<0.2	<0.23	<0.27	<0.47	<0.33	<8.9
VS-A03-04-00	0	8/12/2015	µg/kg	<1.1	15.7	4.0 J	<2	<1.9	<1	<17	<1.1	<1.1	<1.2	<1.1	<2	<0.99	<1.2	<1.4	<2.4	<1.7	<45
VS-A03-04-12	1	8/12/2015	µg/kg	0.33 J	8.5	3.2	<0.4	<0.38	<0.2	<3.4	<0.22	<0.23	<0.23	<0.22	<0.39	<0.2	<0.23	<0.27	<0.49	<0.34	<9.1
VS-A03-05-00	0	8/12/2015	µg/kg	<11	<11	<15	<20	<19	<10	<170	<11	<11	<11	<11	<19	<9.9	<12	<13	<24	<17	<450
VS-A03-05-00 (DUP)[1]	0	8/12/2015	µg/kg	<0.21	1.0 J	0.57 J	<0.39	<0.38	<0.2	<3.4	<0.22	<0.22	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.0
VS-A03-05-12	1	8/12/2015	µg/kg	<0.21	0.37 J	<0.31	<0.39	<0.37	<0.2	<3.4	<0.22	<0.22	<0.23	<0.21	<0.39	<0.2	<0.23	<0.27	<0.48	<0.34	<9.0
Screening Criteria:		*Leaching ESL*[2]	*µg/kg*	*750,000*	*1,100,000*	*4,300*	*5,000*	*NE*	*NE*	*15,000*	*NE*	*0.17*	*NE*	*4.6*	*4.6*	*0.65*	*NE*	*9.8*	*0.77*	*19,000*	*0.42*
		Const. ESL[2]	*µg/kg*	*81,000*	*5,700*	*5,700*	*1,000*	*NE*	*NE*	*14,000*	*NE*	*1,100*	*NE*	*1,500,000*	*1,500,000*	*74,000*	*NE*	*1,900*	*3,800*	*1,200,000*	*14,000*
		Residential ESL[2]	*µg/kg*	*2,700*	*1,900*	*1,900*	*36*	*NE*	*NE*	*480*	*NE*	*38*	*NE*	*420,000*	*420,000*	*21,000*	*NE*	*550*	*140*	*350,000*	*510*

Notes:

Bold concentration exceeds the residential screening criterion

Italicized concentration exceeds the construction worker screening criterion

Shaded cell indicates the method detection limit exceeds the screening criteria

1. Duplicate sample IDs and concentrations are noted with a "(DUP)" and are listed immediately following the original sample.
2. Direct Exposure Human Health Risk Levels Provided in "ESL Workbook (Feb. 2016, Rev 3)." Available Online at: < http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml >.

BHC = benzene hexachloride

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethene

DDT = dichlorodiphenyltrichloroethane

bgs = below ground surface

J= indicates the analyte was detected as an estimated value below the reporting limit, but above the method detection limit

µg/kg = micrograms per kilogram

< = result is less than method detection limit

-- = analyte was not included in the analyses for the sample

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Table 4. Analytical Results for PCBs

Sample ID No.	Site Area	Depth (feet bgs)	Date Collected	Unit	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs
Soil												
VS-S1-0.5-TRANSF-060115	Transformer Pad	0.5	6/1/2015	µg/kg	<34	<34	<34	<34	<34	<34	<34	ND
VS-S2-0.5-TRANSF-060115	Transformer Pad	0.5	6/1/2015	µg/kg	<34	<34	<34	<34	<34	<34	<34	ND
VS-S7-0.5-SUMP-060115	Sump	0.5	6/1/2015	µg/kg	<33	<33	<33	<33	<33	<33	<33	ND
Sediment												
VS-SE001-00	Suction basin	0.5	12/5/2016	µg/kg	ND (3.0)	ND (8.0)	ND (3.9)	ND (3.6)	ND (3.8)	ND (3.1)	28	*28*
		Screening Criteria [1]:	*Leaching ESL [2]*	*µg/kg*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*6,300*
			Const. ESL [2]	*µg/kg*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*5,600*
			Residential ESL [2]	*µg/kg*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*250*
Paint												
VS-P2-MCC-060115	MCC	N/A	6/1/2015	µg/kg	<97	<240	<240	<240	<240	291	160	451
		Screening Criteria:	*TCSA [3]*	*µg/kg*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*1,000*
Wipe [4]												
VS-W1-TRANSF-060115	Transformer Pad	N/A	6/1/2015	µg/100cm^2	<1	<1	<1	<1	<1	<1	<1	ND
VS-W2-TRANSF-060115	Transformer Pad	N/A	6/1/2015	µg/100cm^2	<1	<1	<1	<1	<1	<1	<1	ND
VS-W3-TRANSF-060115	Transformer Pad	N/A	6/1/2015	µg/100cm^2	<1	<1	<1	<1	<1	<1	<1	ND
		Screening Criteria:	*TSCA [3]*	*µg/100cm^2*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*10*

Notes:

1. Screening criteria only available for general PCBs and does not exist for individual PCB components. All components were added together and compared to the total value.
2. Direct Exposure Human Health Risk Levels Provided in "ESL Workbook (Feb. 2016, Rev 3)." Available Online at: < http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml>.
3. U.S. Environmental Protection Agency, 2015. Title 40 Code of Federal Regulations, Part 761, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions." Available Online at: <http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr761_main_02.tpl>.
4. The laboratory used the unit micrograms per wipe sample; however, each sample was collected over a 100-square-centimeter area.

bgs = below ground surface
ESL = environmental screening level
MCC = motor control center
N/A = not applicable
NE = not established
PCBs = polychlorinated biphenyls
TSCA = Toxic Substances Control Act
Water Board = San Francisco Bay Regional Water Quality Control Board
µg/kg = micrograms per kilogram
µg/100cm^2 = micrograms per 100 square centimeters
< = not detected at concentration greater than reporting limit

PROJECT TEAM:

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LANDSCAPE ARCHITECT:
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Tel: 707-224-2299
Contact: Phil vanderToolen

CODE INFORMATION:

APPLICABLE CODES:
2022 CALIFORNIA BUILDING CODE (CBC)
2022 CALIFORNIA ELECTRICAL CODE (CEC)
2022 CALIFORNIA MECHANICAL CODE (CMC)
2022 CALIFORNIA PLUMBING CODE (CPC)
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA FIRE CODE (CFC)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen Code)
CALIFORNIA CODE OF REGULATIONS (CCR)
CITY OF CAMPBELL, CALIFORNIA MUNICIPAL CODE (CMC)

OCCUPANCY GROUP:	R-2 (Dwellings) & U (Private Garages)
CONSTRUCTION TYPE:	VB
ALLOWABLE AREA:	21,000 SF
ALLOWABLE HEIGHT:	3 STORIES, 40'
SPRINKLER SYSTEM:	NFPA 13

NOTES:
1. There will be no combustible construction prior to hydrant installation.
2. Fire alarm required per CFC Sec. 907
3. Project is not defined as "public housing" and is being designed to 2022 CBC Chapter 11A accessibility standards.

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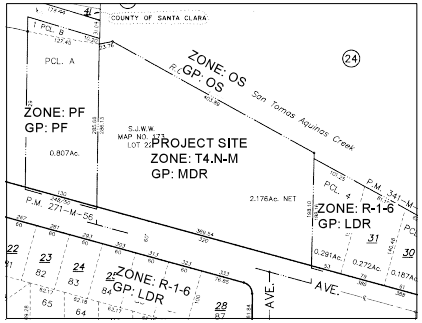
EXH1 Joint Trench Intent Exhibit
Tree Assessment Plan
Photometric Plan`

PARCEL MAP:



320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

COVER SHEET

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PROJECT NO. 1005.005 | APRIL 4, 2024

PROJECT DESCRIPTION:

VOP Ref Virginia, LLC requests approval of a Minor Housing Development Project Permit, CEQA Review [categorical exemption], Density Bonus Request, Tentative Subdivision Map and Tree Removal Permit to allow development of a project that includes 40 townhome style residential condominiums. The property has a general plan designation of Medium Density Residential and is designated as T4.N-M in the City of Campbell zoning map. The property would provide critical housing during the state-wide housing crisis, serving a need for "missing middle" housing and affording local Campbell citizens the opportunity to remain local when searching for opportunities beyond rental and high density style homes.

PROJECT DESIGN FEATURES:

The proposed community is designed around a central open space for future residents located along Virginia Ave, providing a strong visual context and attractive street scape. The project would include the construction of new private streets providing access to townhome garages and guest parking, while front entry doors and front facades are located prominently forward towards the open space and public right of way. The proposed townhome buildings are 3-stories (+/- 36') tall with 2-car garages for each home. Townhome unit sizes range from 2-4 bedrooms, with living area (gross) ranging from 1,410 – 2,093 SF / unit. The project's architectural style includes a variety of high-quality materials designed to be compatible with the existing neighborhood.

BOI-1: Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found):

- Removal of trees shall be limited to only those necessary to construct the proposed project as reflected in the relevant project approval documents.
- If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present.
- If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist shall delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).
- The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance, until the young have fledged.

BIO-2: Roosting Bat Pre-construction Survey and Avoidance. A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.). If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Grading shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from May 1 through October 1. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

BIO-3: Avoidance and Minimization of San Tomas Aquinas Creek. No substances toxic to fish and wildlife shall be discharged or allowed to leach into the creek. Reasonable precautions to protect aquatic habitats of the creek from pollution with harmful materials (e.g., fuels, oils, lubricants, and solvents) shall be implemented. Specifically, all potentially hazardous materials shall be controlled, cleaned up, and properly disposed of in accordance with the proposed project's water quality control permits and plans. Materials deleterious or toxic to fish and wildlife including, but not limited to, asphalt, tires, concrete, construction materials, treated wood, and creosote containing materials shall not be stockpiled within 100 feet of the creek. Refueling and maintenance areas for equipment shall be limited to areas 100 feet from the creek.

At no time shall silt-laden runoff be allowed to enter the creek. Erosion control measures shall be utilized throughout all phases of construction where sediment runoff from the project may enter the creek. Best Management Practices (BMPs) to avoid erosion and uncontrolled stormwater runoff shall be implemented. BMPs typically include silt fencing, coir rolls, and/or straw bale dikes.

NOI -1: Implementation of the following multi-part environmental protection measure is required to reduce potential construction-period noise impacts: Prior to issuance of construction permits, the following language shall be included, verbatim, in the general notes section of all the civil plan construction documents.

- Construction activities at the project site shall be limited to the hours of 8:00 a.m. and 5:00 p.m. daily, Monday through Friday. Saturday hours of construction shall be 9:00 a.m. and 4:00 p.m. There shall be no construction activity on Sundays or public holidays (as defined by Title 5 United States Code [USC] Section 6103[a]).
- Establish standards for when a construction staging and phasing plan shall be required for new development projects and significant remodels.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.
- The required construction-related noise mitigation plan shall also specify that haul truck deliveries are to occur within the same range of hours specified for construction equipment.
- The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

AIR-1: During construction activities, all off-road equipment with engines greater than 50 horsepower shall meet either the United States Environmental Protection Agency (EPA) or California Air Resources Board (ARB) Tier IV off-road emission standards. The construction contractor shall maintain records documenting compliance with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

COS-6.2: If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS-6.3: Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process.

COS-6.b: Require all development, infrastructure, and other ground disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Planning Division shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Planning Division.
- If human remains are discovered during any ground disturbing activity, work shall stop until the Planning Division and the County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Planning Division. Adopt an ordinance codifying these requirements into the Campbell Municipal Code.

PROJECT DATA		
Site APN	404-07-033	
Project Site Area (Gross) [1]	2.44	Acres
Project Site Area (Net) [2]	2.08	Acres
DEVELOPMENT STANDARD	**STANDARD**	**PROPOSED**
General Plan Land Use	Medium Density Residential	
Density (Units / Net Ac.)	18-25	19.22
Total Number of Units		40
2 Bedroom		12
4 Bedroom		28
Average Unit Size (Gross SF)		1,831
Zoning District	T4 N-M	T4 N-M
Design Site		
Number of Sites, Type		6, Townhouse
Buildings per Design Site		1
Size - Width	16' min	16' min
Size - Depth	65' min	56' min
Height		
Stories	3 max	3
To Eave / Parapet	35' max	+/- 32' max
Overall	45' max	+/- 36' max
Ground Floor Finish Level	6" min	6" min
Floor-to-Floor (Ground)	10' min	8' min
Building Placement		
Front Setback	15'-20'	5' min
Interior Side Setback	5' min	2' min
Rear (Alley) Setback	3' min	3' min
Front Façade Zone	65% min	11%
Ground Floor Habitable Depth	25' min	25' min
Encroachments		
Private Frontages (Front)	10' max	14' max
Architectural Features (Front)	3' max	10' max
Parking		
Parking Setback (Front)	40' min	10' min
Parking Setback (Side)	0' min	5' min
Parking Setback (Rear)	0' min	34' min
Driveway separation	50' min	4' min
Total Number of Spaces	120	94
Spaces per 2 Bedroom Unit	2.5	2 covered
Spaces per 4 Bedroom Unit	2.5	2 covered + .5 surface
Garage Spaces		80 (2 / unit)
Surface Spaces		14
Private Open Space	72 sf / unit min	204 sf / unit min

Notes:
1) Gross Project Site Area includes street dedication & flood control easement.
2) Net Project Site Area excludes street dedication & flood control easement.

ARCHITECTURAL SUMMARY

unit name	unit count	bedroom count	bathroom count	gross living area / unit	total gross living area	garage area	porch area	deck area	courtyard area	private open space / unit
plan 1	12	2	2.5	1,410	16,920	598	20	100	84	204
plan 2	16	4	3.5	1,975	31,600	498	15	110	146	271
plan 2x	6	4	3.5	2,050	12,300	561	25	106	163	294
plan 2C	1	4	3.5	1,963	1,963	498	26	81	150	257
plan 3	5	4	3.5	2,093	10,465	514	51	105	337	493
Total	**40**				**73,248**					

BUILDING CALCULATIONS

bldg name	bldg count	unit count / bldg	building area - level 1	building area - level 2	building area - level 3	building area / bldg	total building area	coverage area / bldg	total coverage area
bldg 1a	4	7	5,684	5,349	5,978	17,011	68,044	6,191	24,764
bldg 2	1	6	4,824	4,494	5,006	14,324	14,324	5,190	5,190
bldg 2a	1	6	4,837	4,555	5,095	14,487	14,487	5,278	5,278
Total	6						96,855		35,232

320 VIRGINIA AVENUE

IN CAMPBELL, CA

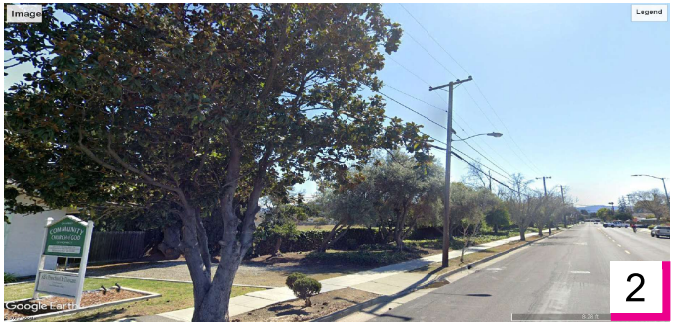
DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

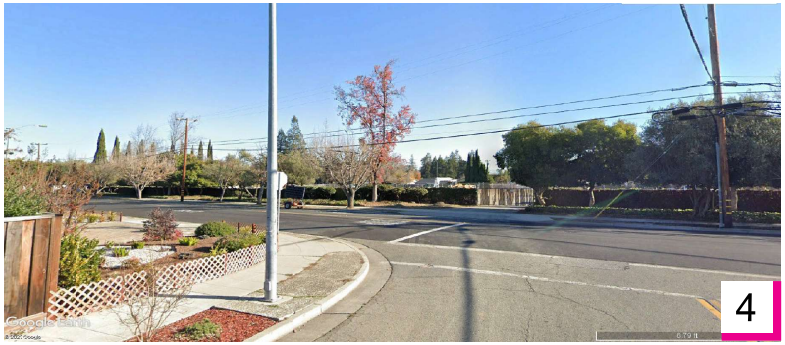
DAHLIN GROUP ARCHITECTURE | PLANNING

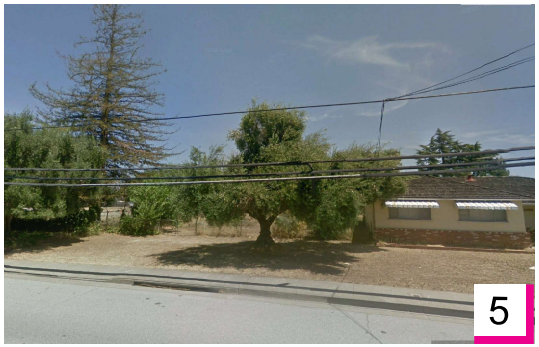
PROJECT INFORMATION

Civil Engineering Associates
Civil Engineers · Planners · Surveyors
20 Railway Avenue Campbell, CA 95008 Ph: (408) 453-1066

WWW.DAHLINGROUP.COM PROJECT NO. 1005.005 | APRIL 4, 2024







SHEET A1.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

SITE PHOTOGRAPHY SHEET

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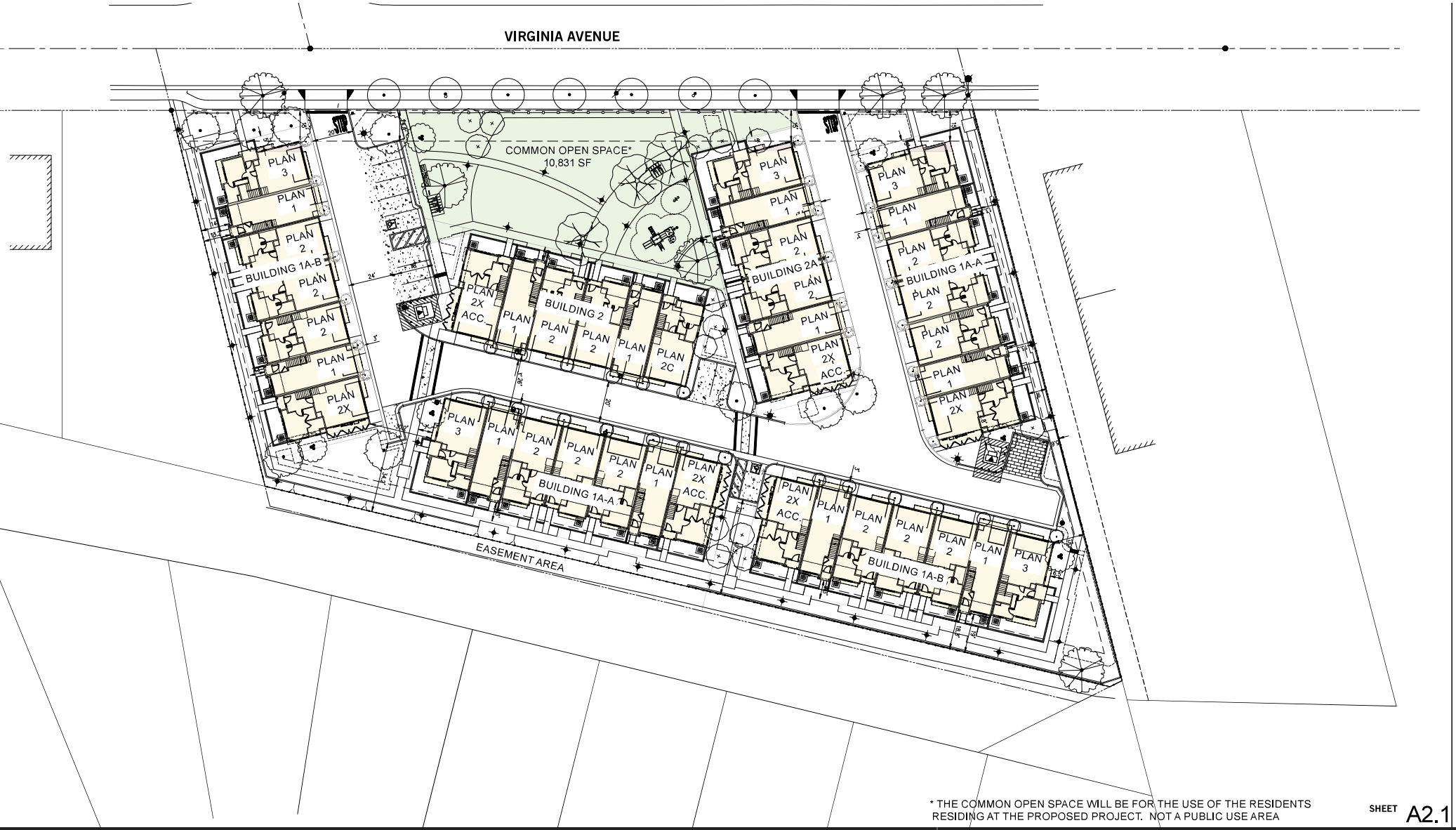

* THE COMMON OPEN SPACE WILL BE FOR THE USE OF THE RESIDENTS RESIDING AT THE PROPOSED PROJECT. NOT A PUBLIC USE AREA

SHEET A2.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

ARCHITECTURAL SITE PLAN

N

0 10 20 40 60 FEET

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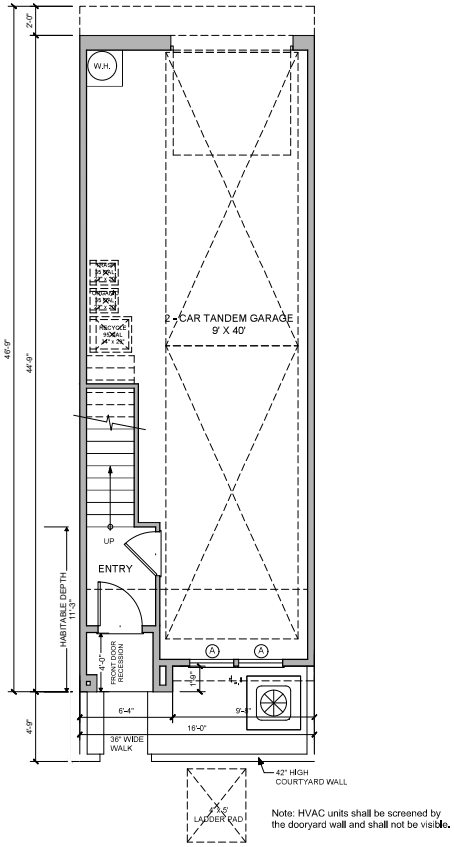
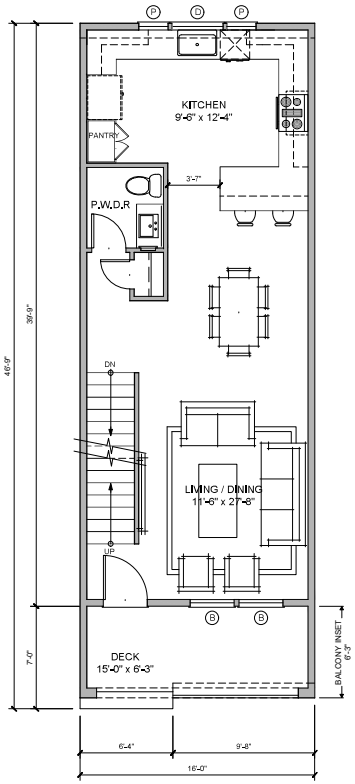


Note: HVAC units shall be screened by the dooryard wall and shall not be visible.

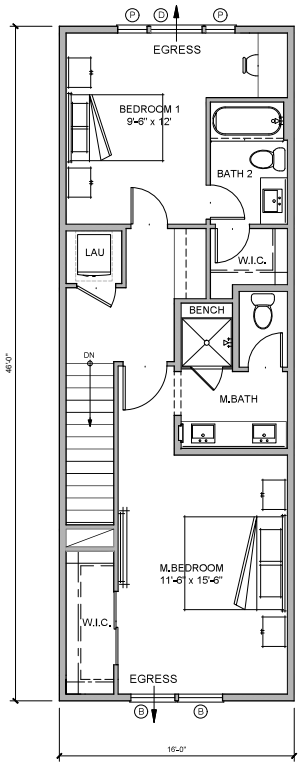
PLAN 1 FIRST FLOOR

SCALE: 1/4" = 1'-0"



PLAN 1 SECOND FLOOR

SCALE: 1/4" = 1'-0"



PLAN 1 THIRD FLOOR

SCALE: 1/4" = 1'-0"

PLAN 1

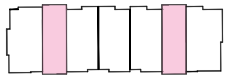
2 BEDROOMS / 2.5 BATHS

FIRST FLOOR:	79 SQ. FT.
SECOND FLOOR:	636 SQ. FT.
THIRD FLOOR:	695 SQ. FT.
TOTAL LIVING:	1410 SQ. FT.
GARAGE:	598 SQ. FT.
PORCH:	20 SQ. FT.
2ND FLOOR DECK:	100 SQ. FT.

WINDOW SCHEDULE

SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION	SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION
A	3050 SH *	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, GARAGE	I	2050 SH	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR
B	3060 SH *	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING, BR	J	3060 SH	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING
C	3646 SH	3'-6" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN	K	2640 SH *	2'-6" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH
D	3650 SH *	3'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	L	9080 SGD	9'-0" X 8'-0"	SLIDING GLASS DOOR	REFLECTIVE INDEX <20	DINING
E	2650 SH	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, DESK	M	2040 SH	2'-0" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, GARAGE
F	2650 SH *	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	N	2046 SH	2'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN
G	2036 SH	2'-0" X 3'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, BATH	O	3046 SH	3'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN, PANTRY
H	3050 SH	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING	P	2050 SH *	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR

* EGRESS WINDOW



SHEET A3.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

UNIT PLAN 1

0 2 4 8 16 FEET

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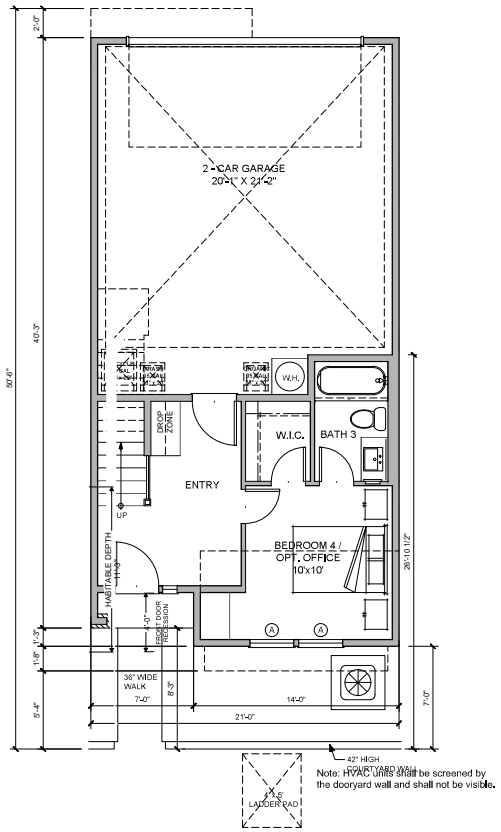
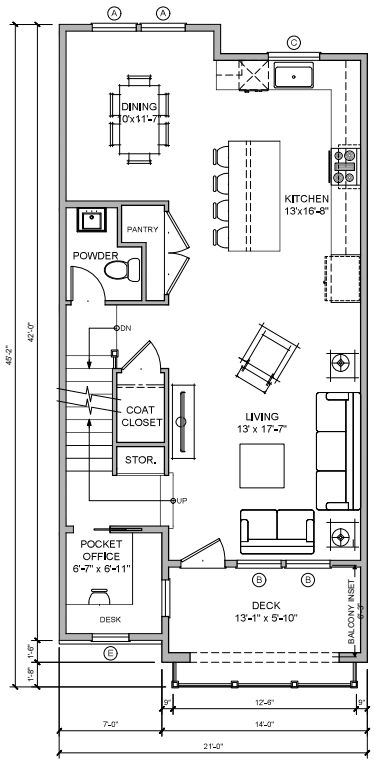


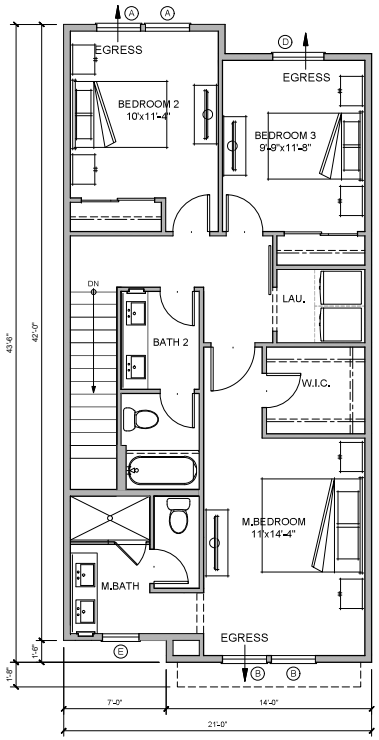
PLAN 2 FIRST FLOOR

SCALE: 1/4" = 1'-0"



PLAN 2 SECOND FLOOR

SCALE: 1/4" = 1'-0"



PLAN 2 THIRD FLOOR

SCALE: 1/4" = 1'-0"

PLAN 2

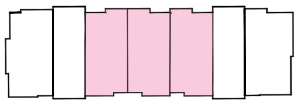
4 BEDROOMS / 3.5 BATHS

FIRST FLOOR:	347 SQ. FT.
SECOND FLOOR:	794 SQ. FT.
THIRD FLOOR:	834 SQ. FT.
TOTAL LIVING:	1975 SQ. FT.
GARAGE:	498 SQ. FT.
PORCH:	15 SQ. FT.
2ND FLOOR DECK:	110 SQ. FT.

WINDOW SCHEDULE

SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION	SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION
A	3050 SH *	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, GARAGE	I	2050 SH	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR
B	3060 SH *	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING, BR	J	3060 SH	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING
C	3646 SH	3'-6" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN	K	2640 SH *	2'-6" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH
D	3650 SH *	3'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	L	9080 SGD	9'-0" X 8'-0"	SLIDING GLASS DOOR	REFLECTIVE INDEX <20	DINING
E	2650 SH	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, DESK	M	2040 SH	2'-0" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, GARAGE
F	2650 SH *	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	N	2046 SH	2'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN
G	2036 SH	2'-0" X 3'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, BATH	O	3046 SH	3'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN, PANTRY
H	3050 SH	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING	P	2050 SH *	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR

* EGRESS WINDOW



SHEET A3.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

UNIT PLAN 2

0 2 4 8 16 FEET

VOP DAHLIN

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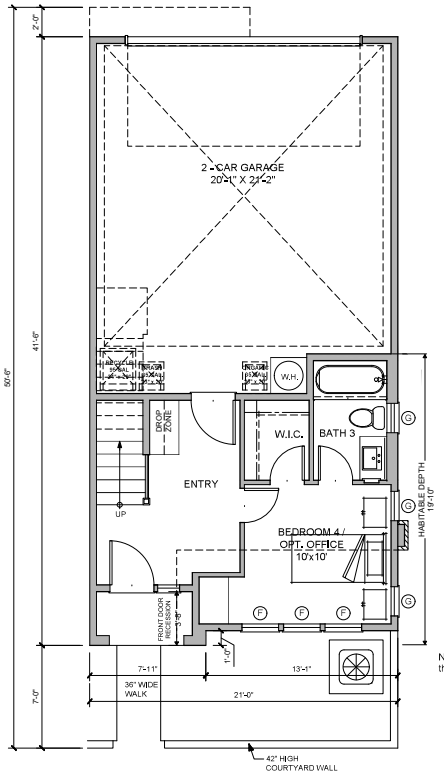
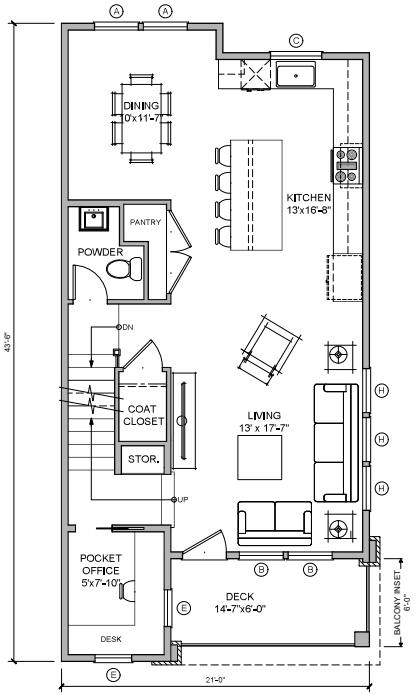


Note: HVAC units shall be screened by the dooryard wall and shall not be visible.

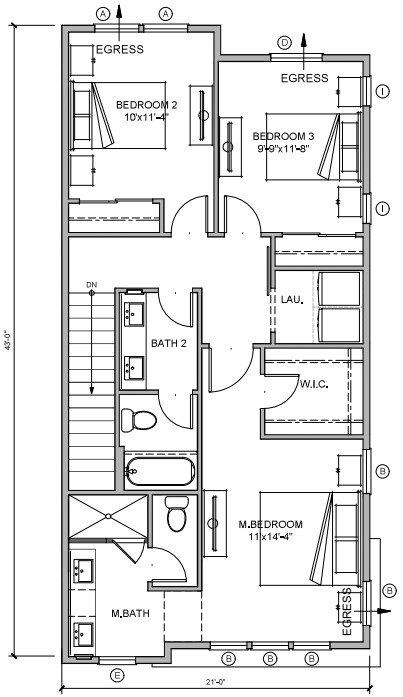
PLAN 2C FIRST FLOOR

SCALE: 1/4" = 1'-0"



PLAN 2C SECOND FLOOR

SCALE: 1/4" = 1'-0"



PLAN 2C THIRD FLOOR

SCALE: 1/4" = 1'-0"

PLAN 2C (Corner)

4 BEDROOMS / 3.5 BATHS

FIRST FLOOR:	333 SQ. FT.
SECOND FLOOR:	799 SQ. FT.
THIRD FLOOR:	831 SQ. FT.
TOTAL LIVING:	1963 SQ. FT.
GARAGE:	498 SQ. FT.
PORCH:	26 SQ. FT.
2ND FLOOR DECK:	81 SQ. FT.

WINDOW SCHEDULE

SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION	SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION
A	3050 SH *	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, GARAGE	I	2050 SH	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR
B	3060 SH *	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING, BR	J	3060 SH	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING
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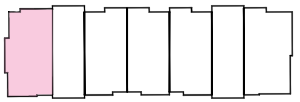
D	3650 SH *	3'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	L	9080 SGD	9'-0" X 8'-0"	SLIDING GLASS DOOR	REFLECTIVE INDEX <20	DINING
E	2650 SH	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, DESK	M	2040 SH	2'-0" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, GARAGE
F	2650 SH *	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	N	2046 SH	2'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN
G	2036 SH	2'-0" X 3'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, BATH	O	3046 SH	3'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN, PANTRY
H	3050 SH	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING	P	2050 SH *	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR

* EGRESS WINDOW



SHEET A3.3

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

UNIT PLAN 2C

0 2 4 8 16 FEET

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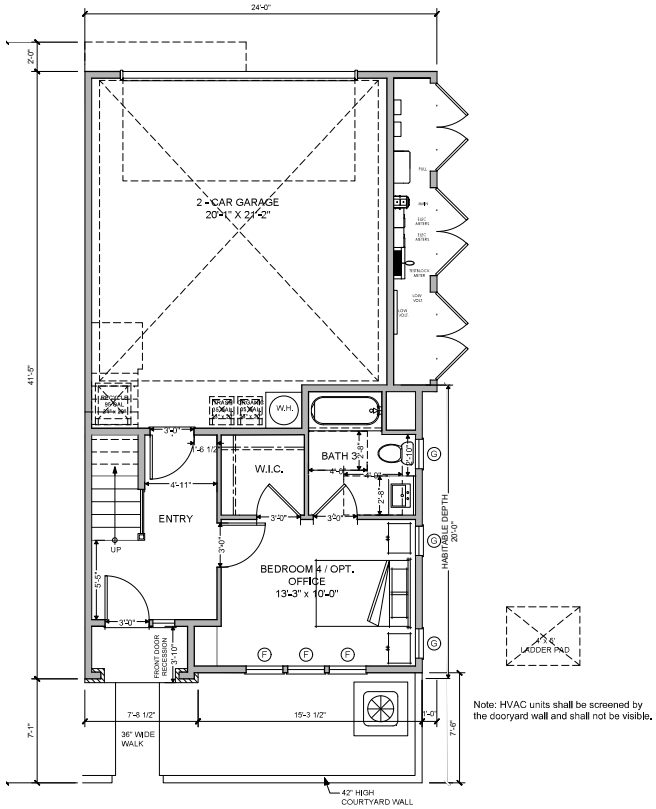
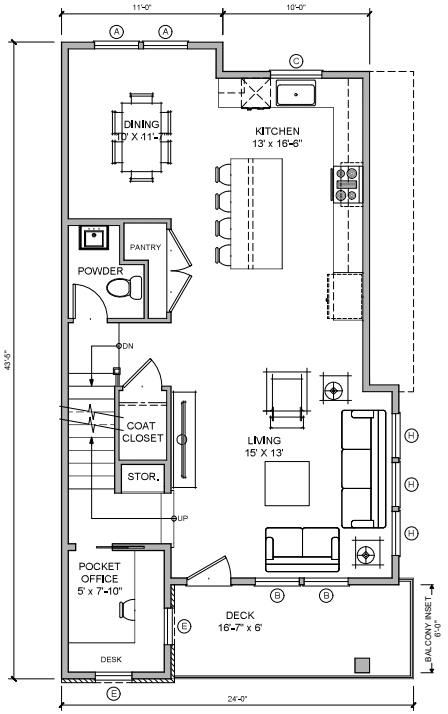


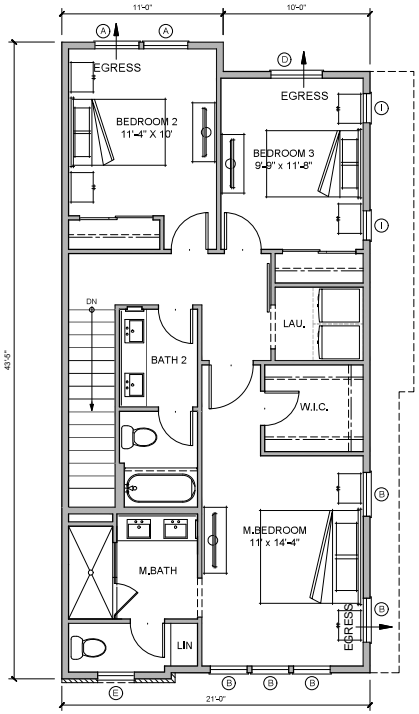
4'-0" X 4'-0" LADDER PAD

Note: HVAC units shall be screened by the dooryard wall and shall not be visible.

PLAN 2X FIRST FLOOR
SCALE: 1/4" = 1'-0"



PLAN 2X SECOND FLOOR
SCALE: 1/4" = 1'-0"



PLAN 2X THIRD FLOOR
SCALE: 1/4" = 1'-0"

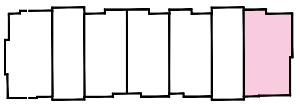
PLAN 2X
4 BEDROOMS / 3.5 BATHS

FIRST FLOOR:	381 SQ. FT.
SECOND FLOOR:	832 SQ. FT.
THIRD FLOOR:	837 SQ. FT.
TOTAL LIVING:	2050 SQ. FT.
GARAGE:	561 SQ. FT.
PORCH:	25 SQ. FT.
2ND FLOOR DECK:	106 SQ. FT.

WINDOW SCHEDULE

SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION	SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION
A	3050 SH *	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, GARAGE	I	2050 SH	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR
B	3060 SH *	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING, BR	J	3060 SH	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING
C	3646 SH	3'-6" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN	K	2640 SH *	2'-6" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH
D	3650 SH *	3'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	L	9080 SGD	9'-0" X 8'-0"	SLIDING GLASS DOOR	REFLECTIVE INDEX <20	DINING
E	2650 SH	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, DESK	M	2040 SH	2'-0" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, GARAGE
F	2650 SH *	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	N	2046 SH	2'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN
G	2036 SH	2'-0" X 3'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, BATH	O	3046 SH	3'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN, PANTRY
H	3050 SH	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING	P	2050 SH *	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR

* EGRESS WINDOW



SHEET A3.4

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

UNIT PLAN 2X

0 2 4 8 16 FEET

VOP DAHLIN

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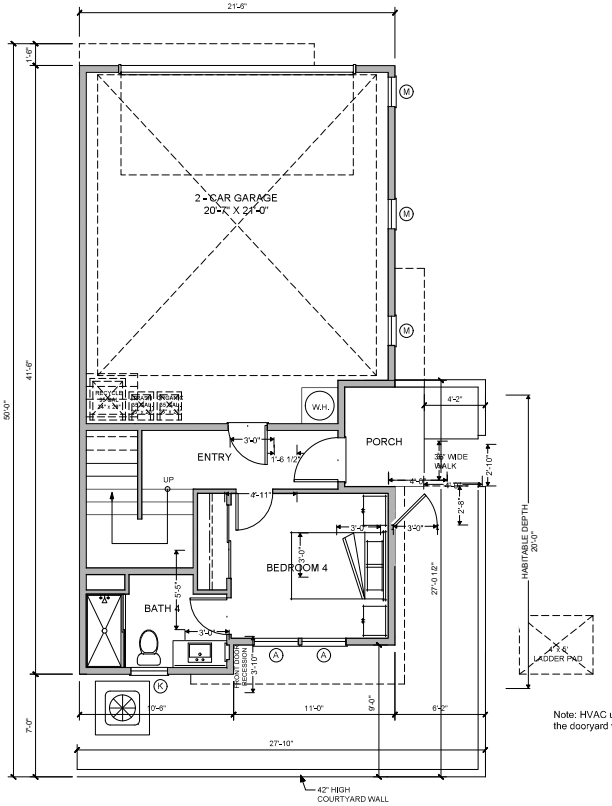
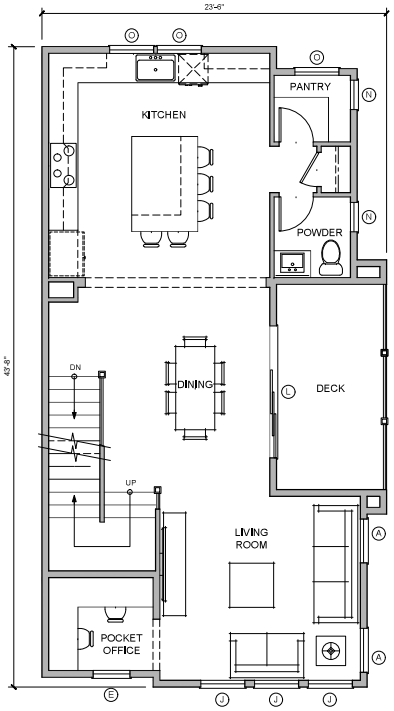


Note: HVAC units shall be screened by the dooryard wall and shall not be visible.

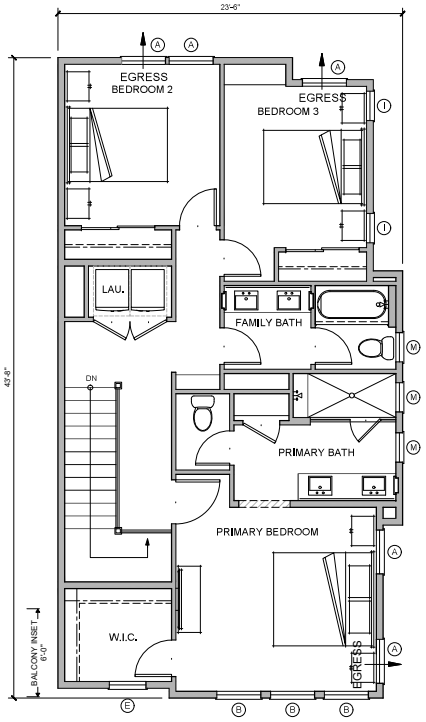
PLAN 3 FIRST FLOOR

SCALE: 1/4" = 1'-0"



PLAN 3 SECOND FLOOR

SCALE: 1/4" = 1'-0"



PLAN 3 THIRD FLOOR

SCALE: 1/4" = 1'-0"

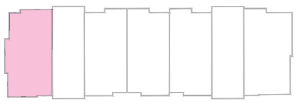
PLAN 3
4 BEDROOMS / 3.5 BATHS

FIRST FLOOR:	333 SQ. FT.
SECOND FLOOR:	857 SQ. FT.
THIRD FLOOR:	903 SQ. FT.
TOTAL LIVING:	2093 SQ. FT.
GARAGE:	514 SQ. FT.
PORCH:	51 SQ. FT.
2ND FLOOR DECK:	105 SQ. FT.

WINDOW SCHEDULE

SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION	SYMB.	NAME	OPENING SIZE	TYPE	GLASS	LOCATION
A	3050 SH *	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, GARAGE	I	2050 SH	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR
B	3060 SH *	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING, BR	J	3060 SH	3'-0" X 6'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING
C	3646 SH	3'-6" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN	K	2640 SH *	2'-6" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH
D	3650 SH *	3'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	L	9080 SGD	9'-0" X 8'-0"	SLIDING GLASS DOOR	REFLECTIVE INDEX <20	DINING
E	2650 SH	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, DESK	M	2040 SH	2'-0" X 4'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BATH, GARAGE
F	2650 SH *	2'-6" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BEDROOM	N	2046 SH	2'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN
G	2036 SH	2'-0" X 3'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	BR, BATH	O	3046 SH	3'-0" X 4'-6"	SINGLE HUNG	REFLECTIVE INDEX <20	KITCHEN, PANTRY
H	3050 SH	3'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	LIVING	P	2050 SH *	2'-0" X 5'-0"	SINGLE HUNG	REFLECTIVE INDEX <20	BR

* EGRESS WINDOW



SHEET A3.5

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

UNIT PLAN 3

0 2 4 8 16 FEET

VOP DAHLIN

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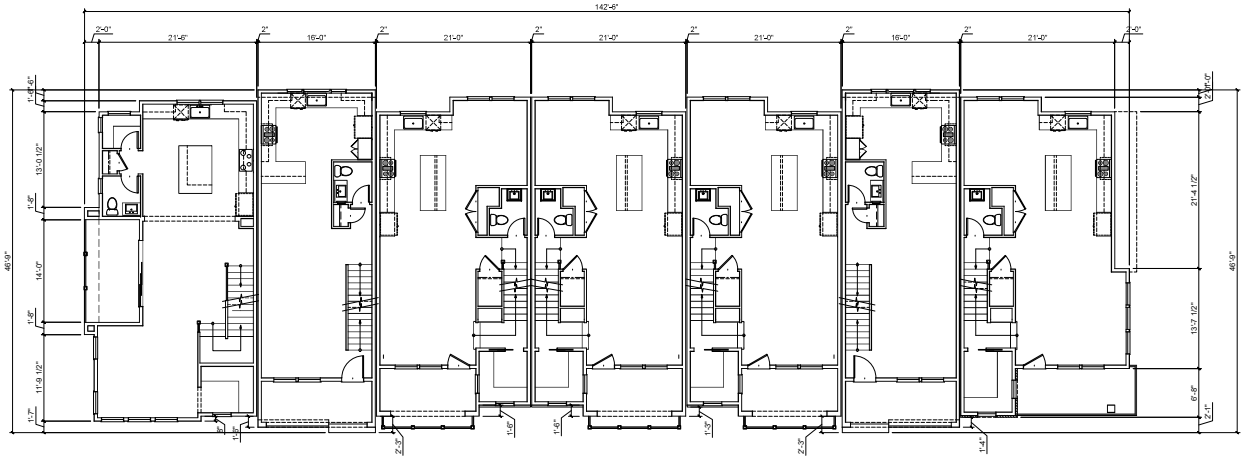
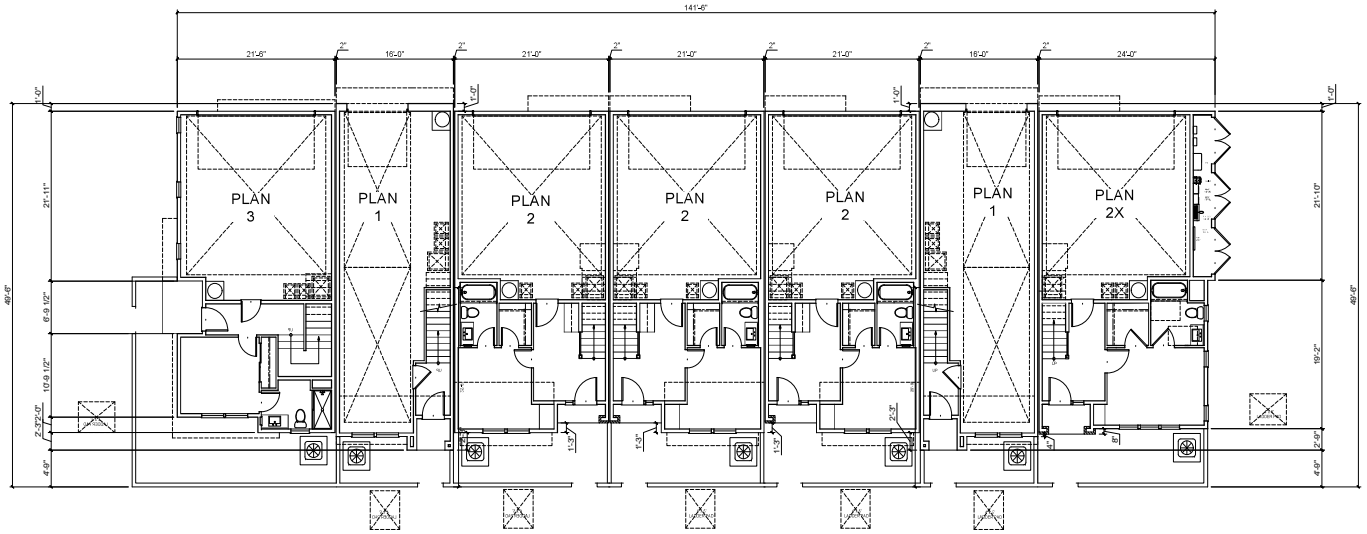


BUILDING PLAN - LEVEL 2



BUILDING PLAN - LEVEL 1

KEY MAP

SHEET A4 .1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDINGS 1A - 7 PLEX - STYLE A

N

0 4 8 16 24 FEET

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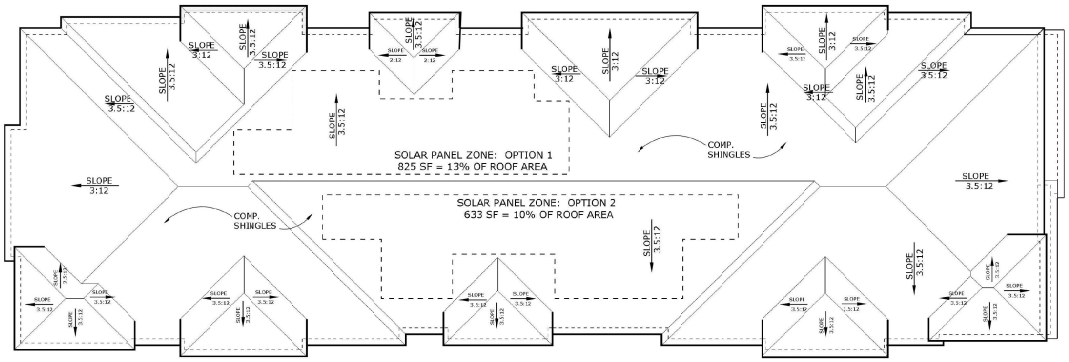
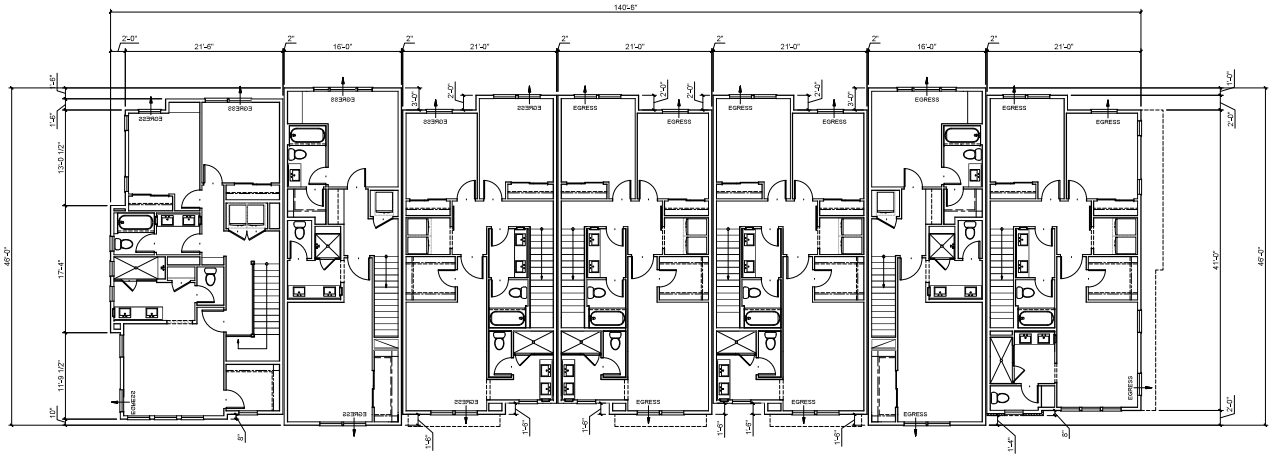
VOP DAHLIN



BUILDING PLAN - ROOF PLAN



BUILDING PLAN - LEVEL 3

KEY MAP

SHEET A4.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDINGS 1A - 7 PLEX - STYLE A

N

0 4 8 16 24 FEET

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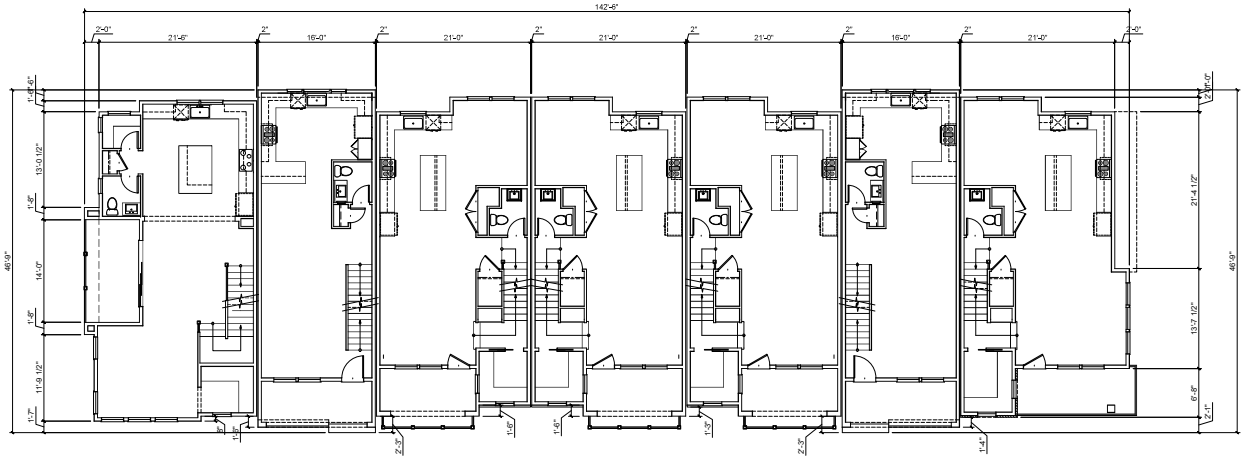
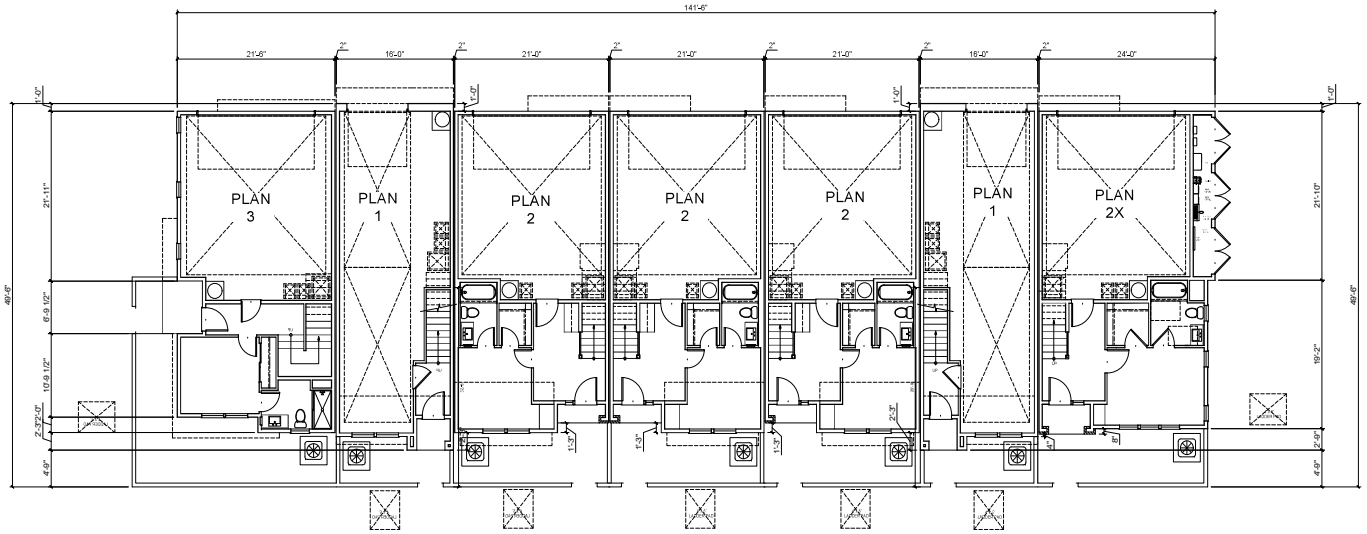


BUILDING PLAN - LEVEL 2



BUILDING PLAN - LEVEL 1

KEY MAP

SHEET A4.3

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 1A - 7 PLEX - STYLE B

N

0 4 8 16 24 FEET

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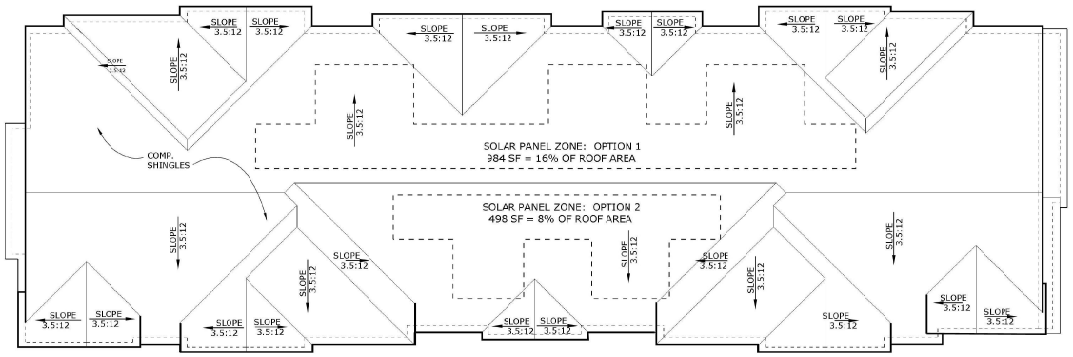
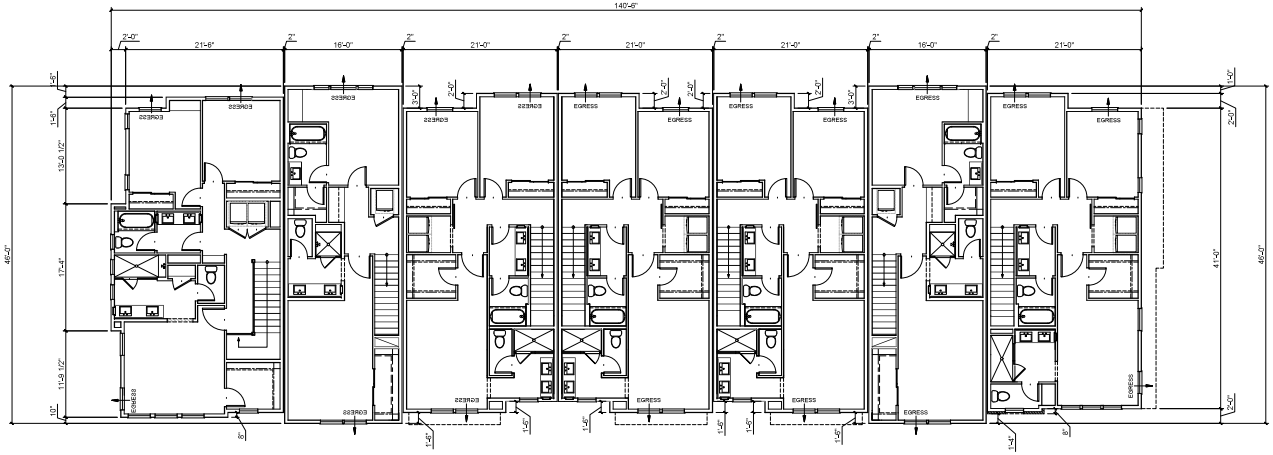


BUILDING PLAN - ROOF PLAN



BUILDING PLAN - LEVEL 3

KEY MAP

SHEET A4.4

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 1A - 7 PLEX - STYLE B

N

0 4 8 16 32 FEET

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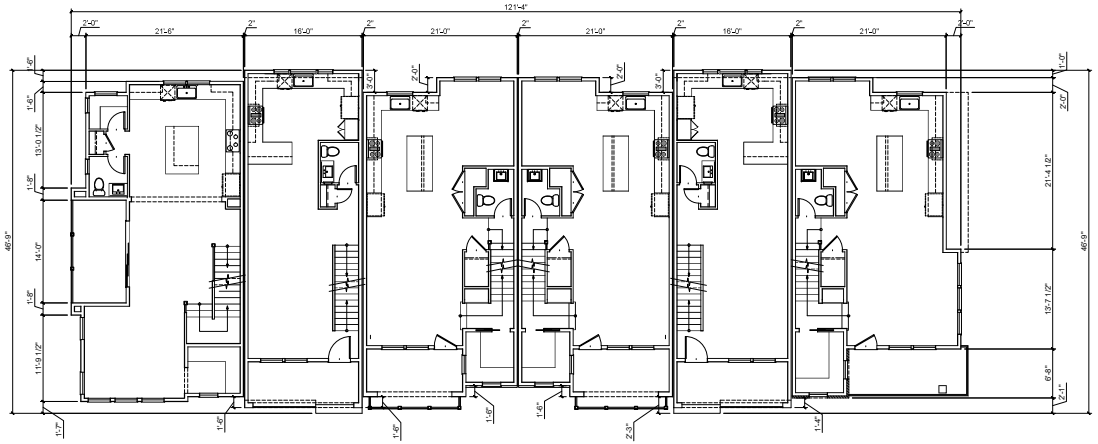
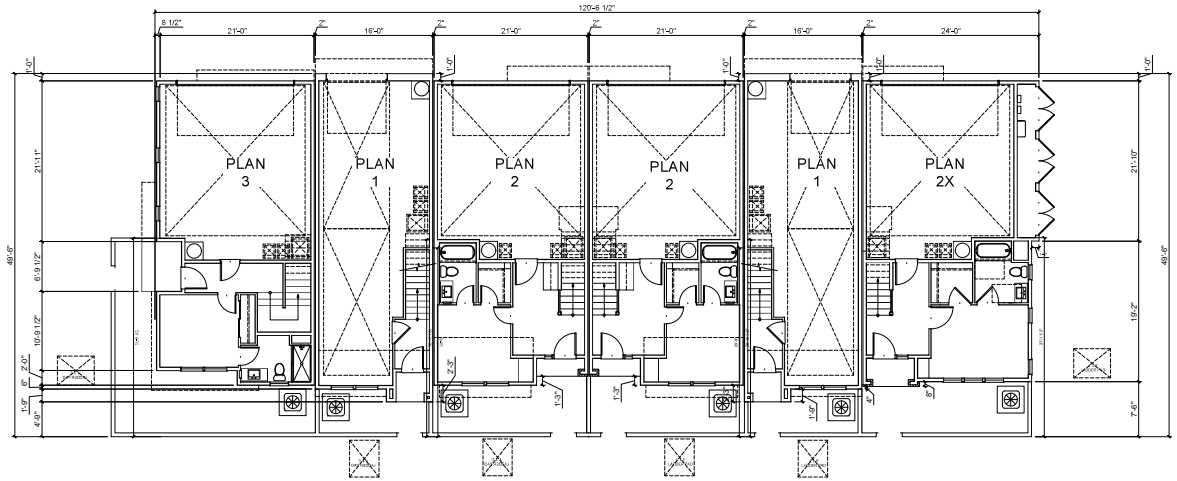
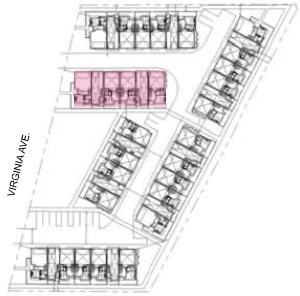
VOP DAHLIN



BUILDING PLAN - LEVEL 2



BUILDING PLAN - LEVEL 1



KEY MAP

SHEET A4.5

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 2A - 6 PLEX

N

0 4 8 16 32 FEET

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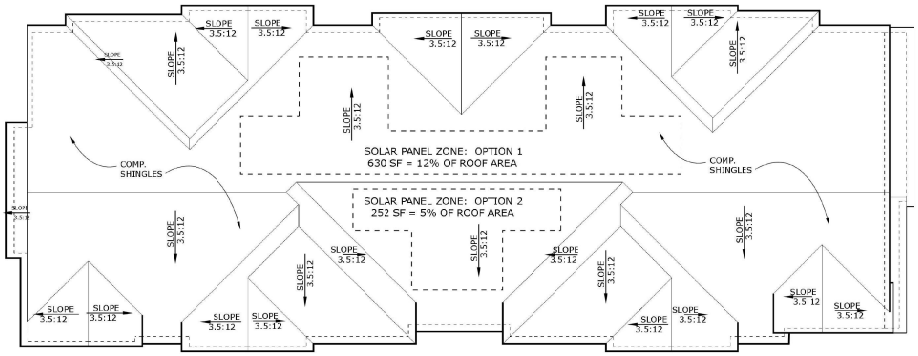
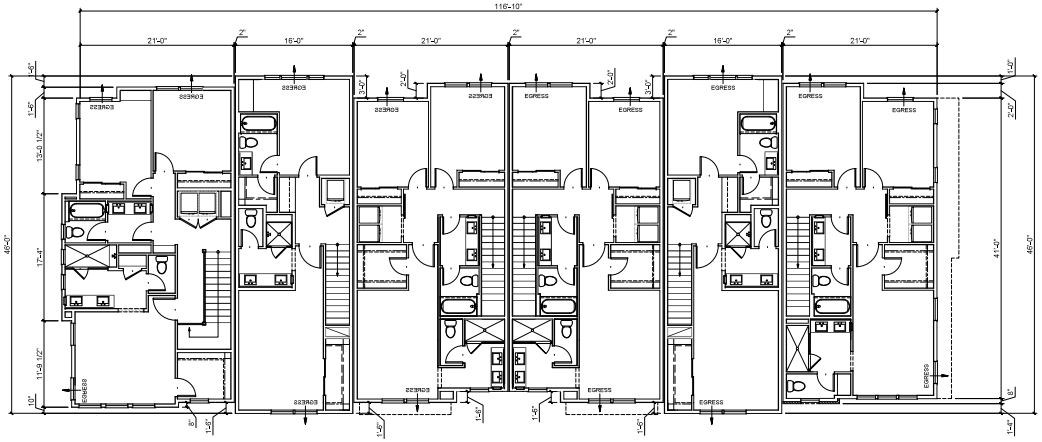
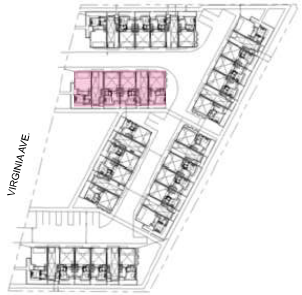
VOP DAHLIN



BUILDING PLAN - ROOF PLAN



BUILDING PLAN - LEVEL 3



KEY MAP

SHEET A4.6

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 2A - 6 PLEX

N

0 4 8 16 24 FEET

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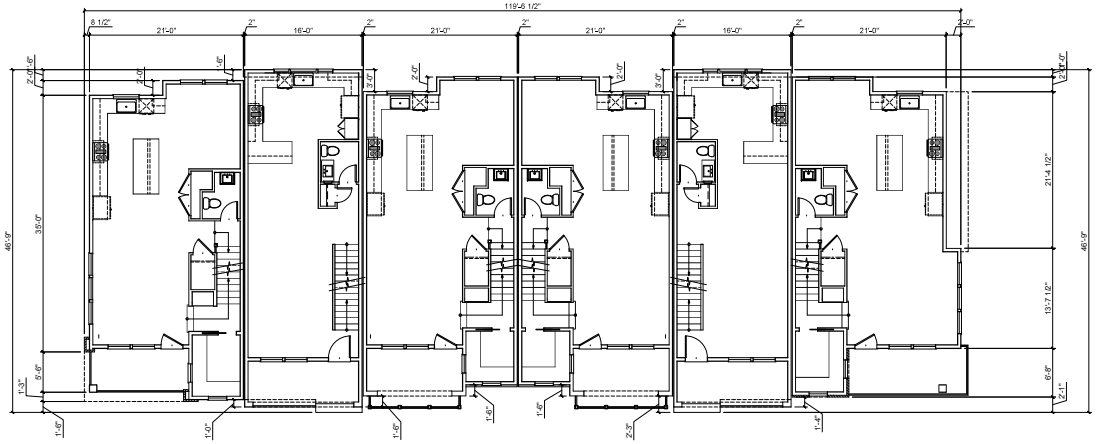
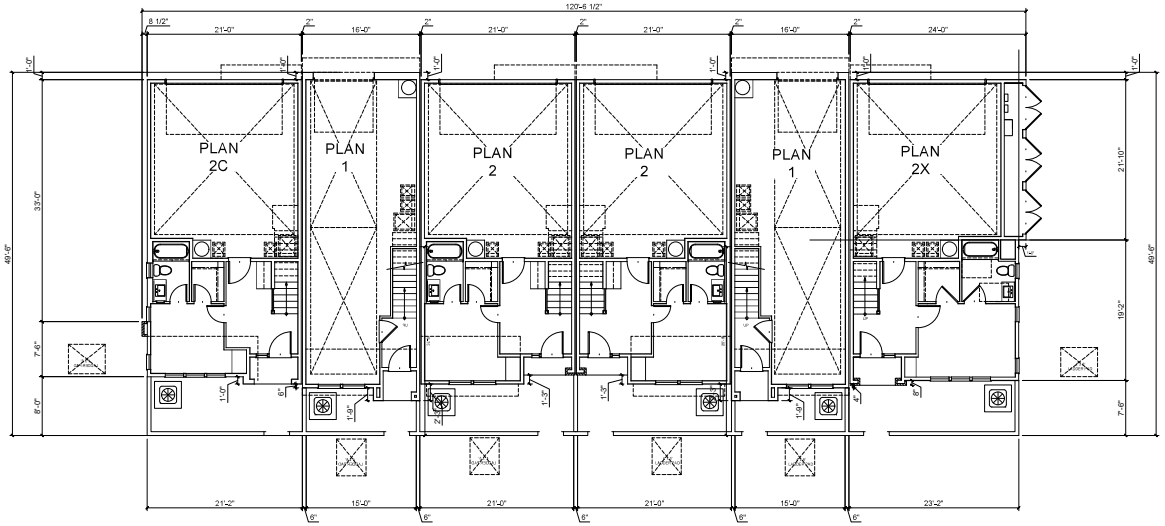
VOP DAHLIN



BUILDING PLAN - LEVEL 2



BUILDING PLAN - LEVEL 1

KEY MAP

SHEET A4.7

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 2 - 6 PLEX

N

0 4 8 16 24 FEET

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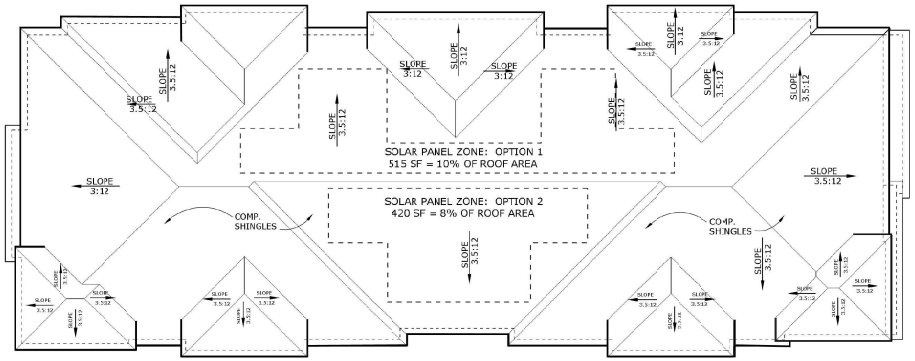
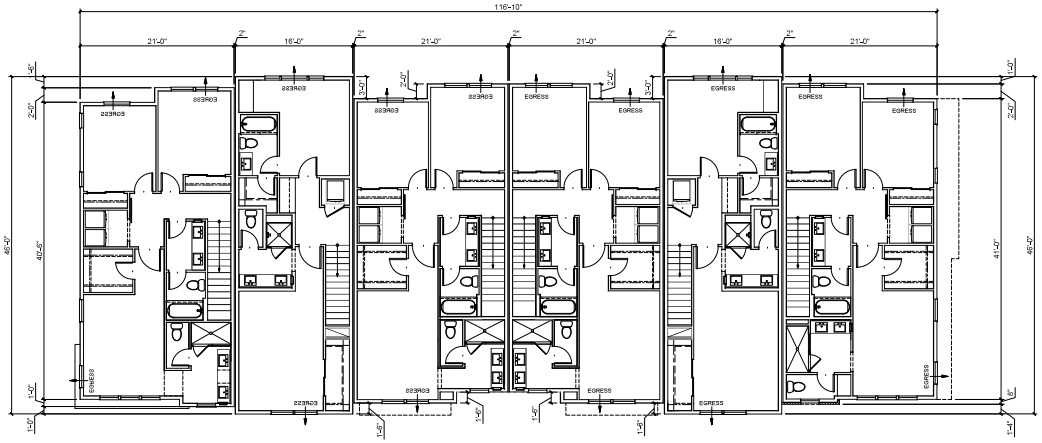
VOP DAHLIN



BUILDING PLAN - ROOF PLAN



BUILDING PLAN - LEVEL 3

KEY MAP

SHEET A4.8

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

FLOOR PLANS

BUILDING 2 - 6 PLEX

N

0 4 8 16 24 FEET

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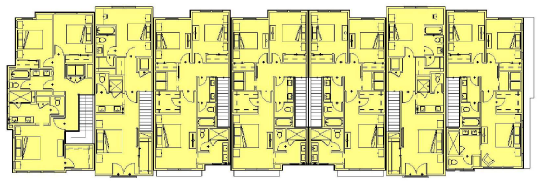
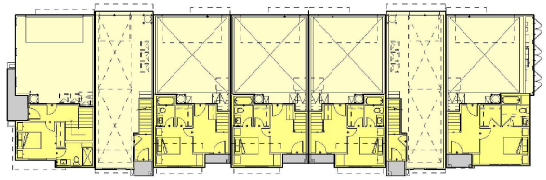
VOP DAHLIN



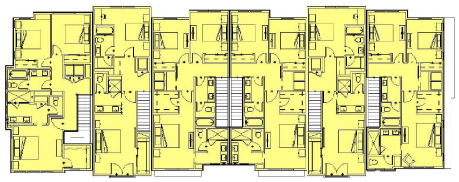
BUILDING PLAN - LEVEL 3

BUILDING PLAN - LEVEL 2



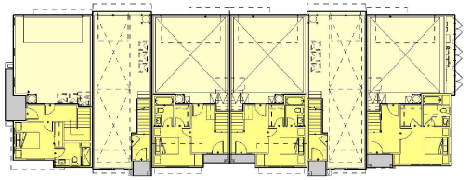
BUILDING PLAN - LEVEL 1

BUILDING 1A - 7 PLEX



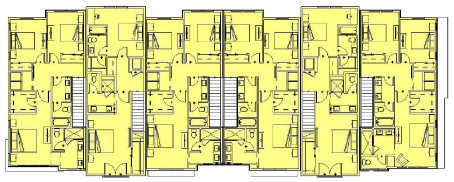
BUILDING PLAN - LEVEL 3

BUILDING PLAN - LEVEL 2



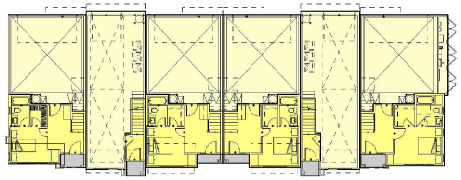
BUILDING PLAN - LEVEL 1

BUILDING 2A - 6 PLEX



BUILDING PLAN - LEVEL 3

BUILDING PLAN - LEVEL 2



BUILDING PLAN - LEVEL 1

BUILDING 2 - 6 PLEX

ARCHITECTURAL SUMMARY

unit name	unit count	bedroom count	bathroom count	gross living area / unit	total gross living area	garage area	porch area	deck area	courtyard area	private open space / unit
plan 1	12	2	2.5	1,410	16,920	598	20	100	84	204
plan 2	16	4	3.5	1,975	31,600	498	15	110	146	271
plan 2x	6	4	3.5	2,050	12,300	561	25	106	163	294
plan 2C	1	4	3.5	1,963	1,963	498	26	81	150	257
plan 3	5	4	3.5	2,093	10,465	514	51	105	337	493
Total	40				73,248					

BUILDING CALCULATIONS

bldg name	bldg count	unit count / bldg	building area - level 1	building area - level 2	building area - level 3	building area / bldg	total building area	coverage area / bldg	total coverage area
bldg 1a	4	7	5,684	5,349	5,978	17,011	68,044	6,191	24,764
bldg 2	1	6	4,824	4,494	5,006	14,324	14,324	5,190	5,190
bldg 2a	1	6	4,837	4,555	5,095	14,487	14,487	5,278	5,278
Total	6						96,855		35,232

LEGEND:

- GROSS LIVING AREA
- GARAGE / UTILITY AREA
- PORCH / DECK AREA (NOT INCLUDED IN BUILDING AREA CALCULATION)

GROSS LIVING AREA CALCULATION NOTES:
1. EXCLUDES 2" AIRGAP & UPPER LEVEL STAIR
2. EXCLUDES PORCH & DECK AREA

BUILDING AREA CALCULATION NOTES:
1. INCLUDES 2" AIRGAP & UPPER LEVEL STAIR
2. EXCLUDES PORCH & DECK AREA

SHEET A5.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

FLOOR AREA DIAGRAM

0 8 16 32 48 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

1 FRONT ELEVATION

2 LEFT ELEVATION

3 REAR ELEVATION

4 RIGHT SIDE ELEVATION

SHEET A6.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

ELEVATIONS w/ COURTYARDS & LANDSCAPE

BUILDING 1A - 7 PLEX - STYLE A

N

0 4 8 16 24 FEET

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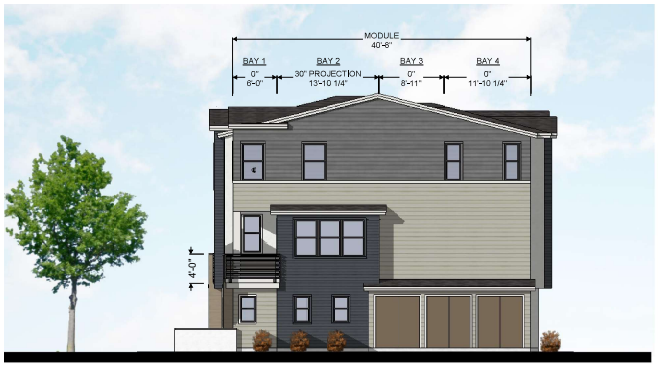
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN

1 FRONT ELEVATION

2 LEFT SIDE ELEVATION

3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

SHEET A6.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

ELEVATIONS w/ COURTYARDS & LANDSCAPE

BUILDING 1A - 7 PLEX - STYLE B

0 4 8 16 24 FEET

VOP DAHLIN

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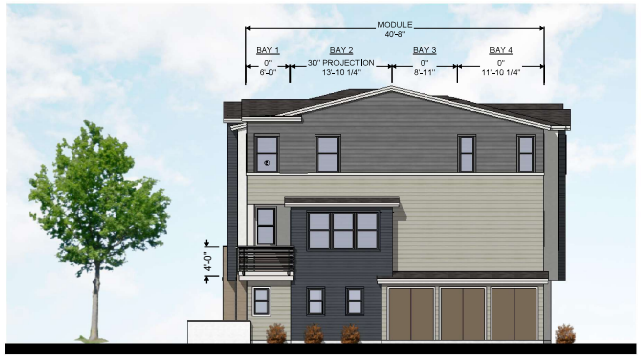
PROJECT NO. 1005.005 | APRIL 4, 2024

1 FRONT ELEVATION

2 LEFT SIDE ELEVATION

3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

SHEET A6.3

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

ELEVATIONS w/ COURTYARDS & LANDSCAPE

BUILDING 2A - 6 PLEX - STYLE B

0 4 8 16 24 FEET

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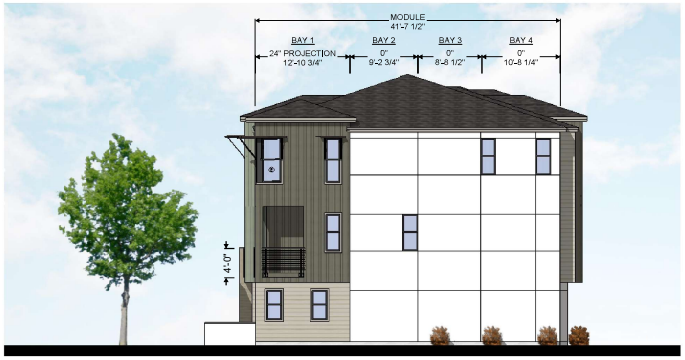
VOP DAHLIN

1 FRONT ELEVATION

2 LEFT ELEVATION

3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

SHEET A6.4

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

ELEVATIONS w/ COURTYARDS & LANDSCAPE

BUILDING 2 - 6 PLEX STYLE A

0 4 8 16 24 FEET

WWW.DAHLINGROUP.COM

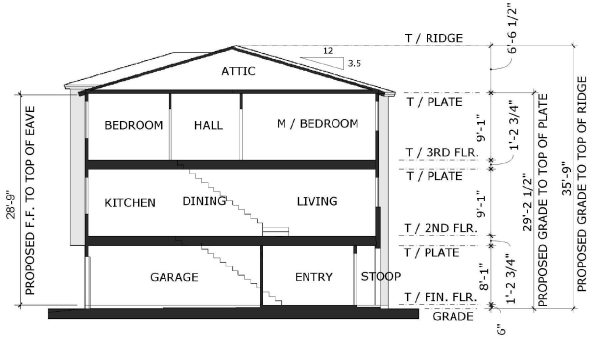
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN

1 FRONT ELEVATION

E

2 LEFT ELEVATION



BUILDING SECTION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW

KEY MAP

SHEET A6.5

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 1A - 7 PLEX - STYLE A

N

0 4 8 16 24 FEET

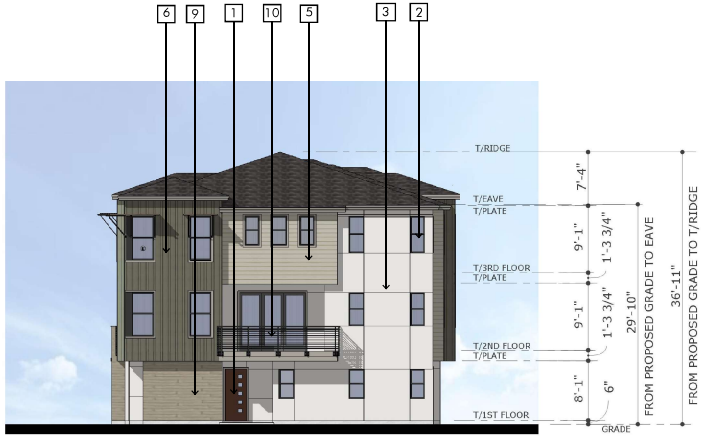
VOP DAHLIN

DAHLIN GROUP ARCHITECTURE | PLANNING

WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW

KEY MAP

SHEET A6.6

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 1A - 7 PLEX - STYLE A

N

0 4 8 16 24 FEET

VOP DAHLIN

DAHLIN GROUP ARCHITECTURE | PLANNING

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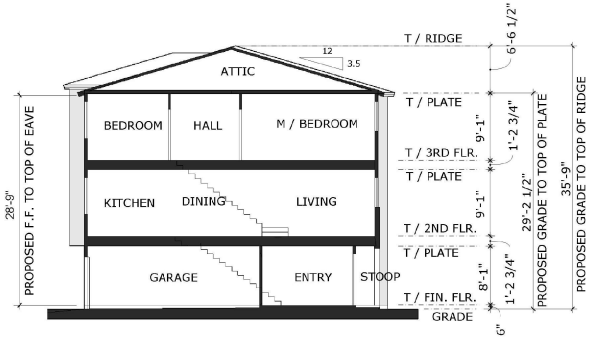
PROJECT NO. 1005.005 | APRIL 4, 2024

1 FRONT ELEVATION

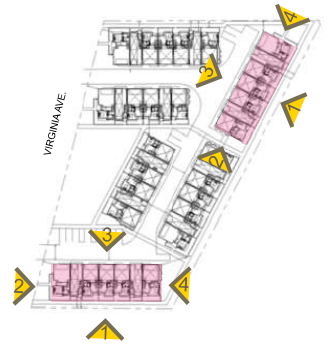
2 LEFT SIDE ELEVATION



BUILDING SECTION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW



KEY MAP

SHEET A6.7

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 1A - 7 PLEX - STYLE B

N

0 4 8 16 24 FEET

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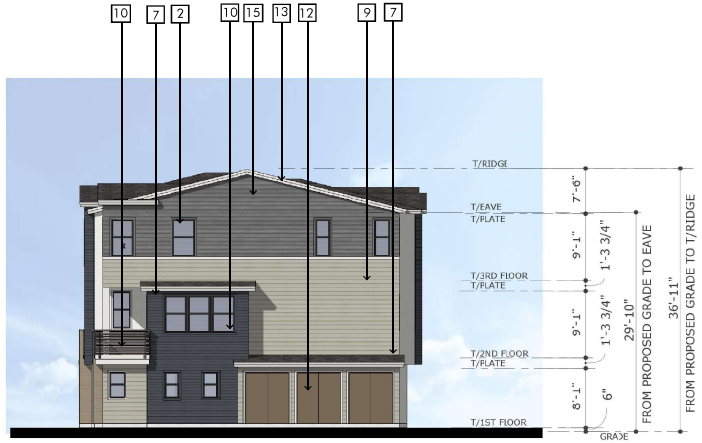
VOP DAHLIN

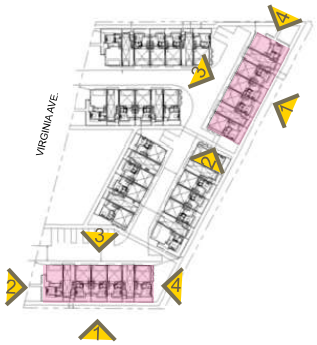
3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW



KEY MAP

SHEET A6.8

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 1A - 7 PLEX - STYLE B

N

0 4 8 16 24 FEET

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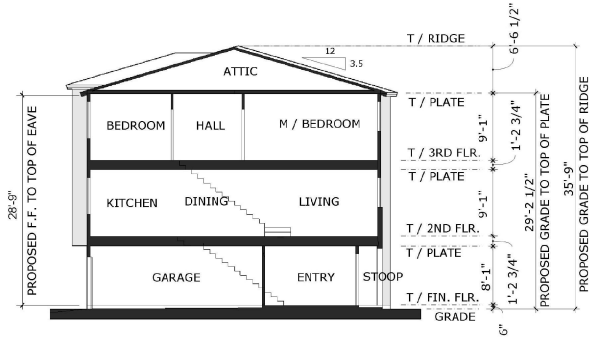
VOP DAHLIN

1 FRONT ELEVATION

2 LEFT SIDE ELEVATION



BUILDING SECTION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
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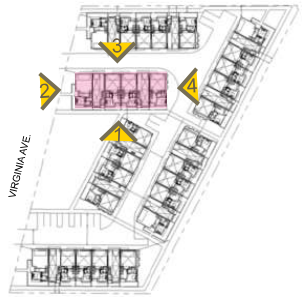
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW



KEY MAP

SHEET A6.9

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 2A - 6 PLEX STYLE B

N

0 4 8 16 24 FEET

VOP DAHLIN

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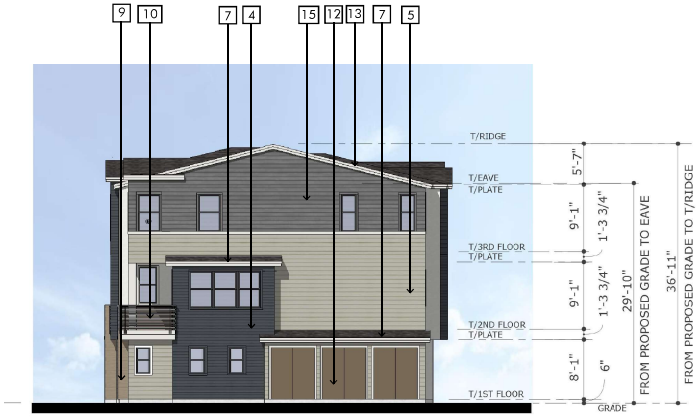
3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
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10	PAINTED METAL RAILING
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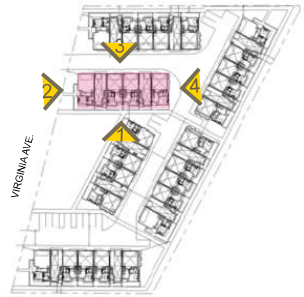
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW



KEY MAP

SHEET A6.10

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 2A - 6 PLEX - STYLE B

N

0 4 8 16 24 FEET

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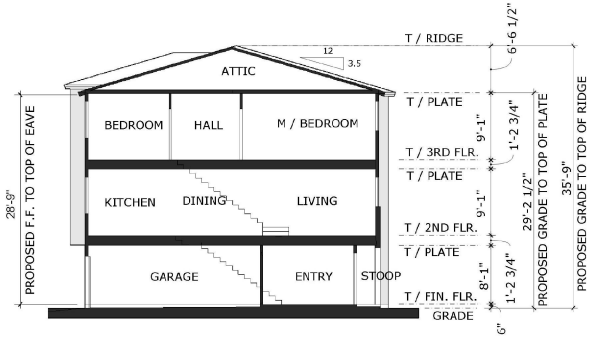
VOP DAHLIN

1 FRONT ELEVATION

2 LEFT SIDE ELEVATION



BUILDING SECTION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW

KEY MAP

SHEET A6.11

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 2 - 6 PLEX STYLE A

N

0 4 8 16 24 FEET

VOP DAHLIN

DAHLIN GROUP ARCHITECTURE | PLANNING

WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

3 REAR ELEVATION

4 RIGHT SIDE ELEVATION

MATERIAL LIST

1	FIBERGLASS DOOR
2	VINYL SINGLE HUNG WINDOWS
3	3 COAT STUCCO W/ METAL REVEALS
4	5" PAINTED HORIZONTAL LAP SIDING
5	8" PAINTED HORIZONTAL LAP SIDING
6	PAINTED BOARD & BATTEN SIDING
7	COMPOSITION SHINGLE ROOF
8	PAINTED METAL GARAGE DOOR W/ LITES
9	STONE VENEER
10	PAINTED METAL RAILING
11	PAINTED ACCENT PANEL
12	PAINTED MECHANICAL ROOM DOORS
13	PAINTED FASCIA AND TRIM
14	METAL WINDOW SHADE / CANOPY
15	8" PREFINISHED HORIZ. LAP SIDING
E	EGRESS WINDOW

KEY MAP

SHEET A6.12

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

BUILDING ELEVATIONS & CROSS SECTIONS

BUILDING 2 - 6 PLEX STYLE A

N

0 4 8 16 24 FEET

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VOP DAHLIN

PAINT COLORS

A — BODY COLOR #1
SHERWIN WILLIAMS
SW 9129
"JADE DRAGON"

B — BODY COLOR #2
SHERWIN WILLIAMS
SW 6188
"SHADE GROWN"

C — BODY COLOR #3
SHERWIN WILLIAMS
SW 9165
"GOSSIMER VEIL"

D — TRIM COLOR #4 &
DOORYARD WALL
SHERWIN WILLIAMS
SW 7636
"ORIGAMI WHITE"

E — ACCENT COLOR #1
SHERWIN WILLIAMS
SW 7020
"BLACK FOX"

F — ACCENT COLOR #2
SHERWIN WILLIAMS
SW 6062
"VINTAGE LEATHER"

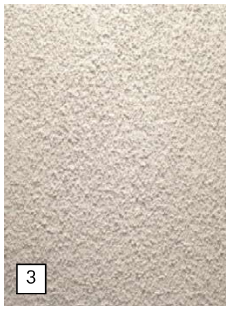
MATERIALS / PRODUCTS/ MANUFACTURER

1

ENTRY DOOR
THERMATRU OR EQUAL
ECHO, PULSE SERIES
PAINTED

2

WINDOWS
MILGARD VINYL
"STYL-LINE" SERIES
BRONZE FINISH


3

STUCCO &
DOORYARD WALL
20/30 FINISH

4

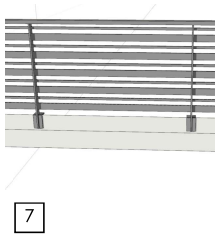
COMP. SHINGLE ROOF
OWENS-CORNING OR
EQUAL
"ESTATE GRAY"

5

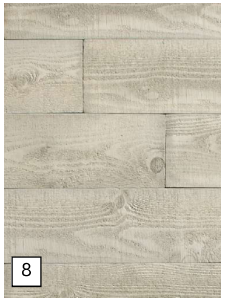
HORIZONTAL LAP SIDING
JAMES HARDIE OR EQUAL
HARDIE PLANK LAP SIDING
SMOOTH FINISH

6

BOARD & BATTEN SIDING:
JAMES HARDIE OR EQUAL
HARDIE PANEL VERTICAL SIDING
SMOOTH FINISH


7

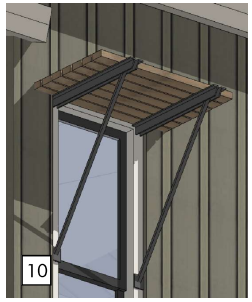
BALCONY RAILING &
DOORYARD GATE:
METAL


8

MASONRY VENEER:
CREATIVE MINES
CRAFT BOARD FORM
"SYCAMORE"

9

GARAGE DOOR:
WAYNE DALTON OR EQ.
PAINTED STEEL
GLASS PANELS


10

WINDOW CANOPY
PAINTED STEEL FRAME
PRE-FINISHED ALUM.
B+N INDUSTRIES
FORTINA
"ANTIQUE CEDAR"

PAINT COLORS

A — BODY COLOR #1
SHERWIN WILLIAMS
SW 6992
"INKWELL"

B — BODY COLOR #2
SHERWIN WILLIAMS
SW 7016
"MINDFUL GRAY"

C — BODY COLOR #3
SHERWIN WILLIAMS
SW 7757
"HIGH REFLECTIVE WHITE"

D — TRIM COLOR #1 & DOORYARD WALL
SHERWIN WILLIAMS
SW 7636
"ORIGAMI WHITE"

E — ACCENT COLOR #1
SHERWIN WILLIAMS
SW 6160
"BEST BRONZE"

F — ACCENT COLOR #2
SHERWIN WILLIAMS
SW9100
"UMBER RUST"

G — ACCENT COLOR #3
SHERWIN WILLIAMS
SW 6405
"FERVENT BRASS"

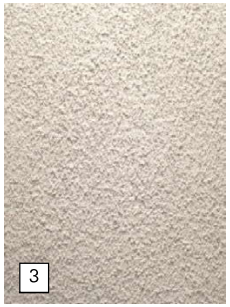
MATERIALS / PRODUCTS/ MANUFACTURER

1

ENTRY DOOR
THERMATRU OR EQUAL
LINEA, PULSE SERIES
PAINTED

2

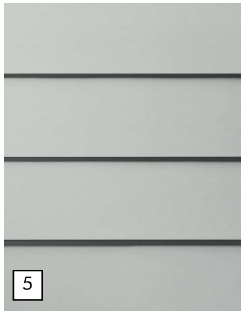
WINDOWS
MILGARD VINYL
"STYL-LINE" SERIES
BRONZE FINISH


3

STUCCO &
DOORYARD WALL
20/30 FINISH

4

COMP. SHINGLE ROOF
OWENS-CORNING OR
EQUAL
"ESTATE GRAY"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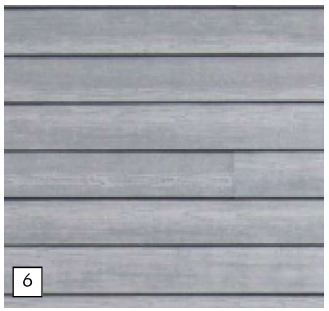
HORIZONTAL LAP SIDING
JAMES HARDIE OR EQUAL
HARDIE PLANK LAP SIDING
SMOOTH FINISH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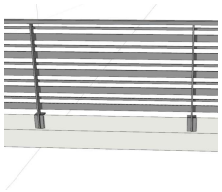
PRE-FINISHED SIDING:
WOODTONE OR EQUAL
RUSTIC SERIES / 8" EXPOSURE
"COASTAL GRAY"


7

BALCONY RAILING &
DOORYARD GATE:
METAL

8

MASONRY VENEER:
CREATIVE MINES
CRAFT BOARD FORM
"BARNWOOD"

9

GARAGE DOOR:
WAYNE DALTON OR EQ.
PAINTED STEEL
GLASS PANELS

BUILDING 1A | BUILDING 2A | BUILDING 2 | BUILDING 1A

BUILDING 1A | BUILDING 2A | BUILDING 2 | BUILDING 1A

KEY MAP

SHEET A8.1

320 VIRGINIA AVENUE

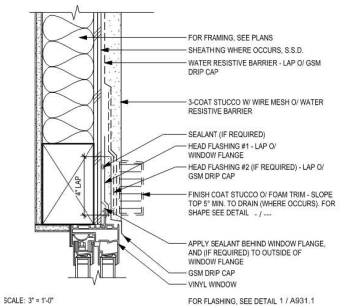
IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

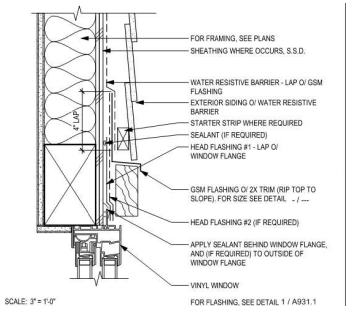
STREETSCAPE DRAWING

N

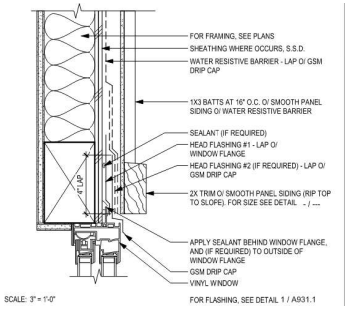
VOP DAHLIN



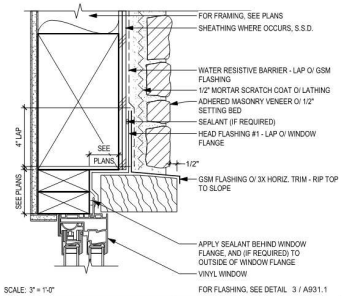
WINDOW HEAD - 3 COAT STUCCO



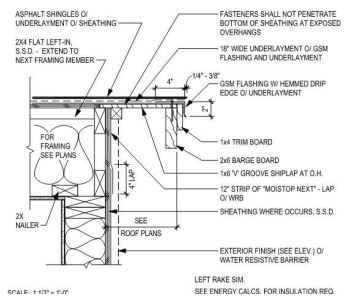
WINDOW HEAD - SIDING



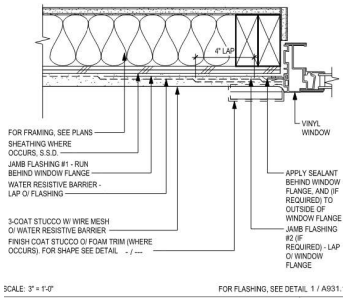
WINDOW HEAD - BOARD & BATTEN



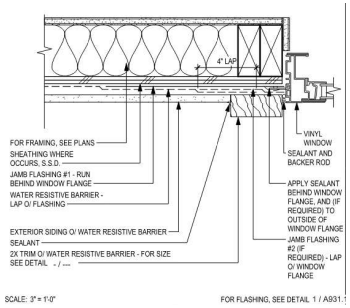
RECESSED WINDOW HEAD - ADHERE MASONRY



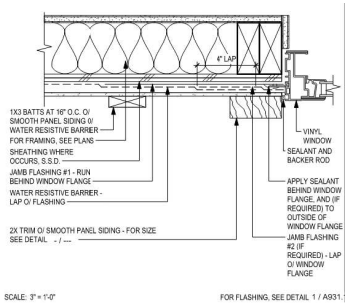
ASPHAL SHINGLES - TYPICAL RAKE



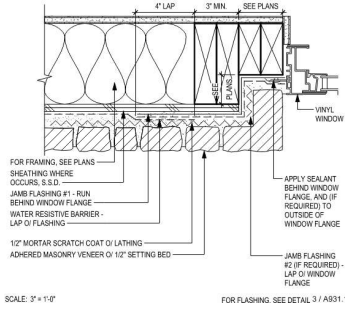
WINDOW JAMB - 3 COAT STUCCO



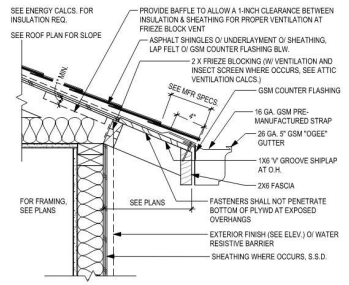
WINDOW JAMB - SIDING



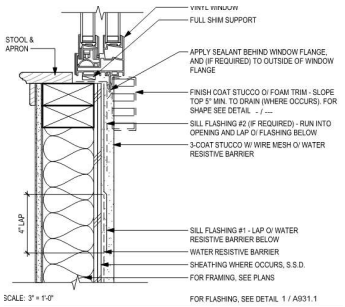
WINDOW JAMB - BOARD & BATTEN



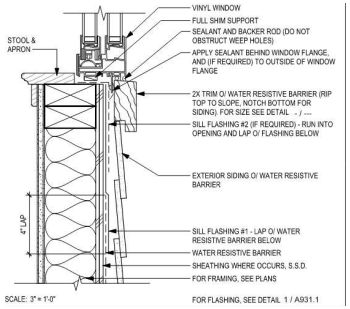
RECESSED WINDOW JAMB - ADHERE MASONRY



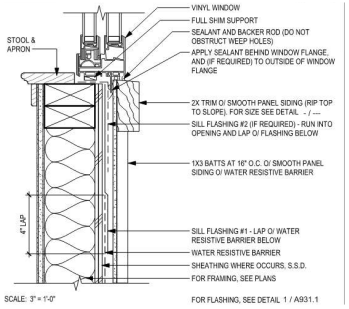
ASPHALT SHINGLES - TYPICAL EAVE



WINDOW SILL - 3 COAT STUCCO



WINDOW SILL - SIDING



WINDOW SILL - BOARD & BATTEN

SHEET A8.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

ARCHITECTURAL DETAIL SHEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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PROJECT NO. 1005.005 | APRIL 4, 2024

BUILDING 1A-B
RIGHT & REAR FACADES

BUILDING 2
RIGHT & REAR FACADES

BUILDING 1A-B
LEFT & FRONT FACADES

BUILDING 2
LEFT & FRONT FACADES

MASSING TYPE: SIDE GABLE

SHEET A9.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

ISOMETRIC MASSING DIAGRAMS

BUILDINGS 1A-B & 2

DAHLIN GROUP ARCHITECTURE | PLANNING

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PROJECT NO. 1005.005 | APRIL 4, 2024

BUILDING 1A-A
RIGHT & REAR FACADES

BUILDING 2A
RIGHT & REAR FACADES

BUILDING 1A-A
LEFT & FRONT FACADES

BUILDING 2A
LEFT & FRONT FACADES

MASSING TYPE: SIDE GABLE

SHEET A9.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

ISOMETRIC MASSING DIAGRAMS

BUILDINGS 1A-A & 2A

DAHLIN GROUP ARCHITECTURE | PLANNING

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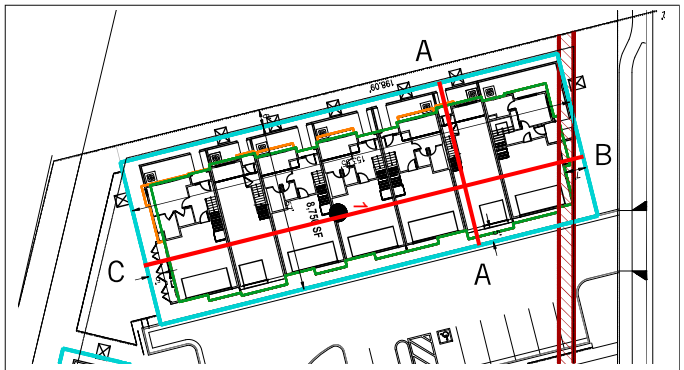
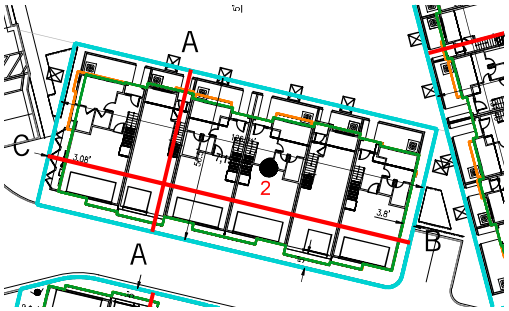
PROJECT NO. 1005.005 | APRIL 4, 2024



DESIGN SITE 1 SECTION LOCATIONS

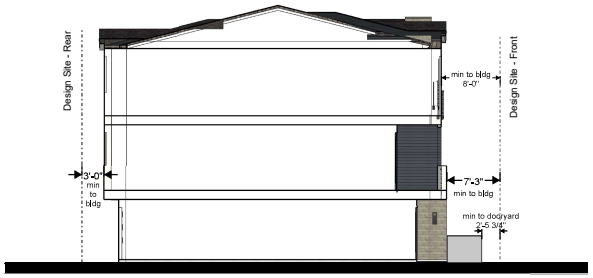


DESIGN SITE 2 SECTION LOCATIONS

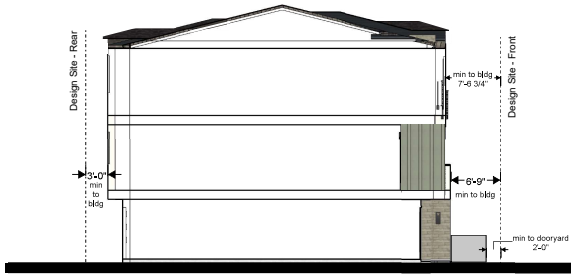
DESIGN SITE 3 SECTION LOCATIONS

LEGEND

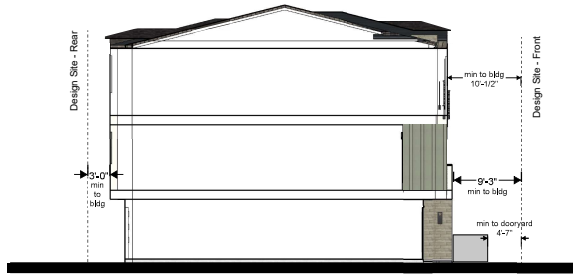
- DESIGN SITE
- BUILDING LEVEL 2
- BUILDING LEVEL 3
- SECTION CUT LOCATION
- FRONT FACADE ZONE



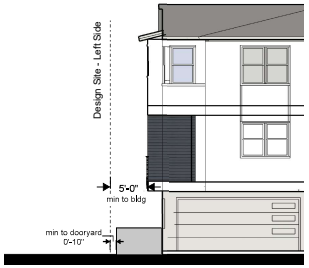
SECTION 'A' - UNIT 1 STYLE B



SECTION 'A' - UNIT 1 STYLE A



SECTION 'A' - UNIT 1 STYLE A



SECTION 'B' - UNIT 3 STYLE B

SECTION 'C' - UNIT 2X STYLE B

SECTION 'B' - UNIT 2C STYLE A

SECTION 'C' - UNIT 2X STYLE A

SECTION 'B' - UNIT 3 STYLE A

SECTION 'C' - UNIT 2X STYLE A

SHEET A9.3

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

DESIGN SITE SECTIONS

0 4 8 16 24 FEET

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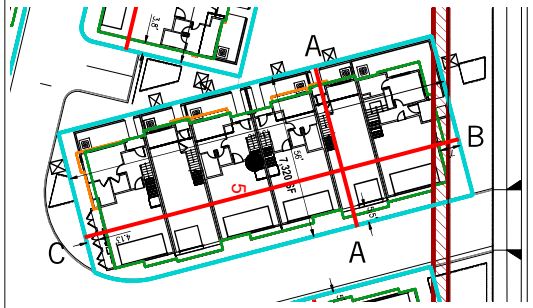
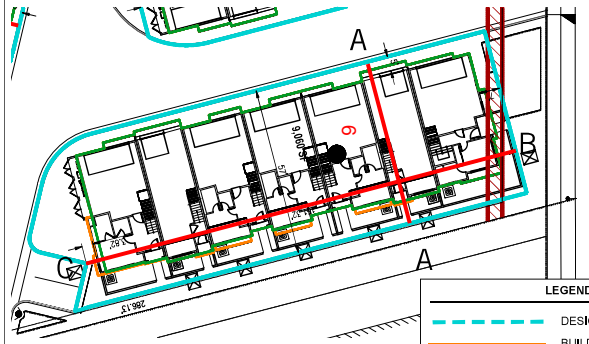
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN

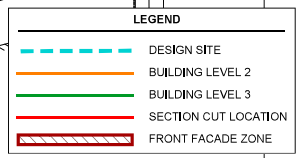
DESIGN SITE 4 SECTION LOCATIONS

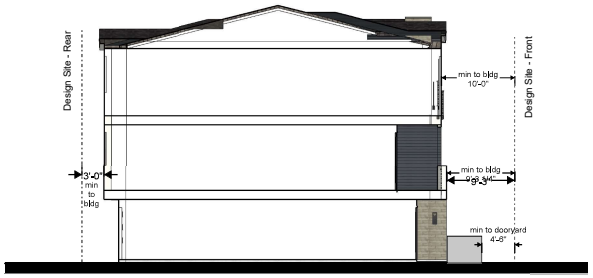


DESIGN SITE 5 SECTION LOCATIONS

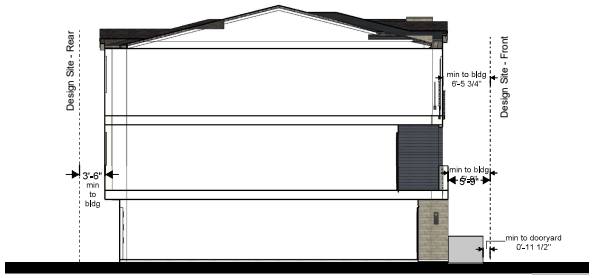


DESIGN SITE 6 SECTION LOCATIONS

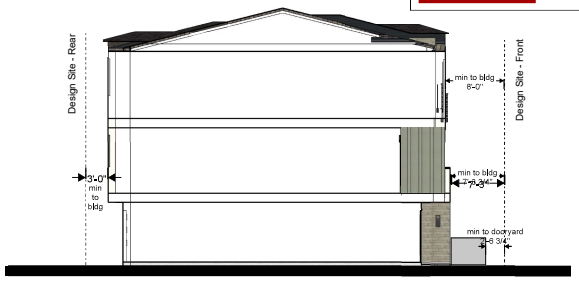




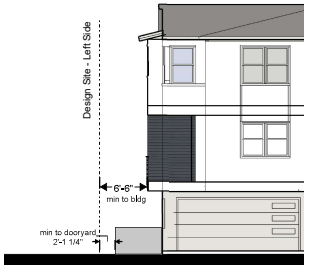
SECTION 'A' - UNIT 1 STYLE B



SECTION 'A' - UNIT 1 STYLE B

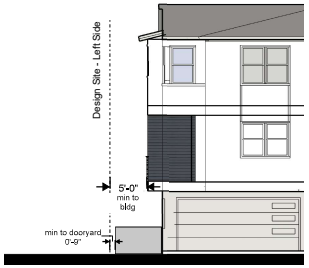


SECTION 'A' - UNIT 1 STYLE A



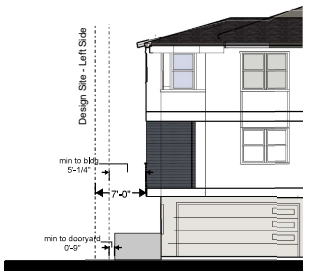
SECTION 'B' - UNIT 3 STYLE B

SECTION 'C' - UNIT 2X STYLE B



SECTION 'B' - UNIT 3 STYLE B

SECTION 'C' - UNIT 2X STYLE B



SECTION 'B' - UNIT 3 STYLE A

SECTION 'C' - UNIT 2X STYLE A

SHEET A9.4

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

DESIGN SITE SECTIONS

0 4 8 16 24 FEET

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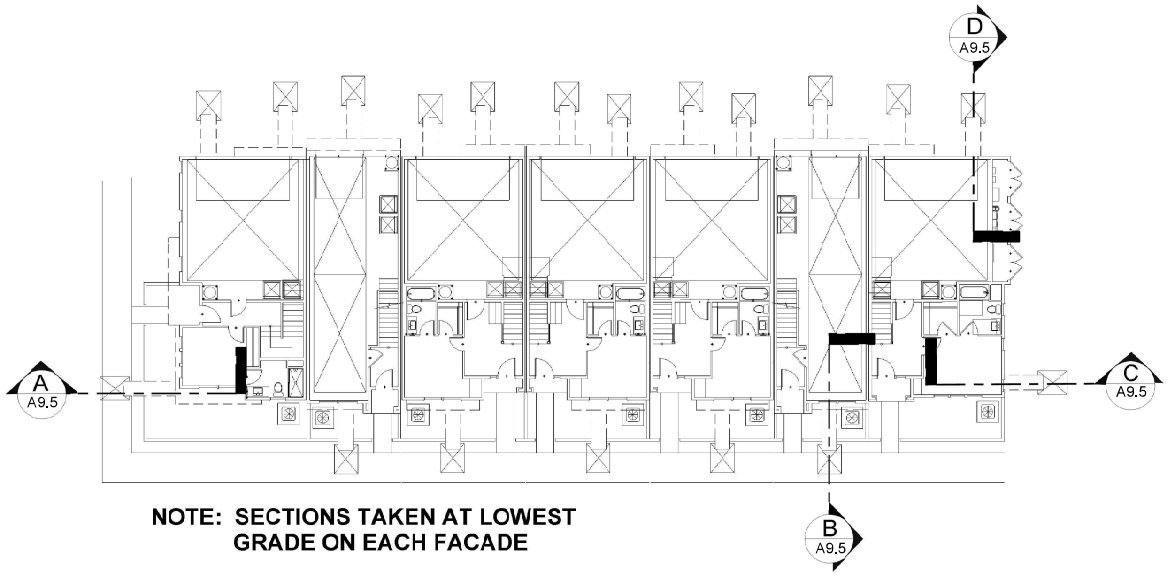
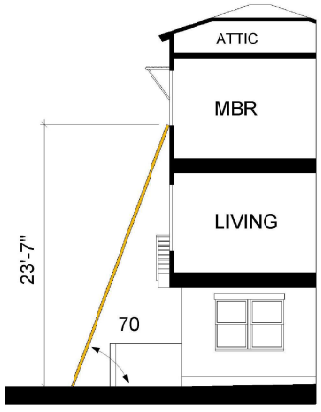
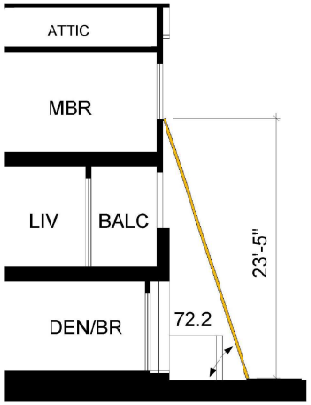


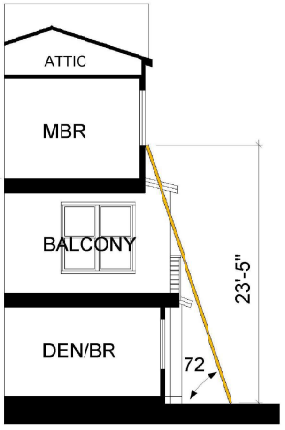
NOTE: SECTIONS TAKEN AT LOWEST GRADE ON EACH FACADE



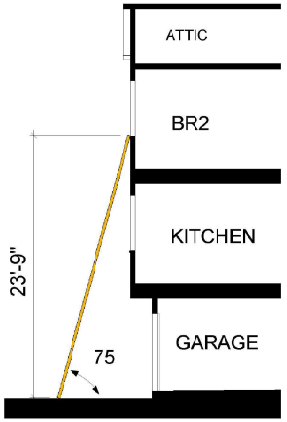
SECTION A



SECTION B



SECTION C



SECTION D

SHEET A9.5

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

FIRE ACCESS BUILDING PLAN & SECTIONS

BUILDING 1A-A

DAHLIN GROUP ARCHITECTURE | PLANNING

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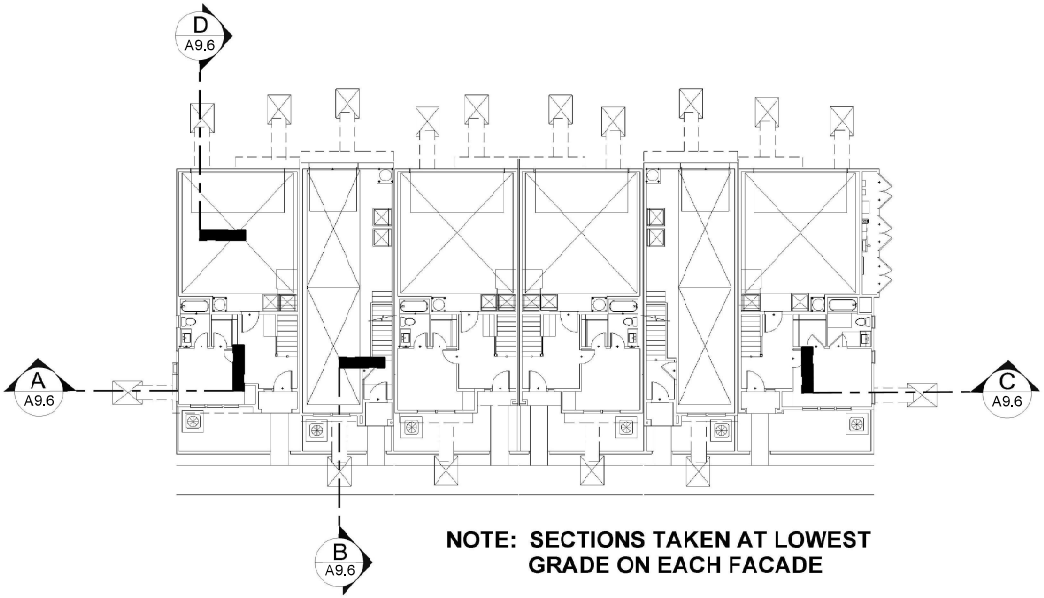
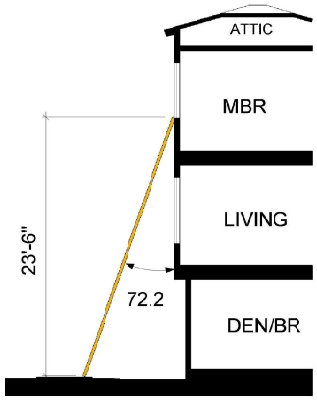
PROJECT NO. 1005.005 | APRIL 4, 2024

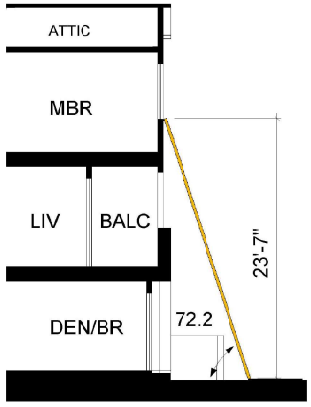
VOP DAHLIN



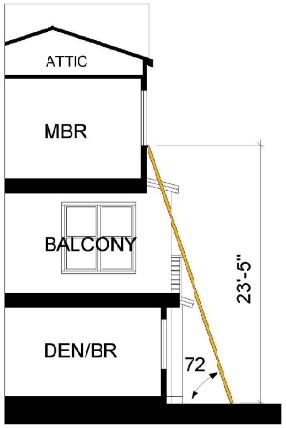
NOTE: SECTIONS TAKEN AT LOWEST GRADE ON EACH FACADE



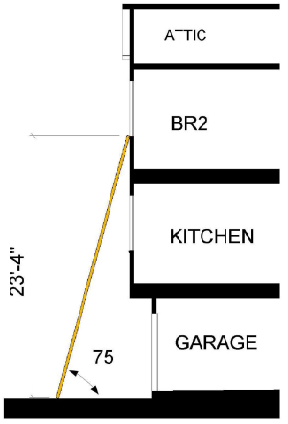
SECTION A



SECTION B



SECTION C



SECTION D

SHEET A9.6

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

FIRE ACCESS BUILDING PLAN & SECTIONS

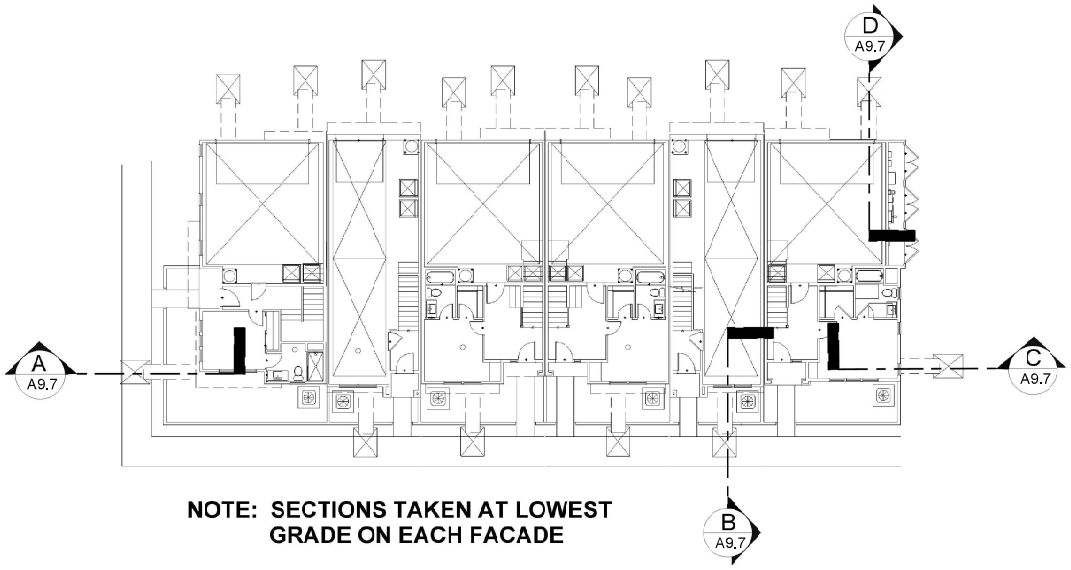
BUILDING 2

DAHLIN GROUP ARCHITECTURE | PLANNING

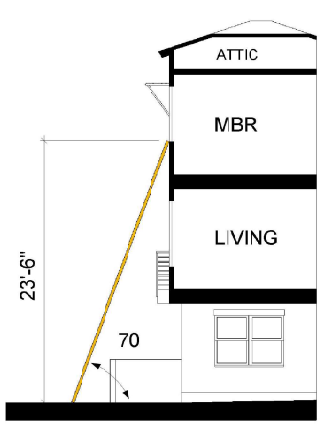
WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

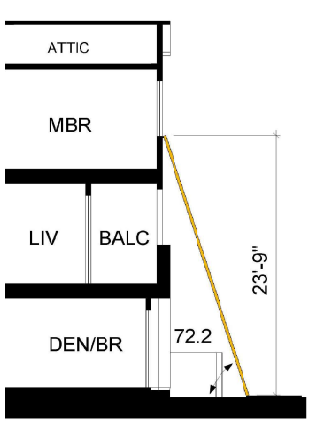
VOP DAHLIN



NOTE: SECTIONS TAKEN AT LOWEST GRADE ON EACH FACADE



SECTION A



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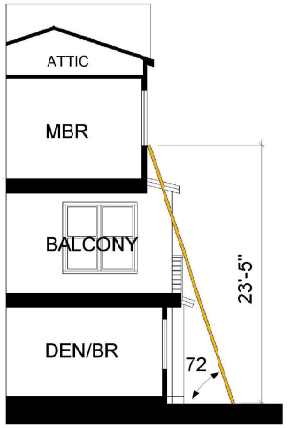

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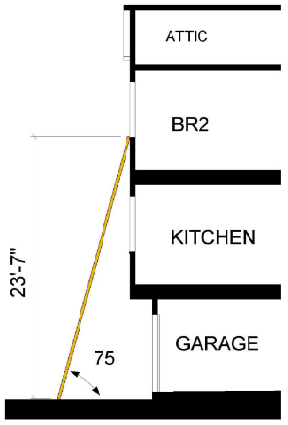

SECTION D

SHEET A9.7

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

FIRE ACCESS BUILDING PLAN & SECTIONS

BUILDING 2A

DAHLIN GROUP ARCHITECTURE | PLANNING

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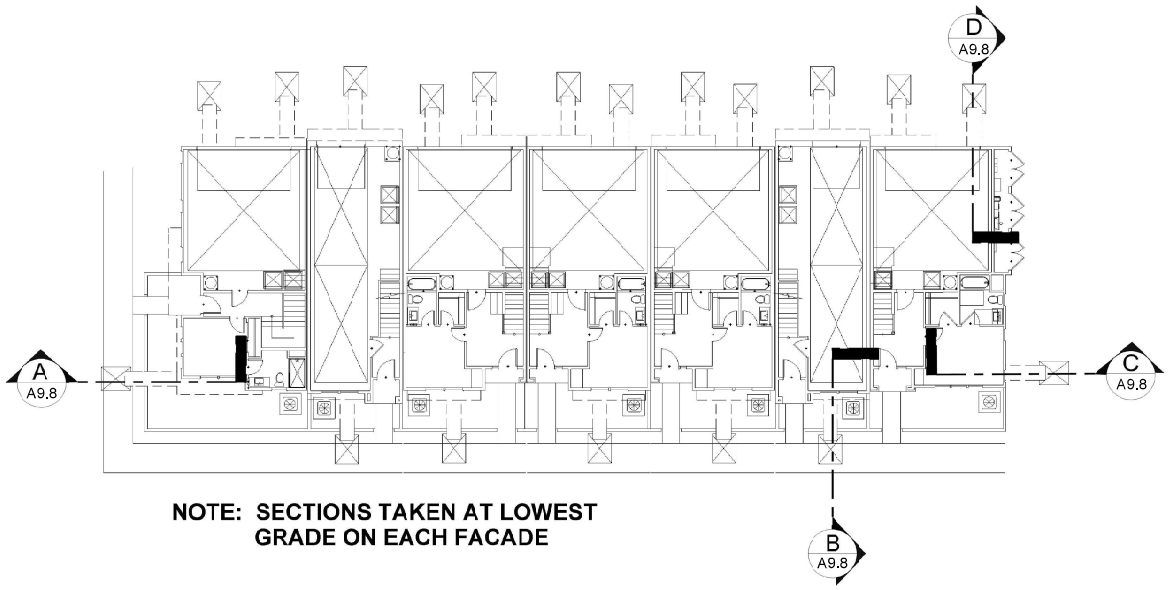
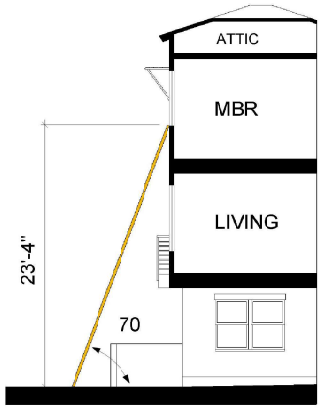
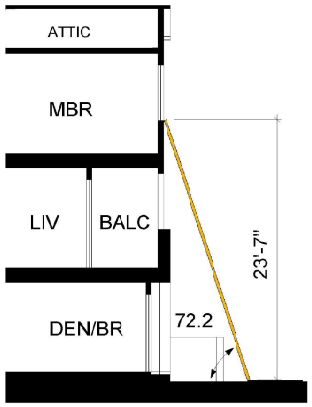


NOTE: SECTIONS TAKEN AT LOWEST GRADE ON EACH FACADE



SECTION A



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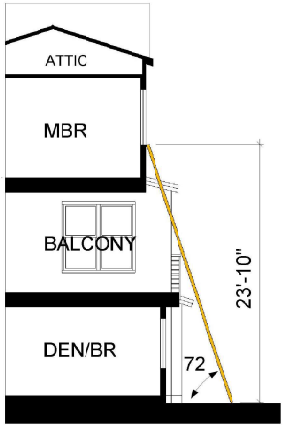
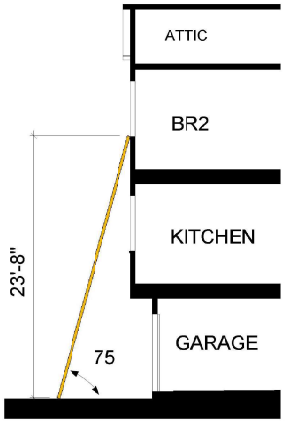


SECTION C



SECTION D

SHEET A9.8

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

FIRE ACCESS BUILDING PLAN & SECTIONS

BUILDING 1A-B

DAHLIN GROUP ARCHITECTURE | PLANNING

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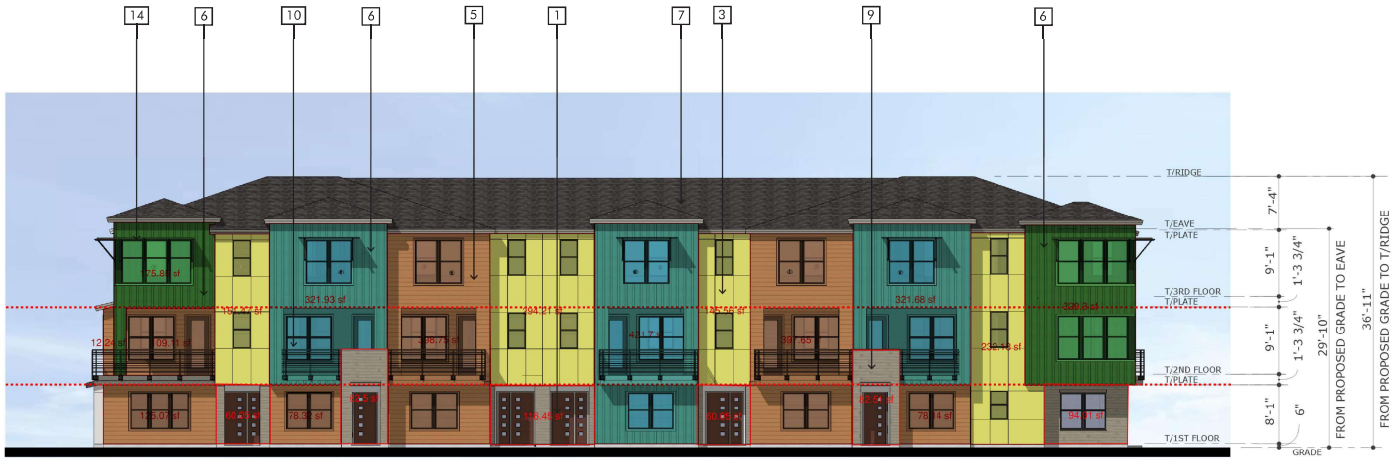
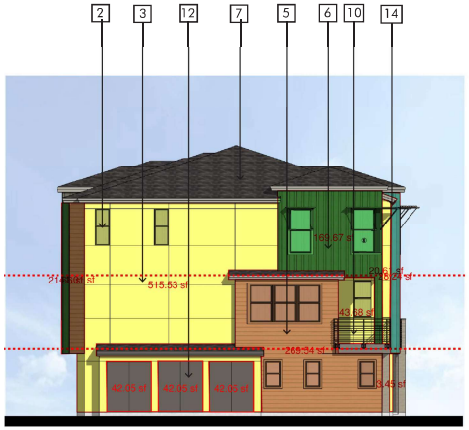
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN



1 FRONT ELEVATION



2 LEFT ELEVATION

MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
3. 3 COAT STUCCO W/ METAL REVEALS
4. 5" PAINTED HORIZONTAL LAP SIDING
5. 8" PAINTED HORIZONTAL LAP SIDING
6. PAINTED BOARD & BATTEN SIDING
7. COMPOSITION SHINGLE ROOF
8. PAINTED METAL GARAGE DOOR W/ LITES
9. STONE VENEER
10. PAINTED METAL RAILING
11. PAINTED ACCENT PANEL
12. PAINTED MECHANICAL ROOM DOORS
13. PAINTED FASCIA AND TRIM
14. METAL WINDOW SHADE / CANOPY
15. 8" PREFINISHED HORIZ. LAP SIDING

(E) EGRESS WINDOW

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
			Glazing Area		Primary		Secondary		Tertiary 1		Tertiatry 2		Natural	Accent	Total
			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
1A	A	Front	966	23.7%	822	20%	1197	29.3%	504	12.4%	1063	26.1%	494	0	4,080
		Left	122	9.9%	578	47%	310	25.2%	190	15.4%	28	2.3%	126	0	1,232
		Rear	623	15.2%	1397	34%	562	13.7%	724	17.7%	720	17.6%	693	0	4,096
		Right	218	16.5%	665	50%	183	13.8%	344	26.0%	0	0.0%	130	0	1,322
1A	B	Front	966	23.5%	575	14%	1339	32.6%	782	19.0%	528	12.8%	774	113	4,111
		Left	161	11.8%	0	0%	419	30.8%	363	26.7%	243	17.8%	277	60	1,362
		Rear	623	15.9%	1317	34%	354	9.0%	1456	37.1%	91	2.3%	604	104	3,926
		Right	122	9.5%	71	6%	415	32.3%	280	21.8%	346	26.9%	173	0	1,285
2A	B	Front	828	23.7%	504	14%	1032	29.6%	797	22.9%	430	12.3%	623	101	3,487
		Left	218	16.0%	0	0%	431	31.6%	360	26.4%	241	17.6%	274	60	1,366
		Rear	529	15.4%	1075	31%	344	10.0%	1241	36.0%	90	2.6%	604	90	3,444
		Right	122	9.2%	127	10%	415	31.4%	279	21.1%	346	26.2%	155	0	1,322
2	A	Front	831	24.4%	707	21%	1150	33.7%	504	14.8%	644	18.9%	404	0	3,409
		Left	135	10.7%	576	46%	307	24.5%	167	13.3%	27	2.2%	178	0	1,255
		Rear	537	15.5%	1121	32%	551	16.0%	725	21.0%	479	13.9%	578	0	3,454
		Right	122	9.3%	662	50%	181	13.8%	322	24.5%	18	1.4%	130	0	1,313

COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2

SHEET A10.1

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 1A - 7 PLEX - STYLE A

0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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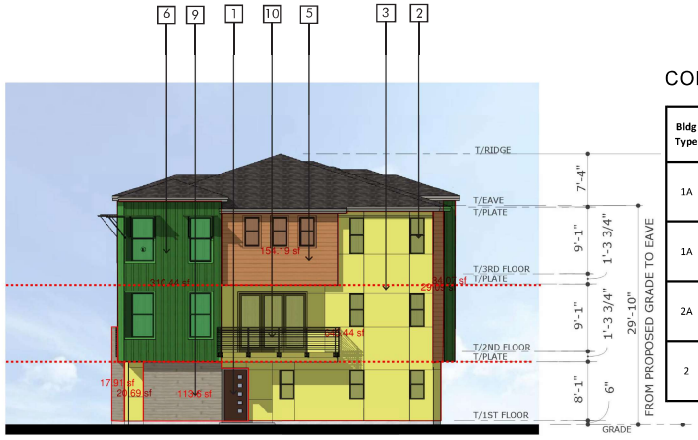
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN

3 REAR ELEVATION



4 RIGHT SIDE ELEVATION

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
			Glazing Area		Primary		Secondary		Tertiary 1		Tertiatry 2		Natural	Accent	Total
			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
1A	A	Front	966	23.7%	822	20%	1197	29.3%	504	12.4%	1063	26.1%	494	0	4,080
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		Left	161	11.8%	0	0%	419	30.8%	363	26.7%	243	17.8%	277	60	1,362
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MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
3. 3 COAT STUCCO W/ METAL REVEALS
4. 5" PAINTED HORIZONTAL LAP SIDING
5. 8" PAINTED HORIZONTAL LAP SIDING
6. PAINTED BOARD & BATTEN SIDING
7. COMPOSITION SHINGLE ROOF
8. PAINTED METAL GARAGE DOOR W/ LITES
9. STONE VENEER
10. PAINTED METAL RAILING
11. PAINTED ACCENT PANEL
12. PAINTED MECHANICAL ROOM DOORS
13. PAINTED FASCIA AND TRIM
14. METAL WINDOW SHADE / CANOPY
15. 8" PREFINISHED HORIZ. LAP SIDING

(E) EGRESS WINDOW

COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2

SHEET A10.2

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 1A - 7 PLEX - STYLE A

0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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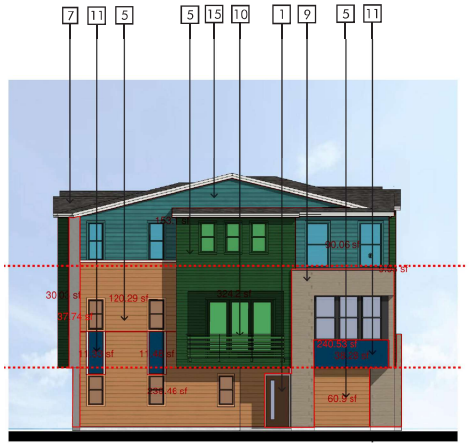
PROJECT NO. 1005.005 | APRIL 4, 2024

1 FRONT ELEVATION



2 LEFT SIDE ELEVATION

MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
3. 3 COAT STUCCO W/ METAL REVEALS
4. 5" PAINTED HORIZONTAL LAP SIDING
5. 8" PAINTED HORIZONTAL LAP SIDING
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(E) EGRESS WINDOW

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
			Glazing Area		Primary		Secondary		Tertiary 1		Tertiatry 2		Natural	Accent	Total
			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
1A	A	Front	966	23.7%	822	20%	1197	29.3%	504	12.4%	1063	26.1%	494	0	4,080
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COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2
- ACCENT COLOR

SHEET A10.3

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 1A - 7 PLEX - STYLE B

0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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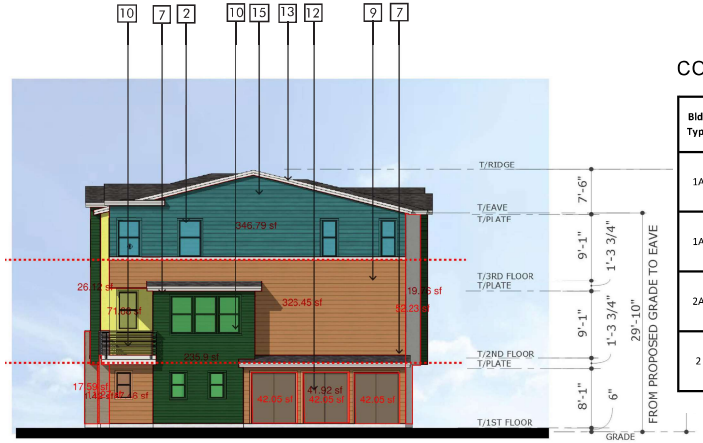
REAR ELEVATION



4 RIGHT SIDE ELEVATION

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
			Glazing Area		Primary		Secondary		Tertiary 1		Tertiatry 2		Natural	Accent	Total
			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
1A	A	Front	966	23.7%	822	20%	1197	29.3%	504	12.4%	1063	26.1%	494	0	4,080
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		Left	218	16.0%	0	0%	431	31.6%	360	26.4%	241	17.6%	274	60	1,366
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MATERIAL LIST

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13. PAINTED FASCIA AND TRIM
14. METAL WINDOW SHADE / CANOPY
15. 8" PREFINISHED HORIZ. LAP SIDING

(E) EGRESS WINDOW

COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2

SHEET A10.4

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 1A - 7 PLEX - STYLE B

0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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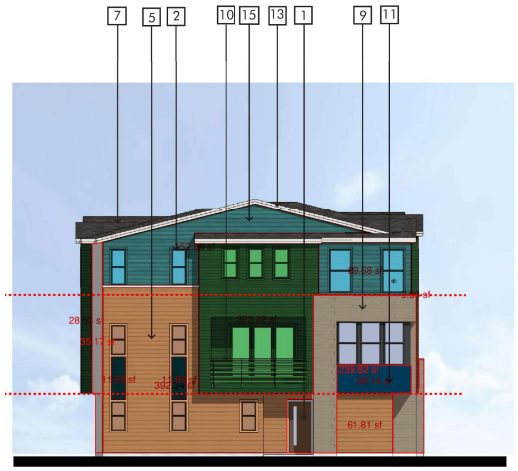
PROJECT NO. 1005.005 | APRIL 4, 2024

FRONT ELEVATION



2 LEFT SIDE ELEVATION

MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
3. 3 COAT STUCCO W/ METAL REVEALS
4. 5" PAINTED HORIZONTAL LAP SIDING
5. 8" PAINTED HORIZONTAL LAP SIDING
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E EGRESS WINDOW

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
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		Left	161	11.8%	0	0%	419	30.8%	363	26.7%	243	17.8%	277	60	1,362
		Rear	623	15.9%	1317	34%	354	9.0%	1456	37.1%	91	2.3%	604	104	3,926
		Right	122	9.5%	71	6%	415	32.3%	280	21.8%	346	26.9%	173	0	1,285
2A	B	Front	828	23.7%	504	14%	1032	29.6%	797	22.9%	430	12.3%	623	101	3,487
		Left	218	16.0%	0	0%	431	31.6%	360	26.4%	241	17.6%	274	60	1,366
		Rear	529	15.4%	1075	31%	344	10.0%	1241	36.0%	90	2.6%	604	90	3,444
		Right	122	9.2%	127	10%	415	31.4%	279	21.1%	346	26.2%	155	0	1,322
2	A	Front	831	24.4%	707	21%	1150	33.7%	504	14.8%	644	18.9%	404	0	3,409
		Left	135	10.7%	576	46%	307	24.5%	167	13.3%	27	2.2%	178	0	1,255
		Rear	537	15.5%	1121	32%	551	16.0%	725	21.0%	479	13.9%	578	0	3,454
		Right	122	9.3%	662	50%	181	13.8%	322	24.5%	18	1.4%	130	0	1,313

COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2
- ACCENT COLOR

SHEET A10.5

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 2A - 6 PLEX - STYLE B

0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

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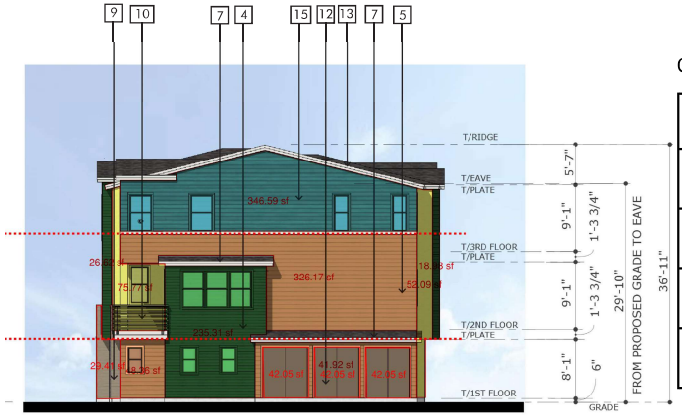
PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN

REAR ELEVATION



4 RIGHT SIDE ELEVATION

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
			Glazing Area		Primary		Secondary		Tertiary 1		Tertiatry 2		Natural	Accent	Total
			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
1A	A	Front	966	23.7%	822	20%	1197	29.3%	504	12.4%	1063	26.1%	494	0	4,080
		Left	122	9.9%	578	47%	310	25.2%	190	15.4%	28	2.3%	126	0	1,232
		Rear	623	15.2%	1397	34%	562	13.7%	724	17.7%	720	17.6%	693	0	4,096
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MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
3. 3 COAT STUCCO W/ METAL REVEALS
4. 5" PAINTED HORIZONTAL LAP SIDING
5. 8" PAINTED HORIZONTAL LAP SIDING
6. PAINTED BOARD & BATTEN SIDING
7. COMPOSITION SHINGLE ROOF
8. PAINTED METAL GARAGE DOOR W/ LITES
9. STONE VENEER
10. PAINTED METAL RAILING
11. PAINTED ACCENT PANEL
12. PAINTED MECHANICAL ROOM DOORS
13. PAINTED FASCIA AND TRIM
14. METAL WINDOW SHADE / CANOPY
15. 8" PREFINISHED HORIZ. LAP SIDING

E EGRESS WINDOW

COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2
- ACCENT COLOR

SHEET A10.6

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 2A - 6 PLEX - STYLE B

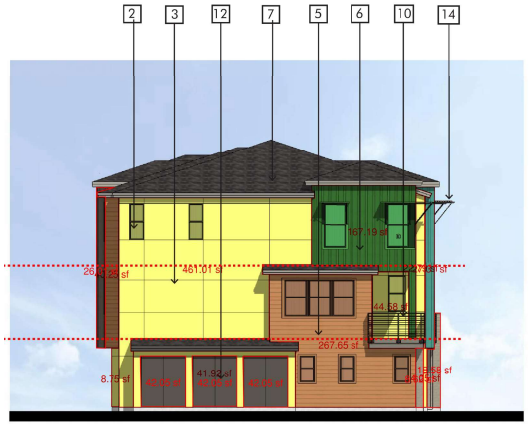
0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

FRONT ELEVATION



2 LEFT SIDE ELEVATION

MATERIAL LIST

1. FIBERGLASS DOOR
2. VINYL SINGLE HUNG WINDOWS
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14. METAL WINDOW/ SHADE / CANOPY
15. 6" PREFINISHED HORIZ. LAP SIDING

(E) EGRESS WINDOW

COLOR AND GLAZING CALCULATIONS

Bldg Type	Bldg Style	Bldg Elev	Elevation Area Calculations												
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			SF	%	SF	%	SF	%	SF	%	SF	%	SF	SF	SF
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COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2

SHEET A10.7

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

BUILDING 2 - 6 PLEX - STYLE A

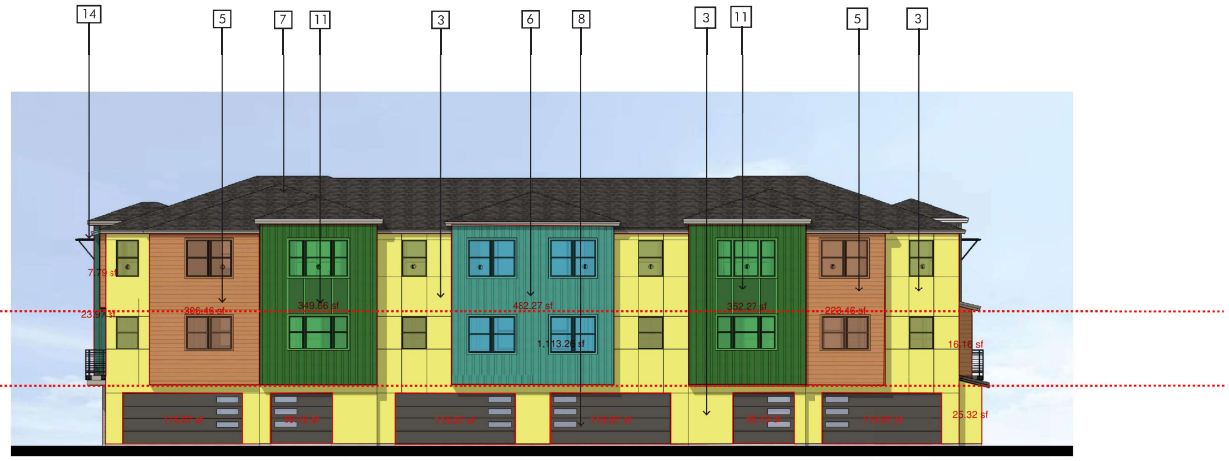
0 4 8 16 24 FEET

DAHLIN GROUP ARCHITECTURE | PLANNING

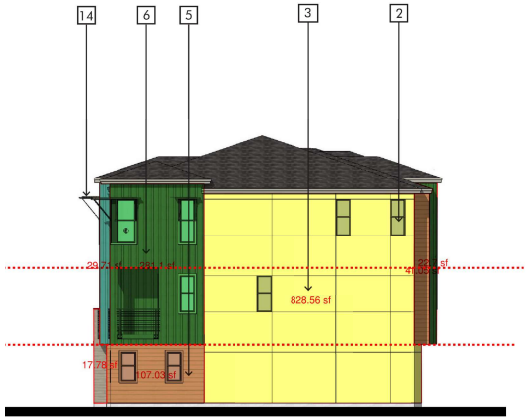
WWW.DAHLINGROUP.COM

PROJECT NO. 1005.005 | APRIL 4, 2024

VOP DAHLIN



REAR ELEVATION



RIGHT SIDE ELEVATION

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14. METAL WINDOW SHADE / CANOPY
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(E) EGRESS WINDOW

COLOR AND GLAZING CALCULATIONS

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COLOR ANALYSIS LEGEND

- PRIMARY COLOR
- SECONDARY COLOR
- TERTIARY COLOR 1
- TERTIARY COLOR 2

SHEET A10.8

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

STANDARDS COMPLIANCE DIAGRAMS

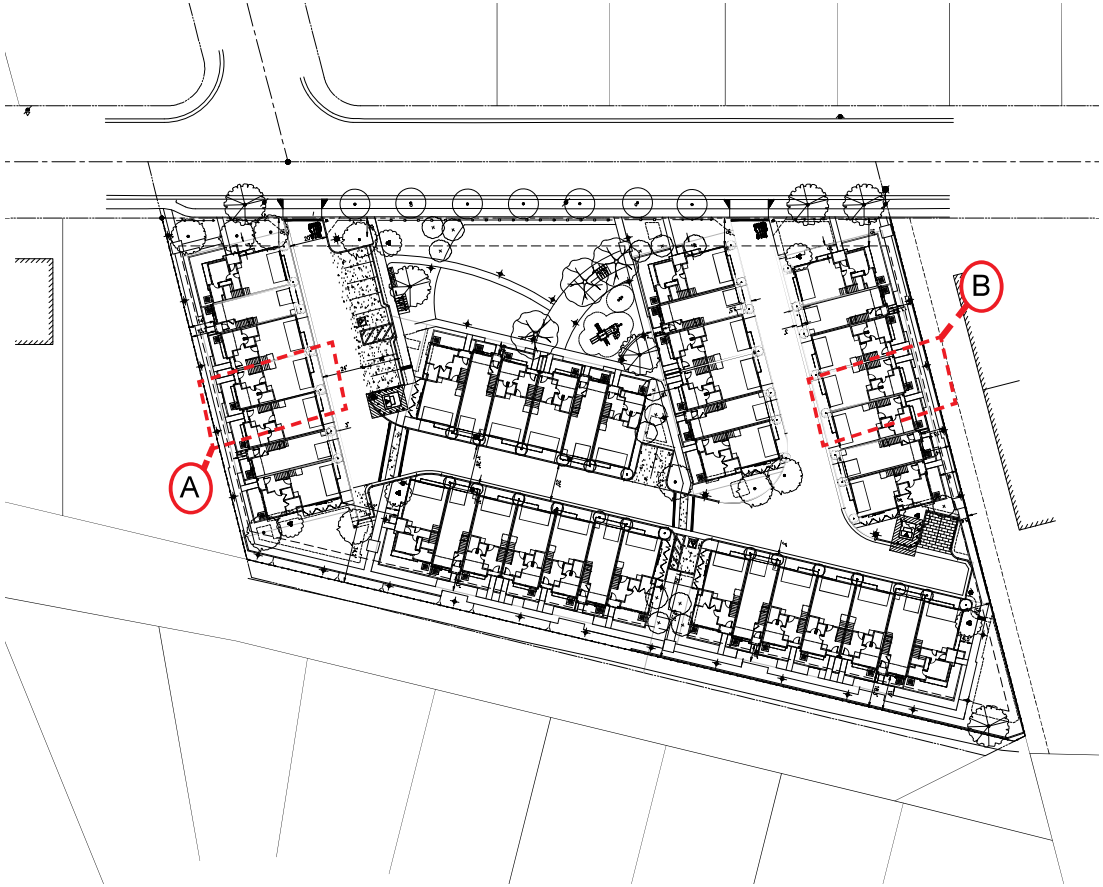
BUILDING 2 - 6 PLEX - STYLE A

0 4 8 16 24 FEET

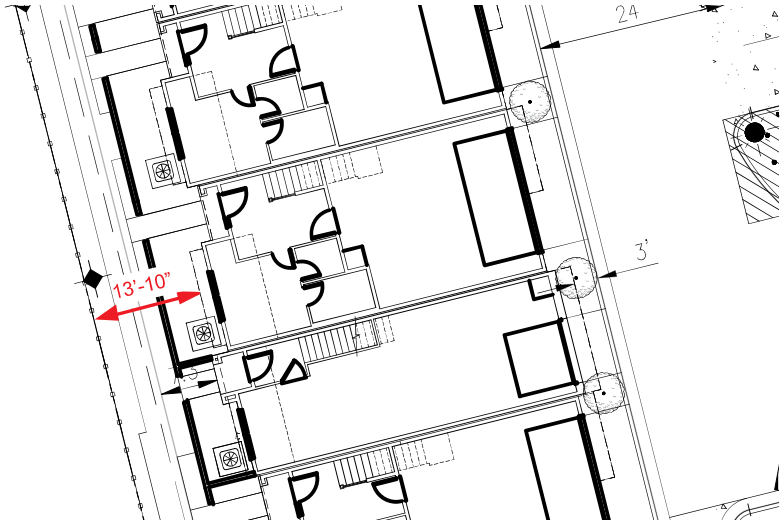
DAHLIN GROUP ARCHITECTURE | PLANNING

WWW.DAHLINGROUP.COM

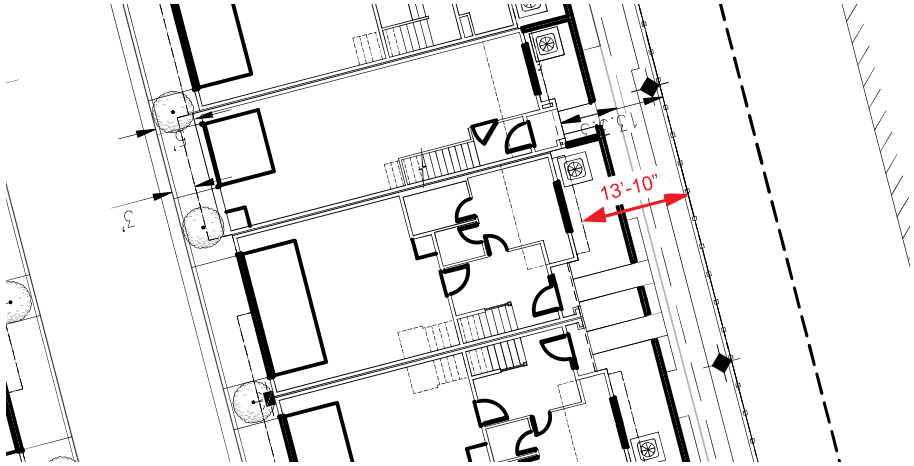
PROJECT NO. 1005.005 | APRIL 4, 2024



SITE PLAN KEYMAP



(A) ENLARGE UNIT PLAN 2 (SOUTH P.L.) W/ CLOSEST DISTANCE FROM SIDE PROPERTY LINE TO GLAZING



(B) ENLARGE UNIT PLAN 2 (NORTH P.L.) W/ CLOSEST DISTANCE FROM SIDE PROPERTY LINE TO GLAZING

SHEET A10.9

320 VIRGINIA AVENUE

IN CAMPBELL, CA

DEVELOPMENT APPLICATION PLANS - SUBMITTAL 4

DAHLIN GROUP ARCHITECTURE | PLANNING

PRIVACY PLAN

N

VOP DAHLIN

WWW.DAHLINGROUP.COM **PROJECT NO. 1005.005 | APRIL 4, 2024**

LEGEND

TO BE CONSTRUCTED	EXISTING	DESCRIPTION
		BOUNDARY
		PROPERTY LINE
		RIGHT OF WAY
		CENTER LINE
		EDGE OF PAVEMENT
		CURB, GUTTER, SIDEWALK & DRIVEWAY
SS SS	EXSS SS	SANITARY SEWER PIPE & MANHOLE
SD	EXSD	STORM DRAIN PIPE & MANHOLE
W W	EXW W	WATER LINE
JT	JT	JOINT TRENCH
	OH	OVERHEAD LINE
	G	GAS LINE
		WOODEN FENCE
	X X	CHAINLINK FENCE
SD SD	SD SD	AREA DRAIN PIPE & AREA DRAIN
		CURB INLET
		FIELD INLET
		FIRE HYDRANT
W	W	WATER METER
		POWER POLE
		ELECTROLIER
		DECORATIVE ELECTROLIER
		SIGN
		GRADE TO DRAIN
0.5%	0.5%	DIRECTION OF FLOW & GRADIENT
		OVERLAND RELEASE
		CURB RAMP
T5 6 5 T7 G1 3 3E 3E 2		UTILITY BOXES & VAULTS
		ABOVE GRADE TRANSFORMER

ABBREVIATIONS

AB	AGGREGATE BASE
ABND	ABANDON
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ADU	ACCESSORY DWELLING UNIT
AP	ANGLE POINT
APN	ASSESSORS PARCEL NUMBER
ARV	AIR RELEASE VALVE
ASB	AGGREGATE SUBBASE
AU	ACCESSIBLE UNIT
BC	BEGIN CURVE
BK	BOOK
BW	BOTTOM OF WALL
B/W	BACK OF WALK
BFP	BACK FLOW PREVENTOR
BOL	BOLLARD
BLDG	BUILDING
BRK	BRICK
BS	BOTTOM OF STEP
C&G	CURB & GUTTER
CB	CATCH BASIN
CEN	CENTER
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
CONST	CONSTRUCT
COR	CORNER
CR	CURB RAMP
DC	DEPRESSED CURB
DI	DRAINAGE INLET
DIAM	DIAMETER
DIP	DUCTILE IRON PIPE
DBL	DOUBLE
DS	DOWNSPOUT
DW	DRIVEWAY
EC	END CURVE
ESMT	EASEMENT
ELEC	ELECTRICAL
ELECT	ELECTROLIER
ENCL	ENCLOSURE
ENCR	ENCROACHING
EP	EDGE OF PAVEMENT
ER	END OF RETURN
EX	EXISTING
FB	FLUSH BAND
FD	FOUND
FDC	FIRE DEPARTMENT CONNECTION
FC	FACE OF CURB
FEN	FENCE
FF	FINISH FLOOR
FFG	FINISH FLOOR GARAGE
FG	FINISH GRADE
FH	FIRE HYDRANT
FI	FIELD INLET
FL	FLOWLINE
FS	FIRE SERVICE
F/W	FRONT OF WALK
GB	GRADE BREAK
GFF	GARAGE FINISH FLOOR
GL	GARAGE LIP
GRT	GRATE
GV	GAS VALVE
HP	HIGH POINT
IM	IMAGE
INT	INTERSECTION
INV	INVERT
IP	IRON PIPE
JP	JOINT POLE
JT	JOINT TRENCH
LAT	LATERAL
LP	LOW POINT
LS	LANDSCAPE
MH	MANHOLE
M	MAPS
MEAS	MEASURED
MON	MONUMENT
OR	OFFICIAL RECORDS
P	PAD
PG	PAGE
PLNT	PLANTER
PT	POINT
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PP	POWER POLE
PS	PROTECTIVE SLOPE
PVC	POLYVINYL CHLORIDE PIPE
RC	ROLLED CURB
RCE	REGISTERED CIVIL ENGINEER
RCP	REINFORCED CONCRETE PIPE
RE	REEL
R&R	REMOVE AND REPLACE
RW	RECYCLED WATER
R/W	RIGHT OF WAY
SD	STORM DRAIN
SER	SERVICE
SS	SANITARY SEWER
SLB	STREET LIGHT BOX
STD	STANDARD
SQ	SQUARE
S/W	SIDEWALK
TC	TOP OF CURB
TDC	TOP OF DEPRESSED CURB
TEL	TELEPHONE
TG	TOP OF GUTTER
TRC	TOP OF ROLLED CURB
TS	TOP STEP
TSB	TRAFFIC SIGNAL BOX
TW	TOP OF WALL
TYP	TYPICAL
UB	UTILITY BOX
UTIL	UTILITY
VCP	VITRIFIED CLAY PIPE
VLT	VAULT
WB	WATER BOX
WM	WATER METER
WT	WATER
WV	WATER VALVE
WD	WOOD
XING	CROSSING

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
2A Kelley Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 293-3700
F: (408) 293-3707

320 VIRGINIA AVENUE
ABBREVIATIONS AND LEGEND
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	N/A
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET
C1
OF SHEETS

NOTE:

1. SEE SHEET C3 FOR TREE INVENTORY
2. SEE SHEET C3 FOR CITY OF CAMPBELL STANDARDS FOR TREE PROTECTION DURING CONSTRUCTION
3. ALL ONSITE TREES TO BE REMOVED UNLESS OTHERWISE NOTED

LEGEND

- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE PROTECTED PER CITY DETAIL LSD-9 (TRUNK DIAM)
- TREE CANOPY PER SURVEY

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
25 Kirkley Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 289-9700
F: (408) 292-4797

320 VIRGINIA AVENUE
EXISTING CONDITIONS, DEMOLITION AND TREE REMOVAL PLAN

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C2** OF SHEETS

NOTES

TREE ASSESSMENT TABLES BELOW PER THE PRELIMINARY ARBORIST REPORT PREPARED BY HORTSCIENCE BARTLETT CONSULTING DATED OCTOBER 1, 2021. REFER TO THE REPORT FOR ADDITIONAL INFORMATION.

Tree Assessment

320 Virginia Avenue
Campbell, CA
September 2021

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
1	Olive	12,10,10	Yes	3	Moderate	Codominant stems at base; vase form; wide crown.
2	Olive	12,10	Yes	3	Moderate	3' from fence; codominant stems at 2'; 1-sided to W.
3	Xylosma	11,4	No	1	Low	Codominant stems at 3'; girdling root at base; suppressed by #2; branch dieback.
4	Xylosma	12	Yes	2	Low	3' from fence; leans W.; crowded.
5	Olive	8,7,7,6	No	3	Moderate	Multiple attachments arise from base; crowded by #4; 1-sided to W.
6	Xylosma	12	Yes	2	Low	Bowed; sinuous trunk; poor form and structure; crowded.
7	Xylosma	14	Yes	2	Low	Bowed; sinuous trunk; correcting lean W.; wide crown.
8	Sweetgum	16	Yes	0	-	Multiple attachments at 10'; dead.
9	Olive	8,8	No	2	Low	Codominant stems at base; leans S.W.; sparse.
10	Olive	6,6,5,4,3	No	2	Low	Multiple attachments arise from base; leans W.; suppressed by #11.
11	Olive	8,8	No	1	Low	Codominant stems arise from base w/ removed stem and cavity; decayed stem leans W; branch dieback.
12	Xylosma	8	No	1	Low	Trunk bends sharply S. at base and corrects; extremely suppressed by #13.
13	Xylosma	12	Yes	1	Low	Upper trunk bends S. over #12; suppressed by #14.
14	Sweetgum	14	Yes	0	-	Crowded by #13 and 15; dead.
15	Xylosma	12	Yes	1	Low	Trunk twisted at base; sinuous form; trunk divides at 10;15'; crowded.
16	Xylosma	11,3	No	2	Low	Codominant stems at 2' and 8'; sinuous form; suppressed by #17.
17	Xylosma	10	No	2	Low	1-sided to E.; sinuous form; crowded.
18	Xylosma	11	No	2	Low	Sinuous trunk; crowded.
19	Xylosma	13	Yes	2	Low	Leans N.; sinuous form; crowded.
20	Xylosma	12	Yes	1	Low	Leans sharply N.; sinuous trunk; extremely suppressed by #19.

Tree Assessment

320 Virginia Avenue
Campbell, CA
September 2021

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
21	Olive	9,7,7	No	3	Moderate	Multiple attachments arise from base; decay on E. stem; vase form.
22	Strawberry tree	10,9,4	No	1	Low	Leans S.; multiple attachments arise from base w/ decayed stems.
23	Strawberry tree	9,7	No	1	Low	Codominant stems arise from base; W. stem decayed and splitting; wide vase form.
24	Olive	11,11,7	No	3	Moderate	Trunk divides at 1 and 4'; history of limb removal; 4" cavity in main stem.
25	Olive	7,7,6	No	2	Low	Leans S.W.; multiple attachments at 1'; many suckers at base.
26	Strawberry tree	8	No	1	Low	Enlarged base; decayed trunk; divides at 4,5, and 7'; extensive branch dieback.
27	Sawleaf zelkova	14,10	Yes	3	Moderate	Slight lean N.W.; codominant stems at 4'; multiple attachments at 6'; thinning crown w/ some twig dieback.
28	Sawleaf zelkova	20	Yes	2	Low	Multiple attachments at 4'; crowded; vase form; branch dieback
29	Sawleaf zelkova	13	Yes	1	Low	Codominant stems at 5'; leans S.; narrow form; extremely suppressed and crowded.
30	Sawleaf zelkova	26	Yes	3	Moderate	Multiple attachments at 5.5'; wide spreading crown; dead 10" stem to S. w/ decay; best of the group.
31	Modesto ash	10	No	1	Low	Leans S.W.; extremely suppressed by #32; all but dead.
32	Modesto ash	31	Yes	2	Low	Multiple attachments at 4'; fused stem; wide spreading crown; branch dieback.
33	Modesto ash	19	Yes	1	Low	Measured at base; trunk splitting open to base; leans N.; extensive branch dieback.
34	Coast redwood	30	Yes	1	Low	Strong lean S.E., slightly correcting; crowded; sparse; drought-stressed.
35	Coast redwood	38	Yes	3	Moderate	Typical form and structure; codominant stems at ~35'; slightly crowded: drought-stressed.

Tree Assessment

320 Virginia Avenue
Campbell, CA
September 2021

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excelent	Suitability for Preservation	Comments
36	Coast redwood	20	Yes	2	Low	Leans E.; crowded.
37	Coast redwood	29	Yes	2	Low	Crowded; thin crown; drought-stressed.
38	Coast redwood	24	Yes	2	Low	Trunk bows E. and corrects; drought-stressed.
39	Blackwood acacia	~14	Yes	3	Low	**Off-site; no tag.** Slight lean W.; vigorous; overhangs site.
40	Coast live oak	~20	Yes	3	Moderate	**Off-site; no tag.** Base at fence; displacing asphalt gutter; multiple attachments at 5.5'; slight lean N.; vigorous; overhangs site; 12'.
41	Sawleaf zelkova	31	Yes	1	Low	Leans E.; multiple attachments at 5'; narrow attachment 2/3 crown dead; history of limb removal ; history of limb failure.
42	Sawleaf zelkova	25	Yes	2	Low	Multiple attachments at 6'; narrow attachment; dead 8" stem; vase form.
43	Sawleaf zelkova	15	Yes	1	Low	Codominant stems at 6'; leans S.W.; suppressed by #42, extensive branch dieback.
44	Ginkgo	3	OFFSITE	1	Low	Street tree in 5' planting strip. Leans W.; trunk wound E. side; young tree.
45	Ginkgo	17	OFFSITE	3	Moderate	Street tree in 5' planting strip. 6" from sidewalk; multiple attachments at 5; old tag #181; vase form; history of limb removal; upper crown topped under utility lines; slightly sparse.
46	Ginkgo	15,14	OFFSITE	3	Moderate	Street tree in 5' planting strip. Codominant stems at 4'; vase form.
47	Ginkgo	19	OFFSITE	3	Moderate	Street tree in 5' planting strip. Codominant stems at 5'; enlarged base W. side; vase form; best of the group.
48	Ginkgo	16	OFFSITE	2	Low	Street tree in 5' planting strip. Codominant stems at 4' w large removed stems; crown bows S.; sparse; narrow form; ~10' from utility pole.
49	Italian cypress	~24	Yes	3	Moderate	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; some gaps in crown and drooping branches with dieback; crowded.

Tree Assessment

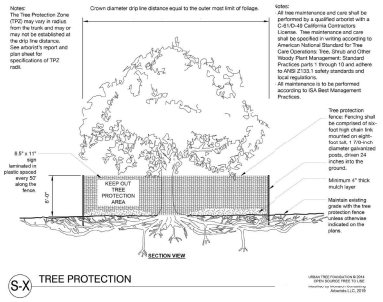
320 Virginia Avenue
Campbell, CA
September 2021

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excelent	Suitability for Preservation	Comments
50	Italian cypress	~24	Yes	3	Moderate	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; some gaps in crown and drooping branches with dieback; crowded.
51	Italian cypress	~24	Yes	3	Moderate	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; some gaps in crown and drooping branches with dieback; crowded.
52	Italian cypress	~24	Yes	3	Moderate	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; some gaps in crown and drooping branches with dieback; crowded.
53	Italian cypress	~24	Yes	3	Moderate	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; some gaps in crown and drooping branches with dieback; crowded.
54	Italian cypress	~24	Yes	4	High	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; crowded; vgorous.
55	Italian cypress	~24	Yes	4	High	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; crowded; vgorous.
56	Italian cypress	~24	Yes	4	High	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; crowded; vgorous.
57	Italian cypress	~24	Yes	4	High	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; crowded; vgorous.
58	Italian cypress	~24	Yes	4	High	**Offsite; no tag.** 1' from fence; crowded; typical narrow upright form; crowded; vgorous.

CITY OF CAMPBELL
STANDARDS FOR TREE PROTECTION DURING CONSTRUCTION

CONSTRUCTION OF PRIVATE PROPERTY WHERE PROTECTED TREES ARE DESIGNATED FOR PRESERVATION SHALL BE PROTECTED DURING DEVELOPMENT OF A PROPERTY BY COMPLIANCE WITH THE FOLLOWING:

1. PROTECTIVE FENCING SHALL BE INSTALLED NO CLOSER TO THE TRUNK THAN THE DRIPLINE, AND FAR ENOUGH FROM THE TRUNK TO PROTECT THE INTEGRITY OF THE TREE. PROTECTIVE FENCING SHALL BE INSTALLED AS FOLLOWED:
   A. THE FENCE SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AND SHALL BE SET SECURELY IN PLACE.
   B. THE FENCE SHALL BE CHAIN LINK WITHOUT SLATS TO ALLOW VISIBILITY TO THE TRUNK FOR INSPECTIONS AND SAFETY.
   C. THERE SHALL BE NO STORAGE OF ANY KIND PRIOR TO OR AT SUCH TIME AFTER THE PROTECTIVE FENCING IS INSTALLED.
   D. THE FENCE MAY BE ADJUSTED AS NECESSARY TO ACCOMMODATE WORK APPROVED WITHIN THE DRIPLINE PROVIDED ANY EXCAVATION IS DONE IN ACCORDANCE WITH INSTRUCTIONS DIRECTED BY A QUALIFIED ARBORIST.
2. THE EXISTING GRADE LEVEL AROUND A TREE SHALL NORMALLY BE MAINTAINED OUT TO THE DRIPLINE OF THE TREE. ALTERNATE GRADE LEVELS MAY BE APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR WHEN IT IS REASONABLY DEMONSTRATED THAT THE ALTERNATE GRADE WILL NOT DAMAGE THE HEALTH OF THE TREE.
3. DRAIN WELLS SHALL BE INSTALLED WHENEVER IMPERVIOUS SURFACES WILL BE PLACED OVER THE ROOT SYSTEM OF A PROTECTED TREE (THE ROOT SYSTEM GENERALLY EXTENDS TO THE OUTERMOST EDGES OF THE BRANCHES).
4. TREES THAT HAVE BEEN DAMAGED BY CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH ACCEPTED ARBORICULTURE METHODS.
5. TREES CANNOT BE PRUNED TO ACCOMMODATE GRADING OR CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE CITY. UPON RECEIPT OF WRITTEN APPROVAL, PRUNING OF TREES MUST BE UNDERTAKEN IN ACCORDANCE WITH "PRUNING STANDARDS" OF THE INTERNATIONAL SOCIETY OF ARBORICULTURE AND MUST BE CARRIED OUT BY A LICENSED ARBORIST.
6. SOIL COMPACTION OF THE AREA UNDER THE DRIPLINE OF THE TREE SHALL BE AVOIDED DURING ALL PHASES OF SITE CLEARING AND CONSTRUCTION.
7. NO SOIL STERILANTS OR WEED KILLER THAT WILL INHIBIT OR RESTRICT THE TREE'S GROWTH MAY BE APPLIED IN THE ROOT AREA.
8. NO SIGNS, WIRES OR ANY OTHER OBJECT SHALL BE ATTACHED TO THE TREE.
9. ANY OTHER MEASURES DEEMED NECESSARY BY A QUALIFIED ARBORIST AND SPECIFIED IN ANY REPORT PREPARED FOR DEVELOPMENT PROJECTS WITH CITY REVIEW AND APPROVAL.
10. THE APPLICANT SHALL PROVIDE THE PROJECT PLANNER WITH PHOTOS OF THE INSTALLED PROTECTIVE FENCING PRIOR TO ISSUANCE OF A BUILDING PERMIT.



S-X TREE PROTECTION

WARNING
Tree Protection Zone

This Fence Shall not be moved without approval. Only authorized personnel may enter this area!

Project Arborist

CUIDADO
Zona De Arbol Pretejido

Esta cerca no sera removida sin aprobacion. Solo personal autorizado entrara en esta area!

Project Arborist

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
29 Kelsey Avenue
Campbell, CA 95008
T: (408) 402-1966

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
P: (408) 293-9100
F: (408) 293-9197

320 VIRGINIA AVENUE
TREE REMOVAL NOTES AND DETAILS
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	N/A
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET **C3** OF SHEETS

0 20 40 Feet

NOTE:

1. SEE SHEET C3 FOR TREE INVENTORY
2. SEE SHEET C3 FOR CITY OF CAMPBELL STANDARDS FOR TREE PROTECTION DURING CONSTRUCTION
3. ALL ONSITE TREES TO BE REMOVED UNLESS OTHERWISE NOTED

LEGEND

EXISTING TREE TO BE REMOVED

EXISTING TREE TO BE PROTECTED PER CITY DETAIL LSD-9 (TRUNK DIAM)

TREE CANOPY PER SURVEY

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
25 Kirkley Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 293-3700
F: (408) 293-3737

320 VIRGINIA AVENUE
TREE PLAN
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET C4 OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C4 TREE PLAN.dwg Apr 04, 2024

NOTE:

- ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.
- THERE SHALL BE NO COMBUSTIBLE CONSTRUCTION PRIOR TO HYDRANT INSTALLATION.

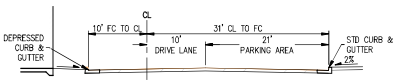
LEGEND

(SEE SHEET C1 FOR COMPLETE LEGEND AND ABBREVIATIONS)

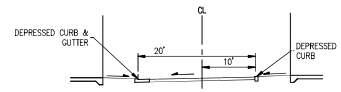
- CONCRETE WALKWAY
- CURB AND GUTTER
- VALLEY GUTTER
- CENTERLINE
- MONUMENT LINE
- BIO-RETENTION BASIN
- CONCRETE
- PERVIOUS PAVERS
- FIRE TRUCK TURN RADIUS (R=30', R=30', R=50')
- 4 — BUILDING NUMBER
- A — ACCESSIBLE UNIT
- G- — GUEST PARKING
- EXISTING TREE
- ACCESSIBLE PATH OF TRAVEL
- 79 80 — COVERED PARKING

NOTES

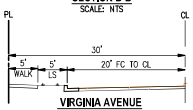
1. ALL ONSITE WALKWAYS AND DRIVEWAYS TO BE CONCRETE.
2. ALL ONSITE ROADS AND ALLEYS TO BE ASPHALT.
3. REFER TO THE LANDSCAPE PLANS FOR BICYCLE PARKING & MAILBOX LOCATIONS, FENCING, AND LANDSCAPING IMPROVEMENTS.
4. APPROX TOTAL SURFACE PARKING AREA = 2260 SF
5. STALLS G-13 & G-14 ARE APPROX 320 SF AND ARE SHOWN AS PERVIOUS. THIS IS APPROX 14% OF THE OVERALL PARKING AREA AND EXCEEDS THE 10% MIN REQUIREMENT.
6. TRUNCATED DOMES TO BE BE IMBEDDED FLUSH WITH THE PAVEMENT AND NOT TACKED ONTO THE SURFACE OF THE GROUND.



PRIVATE STREET
SECTION A-A
SCALE: NTS



PRIVATE STREET
SECTION B-B
SCALE: NTS



VIRGINIA AVENUE
SECTION C-C
SCALE: NTS

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
29 Kelsey Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 293-9700
F: (408) 293-9707

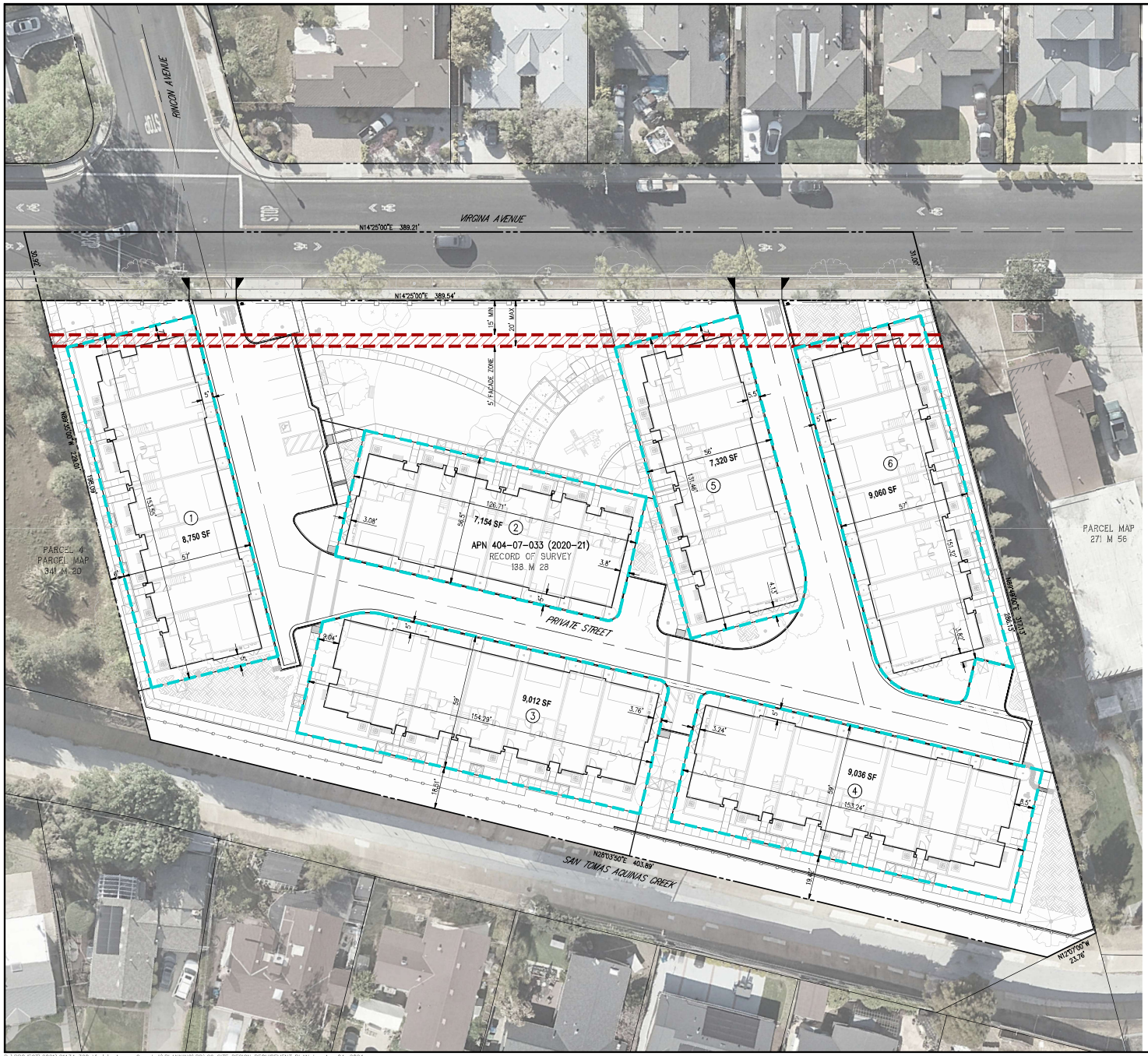
320 VIRGINIA AVENUE
SITE PLAN AND PARKING & ACCESSIBILITY PLAN

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C5** OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C5 SITE PLAN AND PARKING & ACCESSIBILITY PLAN.dwg Apr 04, 2024



NOTE:
ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.

0 20 40 Feet

LEGEND

DESIGN SITE

FACADE ZONE

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
29 Kolloy Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 293-3700
F: (408) 293-3707

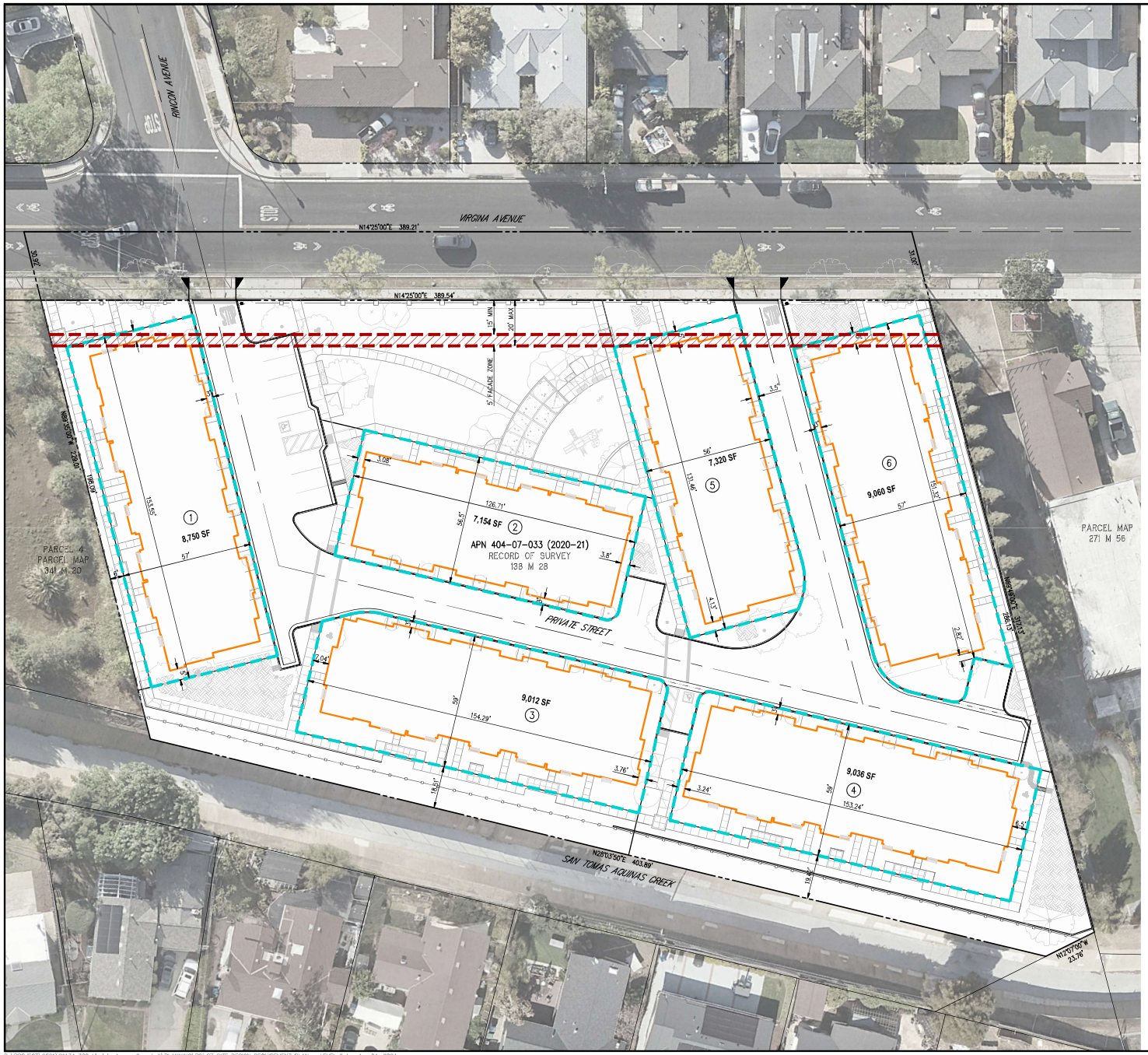
320 VIRGINIA AVENUE
SITE DESIGN REQUIREMENT PLAN - LEVEL 1

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C6** OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C6 SITE DESIGN REQUIREMENT PLAN.dwg Apr 04, 2024



NOTE:
ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.

LEGEND

- DESIGN SITE
- BUILDING LEVEL 2
- FACADE ZONE

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
25 Kirkley Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 292-3700
F: (408) 292-3797

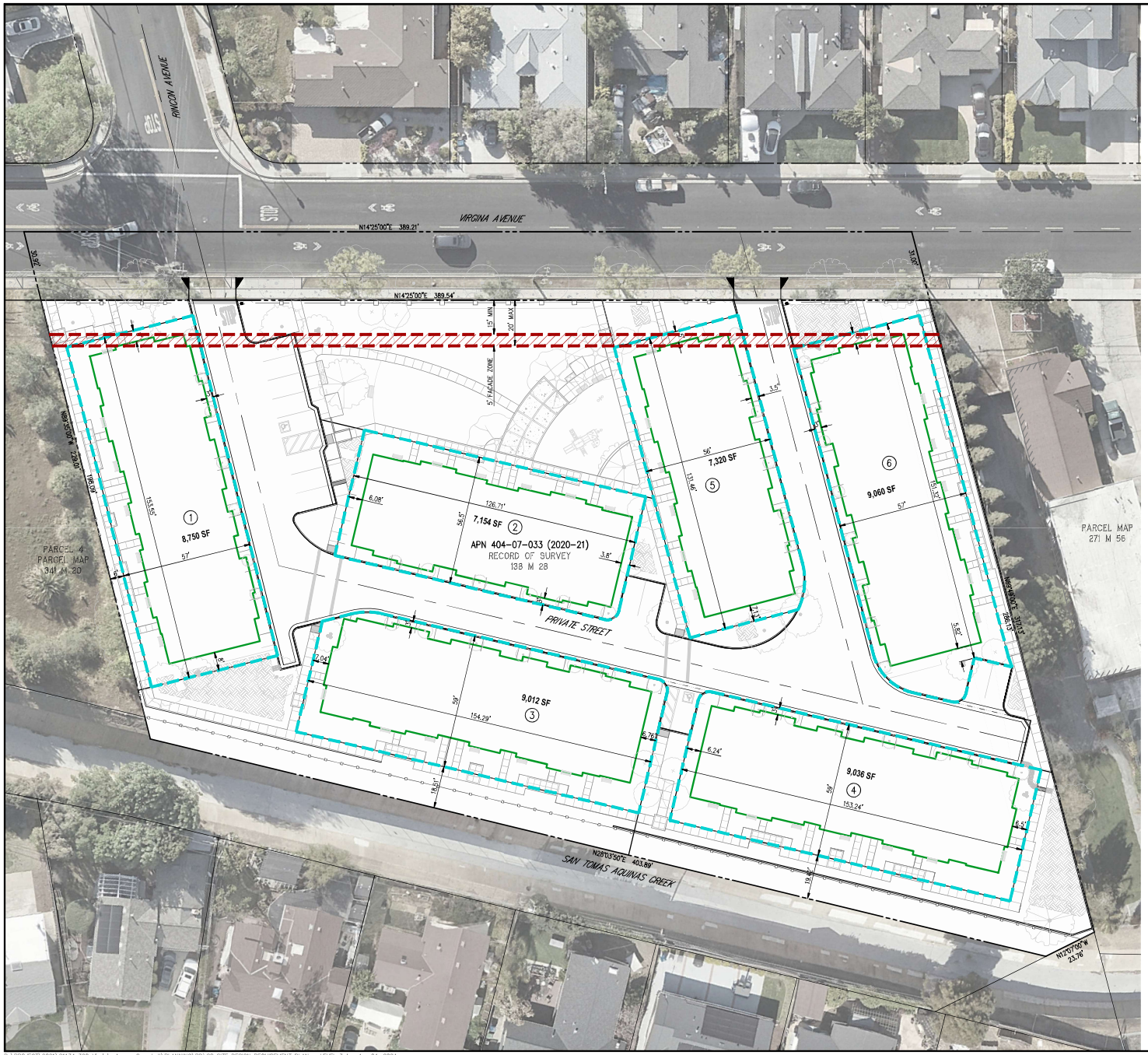
320 VIRGINIA AVENUE
SITE DESIGN REQUIREMENT PLAN - LEVEL 2

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C7** OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C7 SITE DESIGN REQUIREMENT PLAN – LEVEL 2.dwg Apr 04, 2024



NOTE:
ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.

0 20 40 Feet

LEGEND

- DESIGN SITE
- BUILDING LEVEL 3
- FACADE ZONE

NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
2A Kelley Avenue
Campbell, CA 95008
T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
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F: (408) 292-3707

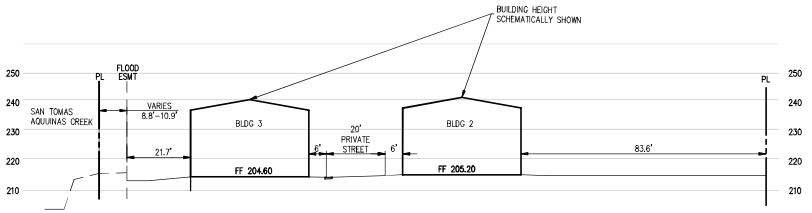
320 VIRGINIA AVENUE
SITE DESIGN REQUIREMENT PLAN - LEVEL 3

CAMPBELL CALIFORNIA

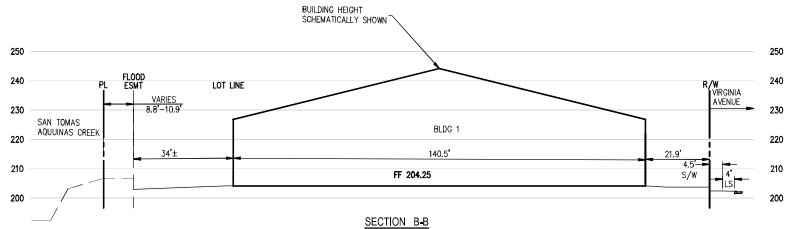
DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C8** OF SHEETS

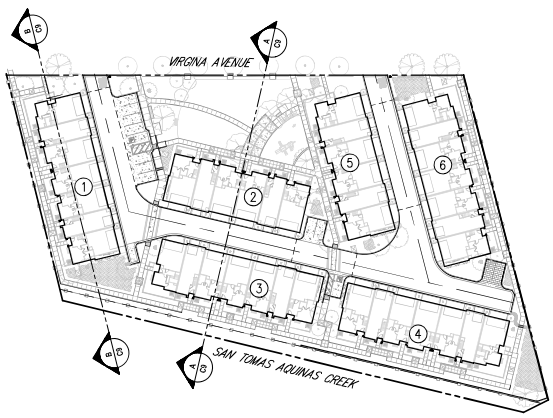
R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C8 SITE DESIGN REQUIREMENT PLAN – LEVEL 3.dwg Apr 04, 2024



SECTION A-A
SCALE 1"=20'



SECTION B-B
SCALE 1"=20'



REVISIONS

NO.	DATE	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
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T: (408) 402-1366

PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
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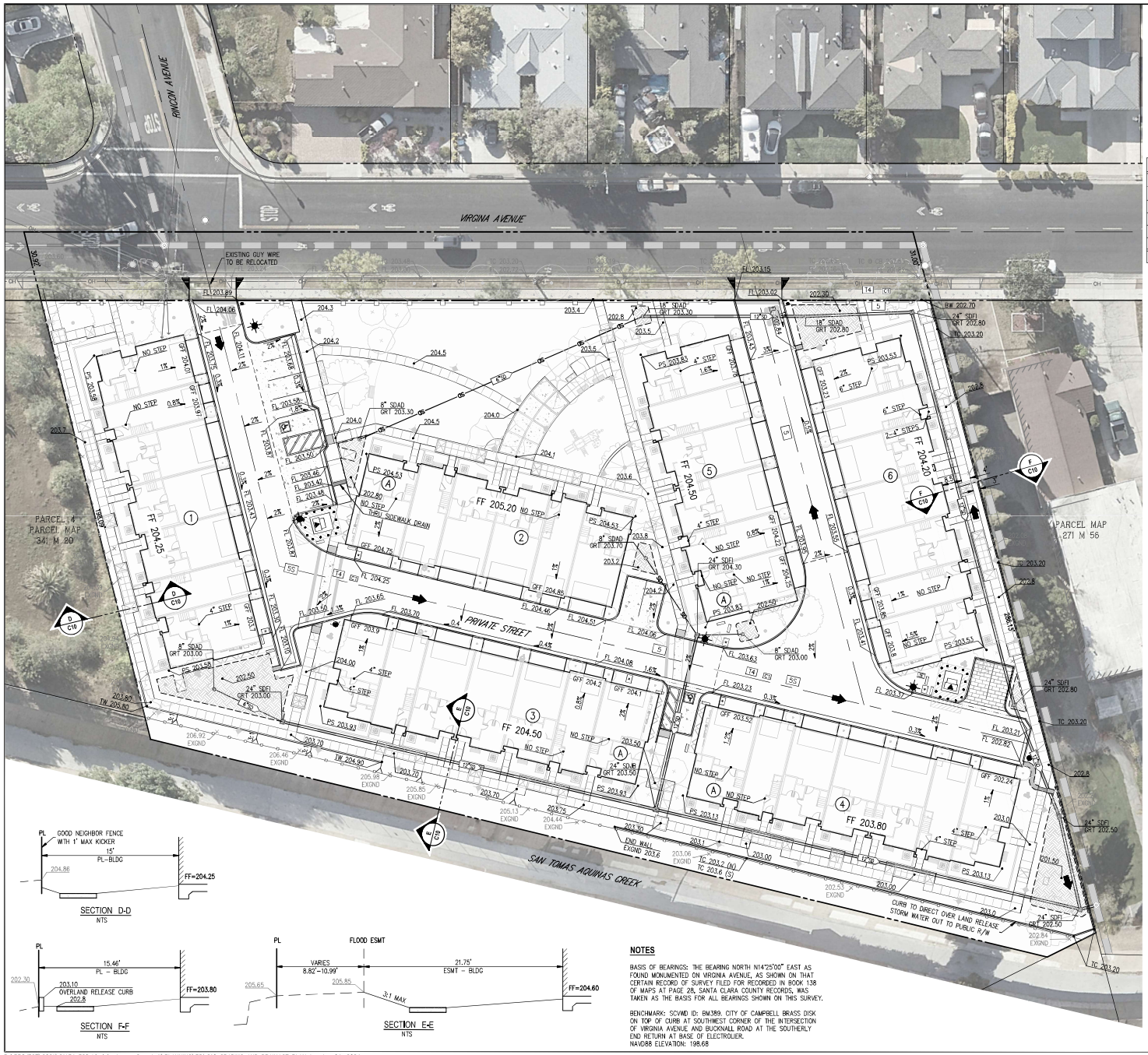
F: (408) 293-4797

320 VIRGINIA AVENUE
SITE SECTIONS
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	N/A
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET
C9
OF SHEETS



NOTES

BASIS OF BEARINGS: THE BEARING NORTH N14°25'00" EAST AS FOUND MONUMENTED ON VIRGINIA AVENUE, AS SHOWN ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORDED IN BOOK 138 OF MAPS AT PAGE 28, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN ON THIS SURVEY.

BENCHMARK: SCVWD ID: BM389, CITY OF CAMPBELL BRASS DISK ON TOP OF CURB AT SOUTHWEST CORNER OF THE INTERSECTION OF VIRGINIA AVENUE AND BUCKNALL ROAD AT THE SOUTHERLY END RETURN AT BASE OF ELECTROLIER.
NAVD88 ELEVATION: 198.68

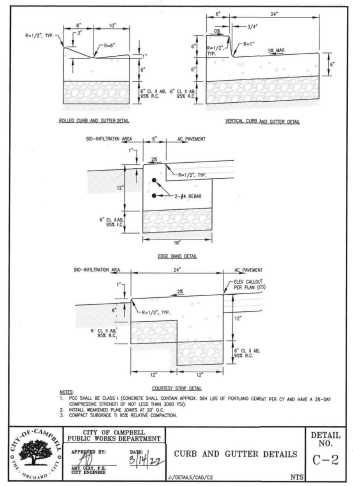
NOTE:
ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.

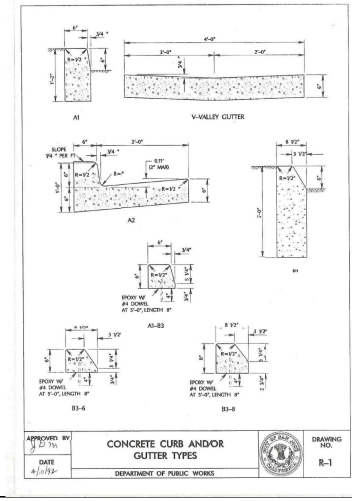
0 20 40 Feet

EARTHWORK SUMMARY

M

	CUT (CY)	FILL (CY)	NET (CY)	
ROUGH GRADING	1,070	940	130	CUT
UTILITY SPOILS				
BUILDING SPOILS				
STORMWATER BASINS	500		500	CUT
TOTAL ROUGH GRADING EARTHWORK			630	EXPORT





NO.	DATE	REVISIONS	BY

Civil Engineering Associates
Civil Engineers • Planners • Surveyors
25 Kirkey Avenue
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T: (408) 402-1966

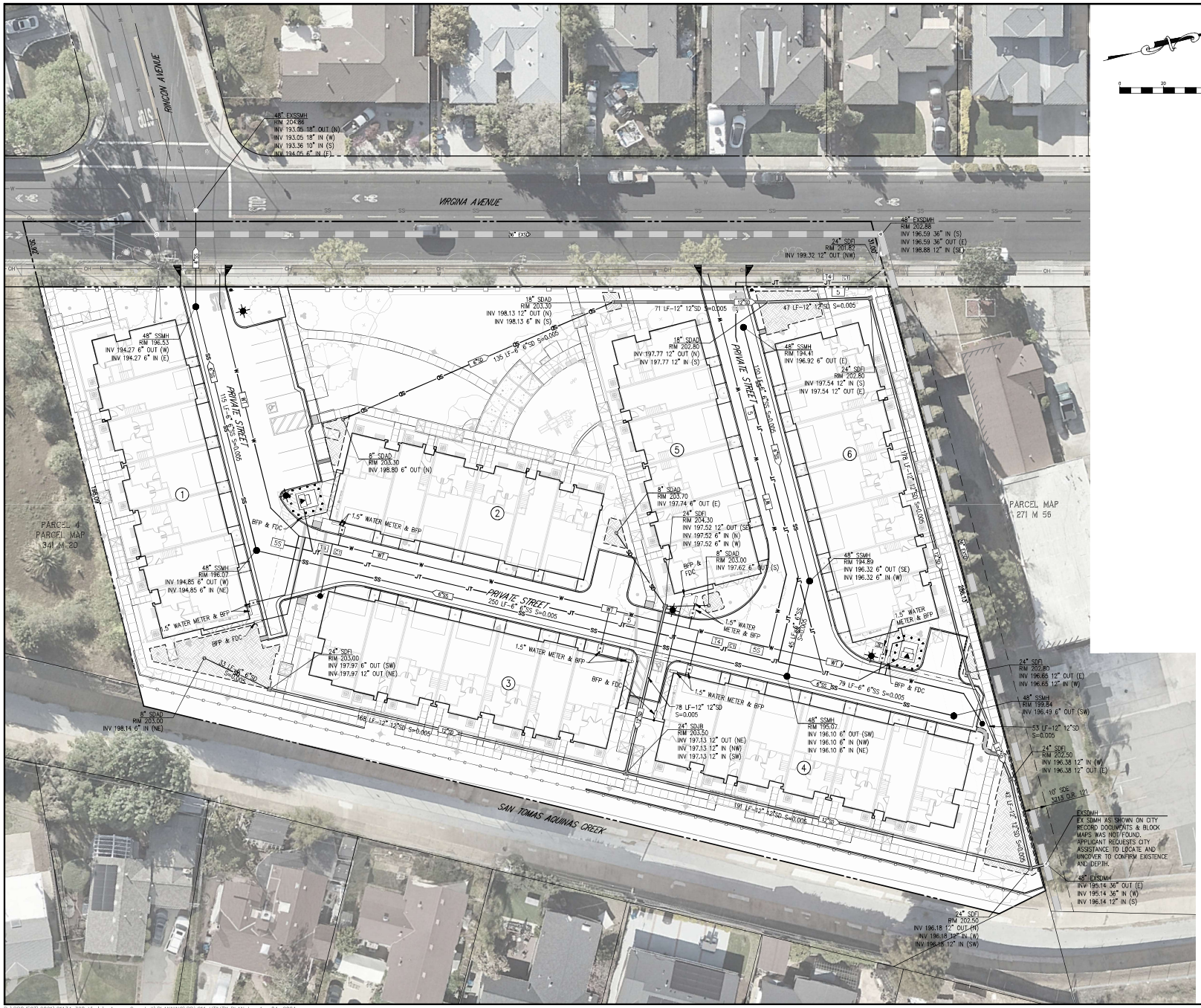
PREPARED FOR:
VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126
T: (408) 293-9700
F: (408) 292-3797

320 VIRGINIA AVENUE
GRADING AND DRAINAGE PLAN

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134
SHEET	C10
OF	SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C10 GRADING AND DRAINAGE PLAN.dwg Apr 04, 2024



NOTE:
ALL NEW AND EXISTING UTILITIES SHALL BE UNDER GROUND WITH NO EXCEPTIONS.

NO.	DATE	REVISIONS	BY

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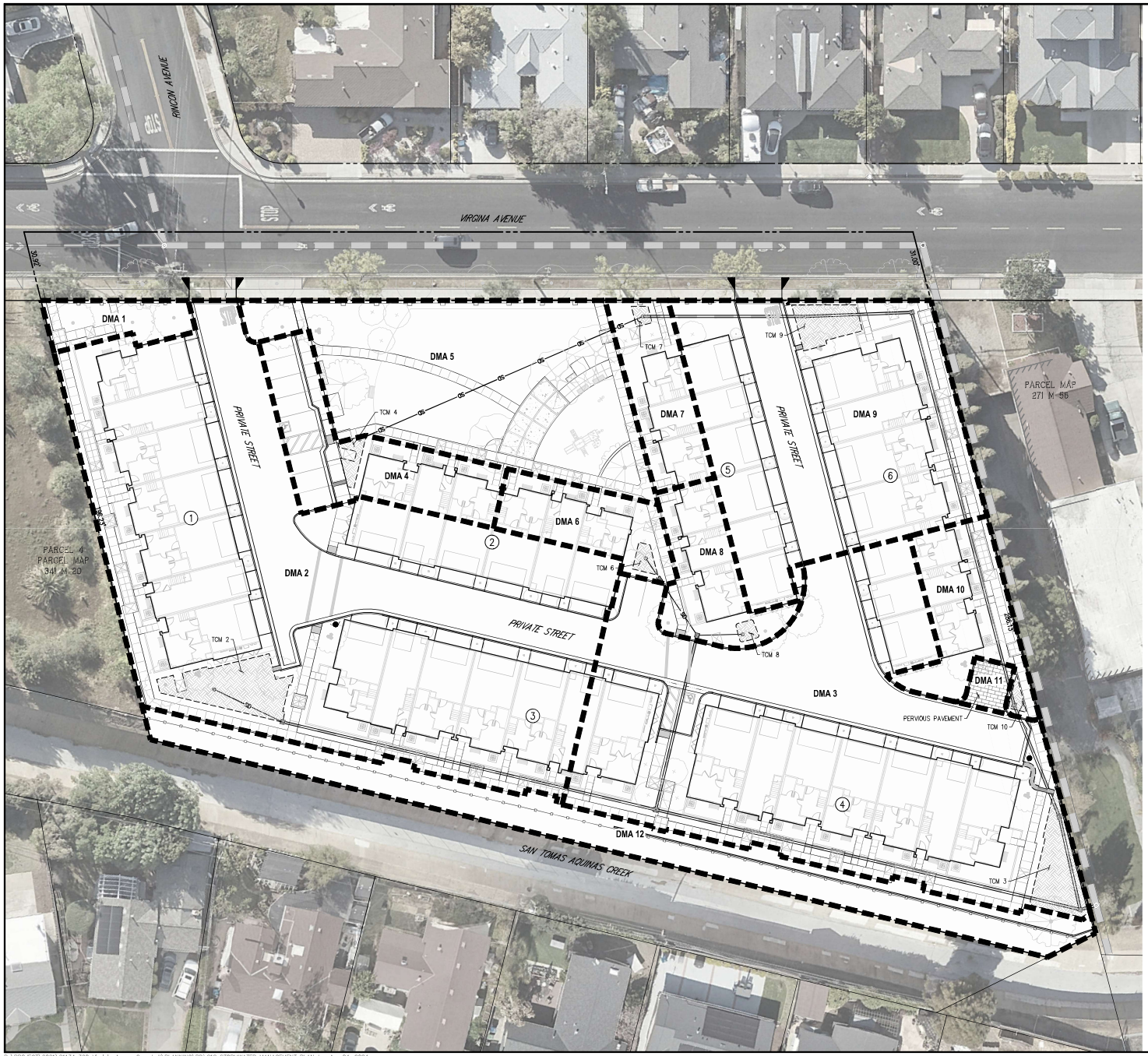
320 VIRGINIA AVENUE
UTILITY PLAN

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET
C11
OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C11 UTILITY PLAN.dwg Apr 04, 2024



0 20 40 Feet

LEGEND

BIO-RETENTION BASINS

WATERSHED BOUNDARY

NOTES

1. PROPERTY INFORMATION
   320 VIRGINIA AVENUE, CAMPBELL, CALIFORNIA
   APN NO. 404-07-033
   GROSS SITE AREA = 106,460 (2.444 AC)
   NET SITE AREA = 94,760 (2.175 AC)
2. EXISTING ONSITE IMPERVIOUS AREA = 1,110 SF (0.03 AC)
3. EXISTING ONSITE PERVIOUS AREA = 93,650 SF (2.15 AC)
4. PROPOSED ONSITE IMPERVIOUS AREA = 61,944 SF (1.42 AC)
5. PROPOSED ONSITE PERVIOUS AREA = 32,836 SF (0.75 AC)
6. OFF-SITE STREET DEDICATION = 11,700 SF (0.27 AC)
7. THERE IS A 60,834 SF, INCREASE IN IMPERVIOUS SURFACE FOR THIS PROJECT
8. RECEIVING SYSTEM FOR THE STORM WATER: CITY OF CAMPBELL PUBLIC STORM COLLECTION SYSTEM AND ULTIMATELY TO SAN TOMAS AQUINAS CREEK.
9. 76,756 SF (81%) OF THE SITE'S STORM WATER RUNOFF WILL BE DIRECTED TO BIO-TREATMENT BASINS.
10. 11,162 SF (12%) OF THE SITE WILL BE SELF-RETAINING.
11. 6,842 SF (7%) OF THE SITE WILL BE SELF-TREATING.
12. 11,700 SF OF THE SITE WILL BE DEDICATED TO THE CITY AND IS EXEMPT FROM REQUIRED TREATMENT.
13. POLLUTANTS THAT MAY PRESENT AT THIS SITE AS A RESULT OF THIS DEVELOPMENT INCLUDE: SEDIMENTS, METALS, NUTRIENTS, BACTERIA, OIL, GREASE, AND ORGANIC COMPOUNDS. THE MAJORITY OF THE POLLUTANT SOURCES WILL BE STREETS, DRIVEWAYS AND LANDSCAPE AREAS. RUNOFF FROM THESE AREAS WILL BE DIRECTED TO EITHER VEGETATED BIO-TREATMENT BASINS, UNDERGROUND SILVA CELLS, OR A MEDIA FILTER MECHANICAL DEVICE.
14. THE FOLLOWING SOURCE CONTROL MEASURES WILL BE IMPLEMENTED WITHIN THE PROJECT SITE TO LIMIT THE GENERATION, DISCHARGE AND RUNOFF OF POLLUTANTS INTO THE STORM COLLECTION SYSTEM.
    - ALL STORM INLETS WILL BE MARKED WITH THE WORDS "NO DUMPING – FLOW TO THE BAY".
    - ALL ROOF DRAINS WILL BE DIRECTED TO DISCHARGE ONTO SPLASHBLOCKS AND AWAY FROM THE BUILDING FOUNDATION TO AN UNPAVED AREA WHEREVER PRACTICAL.
    - SIDEWALKS, DRIVEWAYS AND STREETS AREAS SHALL BE SWEPT REGULARLY TO MINIMIZE THE ACCUMULATION OF LITTER AND DEBRIS.
14. A SWPPP PERMIT WILL BE REQUIRED FOR THIS PROJECT AS THE AREA OF DISTURBANCE > 1 ACRE.
15. CITY OF CAMPBELL STAFF WILL BE GRANTED ACCESS TO ALL OF THE ONSITE STORMWATER TREATMENT BASINS FOR INSPECTION PURPOSES PER THE TERM DESCRIBED IN THE PROJECT'S CC&R'S.
16. THIS PROJECT HAS SUBMITTED AN SB330 APPLICATION PRIOR TO JUNE 30, 2023. THEREFORE THE PROJECT IS SUBJECT TO MRP 2.0 REQUIREMENTS PROVIDED THE PROJECT REMAINS IN COMPLIANCE WITH THE REQUIREMENTS OF SB330.

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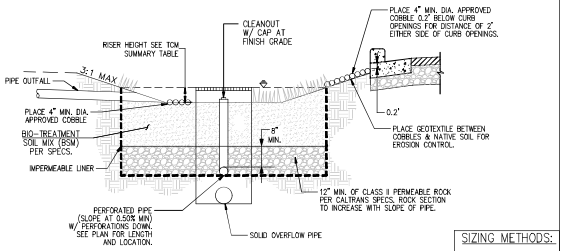
320 VIRGINIA AVENUE
STORMWATER MANAGEMENT PLAN

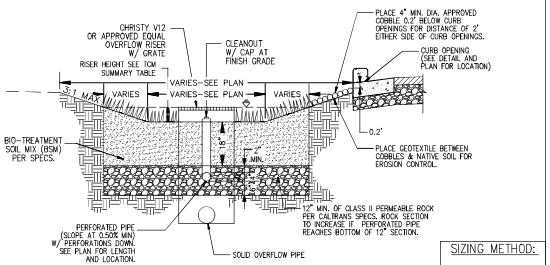
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

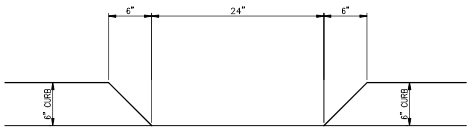
SHEET **C12** OF SHEETS



BIORETENTION BASIN W/ LINER N.T.S.



BIORETENTION BASIN W/O LINER N.T.S.



CURB CUT SECTION
NOT TO SCALE

STORMWATER TREATMENT SUMMARY TABLE

	IMPERVIOUS SURFACES				PERVIOUS SURFACES					TREATMENT MEASURES			
WATERSHED ID	TOTAL WATERSHED AREA (SF)	STREETS (SF)	SIDEWALKS / HARDSCAPE (SF)	BUILDINGS (SF)	TOTAL (SF)	STREETS (SF	SIDEWALKS (SF)	PARKING LOTS (SF)	LANDSCAPE (SF)	TOTAL (SF)	PROVIDED TREATMENT	REQUIRED TREATMENT	CALCULATION METHOD	TREATMENT METHOD
1	**1,148**	-	150	-	**150**	-	-	-	998	**998**	-	-	2:1 RATIO	SELF-RETAINING
2	**28,817**	6,616	3,863	12,886	**23,465**	-	-	-	5,352	**5,352**	**961**	939	4%	BIOTREATMENT W/ LINER
3	**21,701**	6,460	2,722	8,233	**17,415**	-	-	-	4,286	**4,286**	**715**	697	4%	BIOTREATMENT W/ LINER
4	**3,740**	1,346	577	1,136	**3,059**	-	-	-	681	**681**	**141**	122	4%	BIOTREATMENT W/ LINER
5	**10,014**	-	2,372	-	**2,372**	-	-	-	7,642	**7,642**	-	-	2:1 RATIO	SELF-RETAINING
6	**2,154**	-	288	1,093	**1,381**	-	-	-	773	**773**	**98**	55	4%	BIOTREATMENT W/ LINER
7	**2,231**	-	170	1,092	**1,262**	-	-	-	969	**969**	**59**	50	4%	BIOTREATMENT W/O LINER
8	**2,478**	-	263	1,135	**1,398**	-	-	-	1,080	**1,080**	**68**	56	4%	BIOTREATMENT W/ LINER
9	**12,791**	2,445	1,337	6,132	**9,914**	-	-	-	2,877	**2,877**	**436**	397	4%	BIOTREATMENT W/ LINER
10	**2,844**	-	434	1,094	**1,528**	-	-	-	1,316	**1,316**	**62**	61	4%	BIOTREATMENT W/ LINER
11	**387**	-	-	-	-	387	-	-	-	**387**	-	-	95%	SELF-TREATING
12	**6,455**	-	-	-	-	-	-	-	6,455	**6,455**	-	-	95%	SELF-TREATING
SUBTOTAL (SF)	**94,760**	16,867	12,176	32,901	**61,944**	387	-	-	32,429	**32,816**	**1,540**	2,377		
EXISTING SITE	**94,760**	-	1,110	-	**1,110**	-	-	-	93,650	**93,650**				

SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM

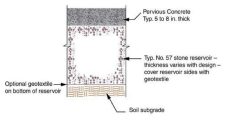


Figure 6-35. Typical Pervious Concrete Pavement
(Source: Interlocking Concrete Pavement Institute)

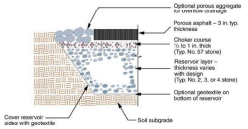


Figure 6-36. Typical Porous Asphalt Pavement
Note: ASTM No. 3 or 4 stone may be substituted for No. 2 stone.
(Source: Interlocking Concrete Pavement Institute)

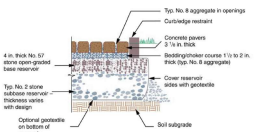


Figure 6-37. Typical Permeable Interlocking Concrete Pavement
Note: ASTM No. 3 or 4 stone may be substituted for No. 2 stone.
Note: ASTM No. 89 or 9 stone may be used in the paver openings.
(Source: Interlocking Concrete Pavement Institute)

NO.	DATE	REVISIONS	BY

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320 VIRGINIA AVENUE
STORMWATER NOTES AND DETAILS
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	N/A
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET **C13** OF SHEETS

0 20 40 Feet

LEGEND

R=30' R=30' R=50'

FIRE TRUCK TURNING RADIUS

150' MAX FIRE HOSE WRAP

NOTES

1. AERIAL APPARATUS NOT REQUIRED – BUILDING AT 30' MAX HEIGHT

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320 VIRGINIA AVENUE
EMERGENCY ACCESS PLAN

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	JR
JOB NO.	21-134

SHEET **C14** OF SHEETS

R:\PROJECT\2021\21134 320 Virginia Ave – Campbell\PLANNING\PD\C14 EMERGENCY ACCESS PLAN.dwg Apr 04, 2024

VESTING TENTATIVE MAP
VIRGINIA AVENUE
FOR CONDOMINIUM PURPOSES
CAMPBELL CALIFORNIA

BASIS OF BEARINGS
THE BEARING NORTH N14°25'00" EAST AS FOUND MONUMENTED ON VIRGINIA AVENUE, AS SHOWN ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORDED IN BOOK 138 OF MAPS AT PAGE 28, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN ON THIS SURVEY.

BENCHMARK
SCVWD ID: BM389. CITY OF CAMPBELL BRASS DISK ON TOP OF CURB AT SOUTHWEST CORNER OF THE INTERSECTION OF VIRGINIA AVENUE AND BUCKNALL ROAD AT THE SOUTHERLY END RETURN AT BASE OF ELECTROLIER.
NAVD88 ELEVATION: 198.68

NOTES

1. THIS TENTATIVE MAP AUTHORIZES THE FILING OF MULTIPLE FINAL MAPS.
2. THERE ARE NO EXISTING WELLS ON SITE
3. ALL EXISTING BUILDINGS WILL BE REMOVED PRIOR TO THE RECORDATION OF THE FINAL MAP
4. ASSESSORS PARCEL NUMBER: 404-07-033
5. EXISTING USE: VACANT LOT
6. PROPOSED USE: 40 RESIDENTIAL CONDOMINIUM UNITS
7. EXISTING ZONING: MDR (MEDIUM DENSITY RESIDENTIAL)
8. PROPOSED ZONING: NO CHANGE
9. GENERAL PLAN DESIGNATION: MEDIUM DENSITY RESIDENTIAL (18-25 UNITS/GR. ACRE)
10. SANITARY SEWER: WEST VALLEY SANITATION DISTRICT
11. STORM CONDUIT: CITY OF CAMPBELL
12. WATER SYSTEM: SAN JOSE WATER COMPANY
13. NUMBER OF LOTS: 15
14. TOTAL AREA: 2.444 ACRES GROSS, 2.08 ACRES NET OF STREET AND FLOOD CONTROL EASEMENTS
15. STREET NAMES TO BE DETERMINED PRIOR TO FINAL MAP.
16. LOTS 1 THROUGH 6 ARE TOWNHOME RESIDENTIAL LOTS.
17. LOT A IS PRIVATE STREET (0.37 ACRES).
18. LOTS B THROUGH I ARE COMMON OPEN SPACE (0.73 ACRES).
19. THIS SUBDIVISION WILL CONFORM TO THE STREET TREE PLAN OF THE CITY OF CAMPBELL.

OWNER
VOP REF VIRGINIA, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY
734 THE ALAMEDA
SAN JOSE, CA 95126

DEVELOPER
VALLEY OAK PARTNERS LLC
734 THE ALAMEDA
SAN JOSE, CA 95126
(408) 282-9700

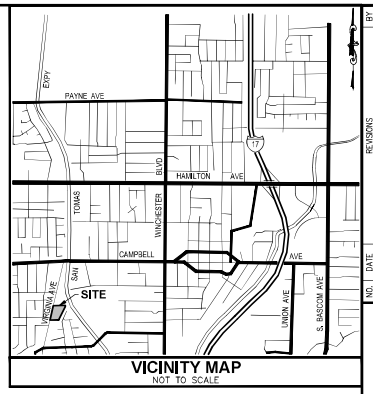
ENGINEER
CIVIL ENGINEERING ASSOCIATES, INC.
28 RAILWAY AVENUE
CAMPBELL, CA 95008
(408) 453-1066

ABBREVIATIONS

APN	ASSESSORS PARCEL NUMBER
ESMT	EASEMENT
E	EAST
FD	FOUND
IP	IRON PIPE
MON	MONUMENT
N	NORTH
O.R.	OFFICIAL RECORDS
POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
PUE	PUBLIC UTILITY EASEMENT
SSE	SANITARY SEWER EASEMENT
SFNF	SEARCHED FOR NOT FOUND
S	SOUTH
SDE	STORM DRAIN EASEMENT
W	WEST

LEGEND

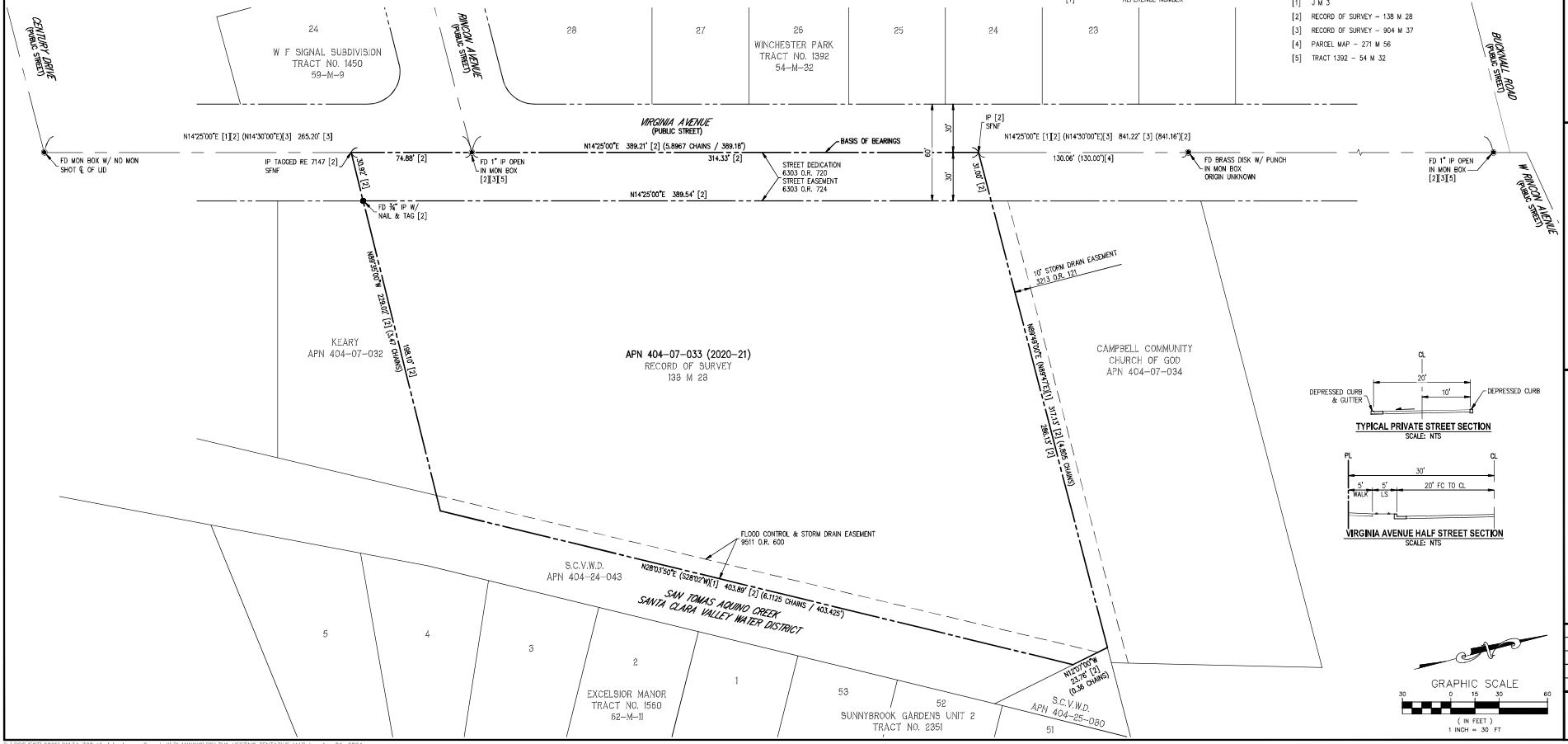
- BOUNDARY LINE
- RIGHT-OF-WAY
- LOT LINE
- CENTER LINE
- EASEMENT LINE
- BOUNDARY TIE
- FOUND MONUMENT (AS NOTED)
- FOUND IRON PIPE (AS NOTED)
- (23.23') RECORD DATA
- [1] REFERENCE NUMBER



VICINITY MAP
NOT TO SCALE

MAP REFERENCES

[1] J M 3
[2] RECORD OF SURVEY – 138 M 28
[3] RECORD OF SURVEY – 904 M 37
[4] PARCEL MAP – 271 M 56
[5] TRACT 1392 – 54 M 32



GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 INCH = 30 FT

NO.	DATE	REVISIONS	BY

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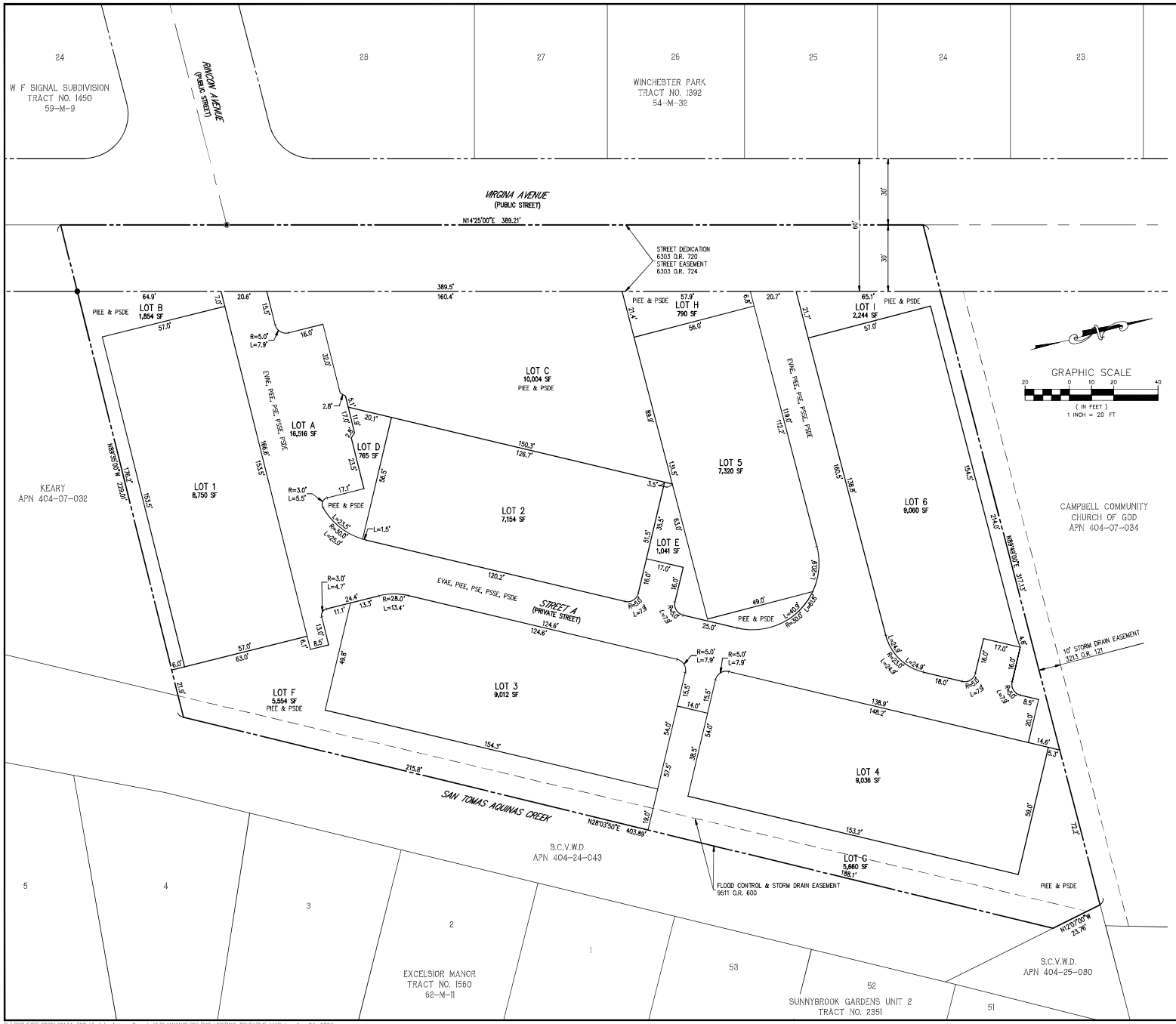
320 VIRGINIA AVENUE
VESTING TENTATIVE MAP
CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=30'
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET **TM1** OF SHEETS



ABBREVIATIONS

EVAE	EMERGENCY VEHICLE ACCESS EASEMENT
PIEE	PRIVATE INGRESS AND EGRESS EASEMENT
PSDE	PRIVATE STORM DRAIN EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
PSE	PUBLIC SERVICE EASEMENT
SF	SQUARE FEET

LEGEND

- BOUNDARY LINE
- RIGHT-OF-WAY
- EXISTING LOT LINE
- LOT LINE
- CENTER LINE
- EXISTING EASEMENT LINE
- EASEMENT LINE

NO.	DATE	REVISIONS	BY

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320 VIRGINIA AVENUE
VESTING TENTATIVE MAP

CAMPBELL CALIFORNIA

DATE	4/4/2024
SCALE	1"=20'
DESIGNED	JG
DRAWN	CH
JOB NO.	21-134

SHEET **TM2** OF SHEETS

PRELIMINARY LEGEND

1. CONCRETE WALK, TYP.
2. CONCRETE PAVING W/ ENHANCED SCORING
2a. CONCRETE PAVING AT PICNIC AREA W/ ENHANCED SCORING AND FINISH
3. FRONT YARD PATIOS AND WALLS PER ARCHITECT
4. 3' HT. SPLIT RAIL FENCE ALONG RIGHT OF WAY, TYP.
5. DIRECTORY / MAP SIGN
6. CLUSTER MAILBOX UNITS, SEE MAILBOX ROUTING & CIRCULATION PLAN, SHEET L-4.
7. PLAYGROUND WITH RUBBERIZED SURFACE
8. TRASH AND RECYCLING RECEPTACLES
9. (3) BENCHES
10. (2) PICNIC TABLE
11. (5) BIKE RACK (PARKING SPACES FOR 10 BIKES TOTAL), BIKE GARDEN BIKE RACK (CONFIGURATION A) AVAILABLE THROUGH FORMS + SURFACES, SEE IMAGE AND DETAIL ON SHEET L-2.
12. PLANTING AREA, TYP.
13. TURF AREA, TYP. (DELTA BLUEGRASS 90/10 TALL FESCUE BLEND - MODERATE WATER USE)
14. BIO-RETENTION AREA, TYP.
15. EXISTING RIGHT OF WAY WALKWAY TO REMAIN
16. CROSSWALK PER CIVIL ENGINEER
17. BOLLARD LIGHTS PER LIGHTING CONSULTANT
18. CONCRETE DRIVEWAY PER CIVIL ENGINEER
19. CONCRETE SEAT WALL
20. 6' HT. WOOD BOUNDARY FENCE
21. VISION TRIANGLE
22. POST TOP LIGHTS PER LIGHTING CONSULTANT
23. LADDER PAD PER ARCHITECT
24. PLANT MATERIAL SCREENING AT ABOVE-GROUND UTILITIES

PROPOSED TREE LEGEND

TREES	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	QTY
	ACER BUERGERIANUM	TRIDENT MAPLE	24"BOX	MOD	6
	DODONAEA VISCOSA 'PURPUREA' STANDARD	PURPLE LEAFED HOPSEED BUSH	15 GAL	LOW	20
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	24"BOX	MOD	7
	LAURUS NOBILIS 'SARATOGA'	SWEET BAY	36"BOX	LOW	9
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM DWARF SOUTHERN MAGNOLIA	24"BOX	MOD	6
	PLATANUS X ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	24"BOX	LOW	3
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS'	KRAUTER VESUVIUS PURPLE-LEAF PLUM	24"BOX	LOW	14
	RHAPHIOLEPIS INDICA 'MAJESTIC BEAUTY'	MAJESTIC BEAUTY INDIAN HAWTHORNE	15 GAL	LOW	22

NOTE: ALL TREES TO BE IN STANDARD FORM.

TOTALS
15 GAL = 44 TREES
24" BOX = 36 TREES
36" BOX = 9 TREES

PLANTING NOTES

1. THE PLANTING DESIGN FOR THE SITE IS DROUGHT TOLERANT AND CONSISTS OF A BALANCE OF EVERGREEN AND DECIDUOUS PLANTING AS WELL AS NATIVE AND ORNAMENTAL PLANTING.
2. PROPOSED TREE LOCATIONS ARE BASED ON STANDARD JOINT TRENCH LOCATIONS. FINAL TREE LOCATIONS TO BE DETERMINED WHEN FINAL UTILITY LOCATIONS ARE PROVIDED. TREE PLACEMENT MAY BE ADJUSTED AND FINAL TREE COUNT MAY CHANGE.
3. ALL SHRUBS AND GROUNDCOVER MATERIAL SELECTED HAVE A WUCOLS WATER USE RATING OF VERY LOW TO MODERATE.
4. PROPOSED TREE CANOPIES ARE SHOWN AT 85% MATURE GROWTH DIAMETER IN ORDER TO ENSURE THERE IS SUFFICIENT ROOM FOR TREE GROWTH AND HEALTH.
5. ALL PLANTINGS DESIGNATED FOR STORMWATER TREATMENT AREAS ARE CONSISTENT WITH APPENDIX D OF THE C.3 STORMWATER HANDBOOK PUBLISHED BY THE SANTA CLARA VALLEY URBAN POLLUTION PREVENTION PROGRAM.

IRRIGATION NOTES

1. THE IRRIGATION DESIGN FOR THE SITE SHALL COMPLY WITH THE STATE MANDATED MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO).
2. THE IRRIGATION SYSTEMS WILL BE AUTOMATICALLY CONTROLLED BY AN ET/SMART IRRIGATION CONTROLLER CAPABLE OF MULTIPLE PROGRAMMING AND INDEPENDENT TIMING OF INDIVIDUAL IRRIGATION SYSTEMS. THE CONTROLLER WILL HAVE A 24-HOUR CLOCK TO ALLOW MULTIPLE START TIMES AND REPEAT CYCLES TO ADJUST FOR SOIL PERCOLATION RATES.
3. THE IRRIGATION SYSTEMS WILL CONSIST PRIMARILY OF LOW VOLUME, LOW FLOW BUBBLERS FOR TREES, AND DRIP IRRIGATION FOR SHRUBS AND GROUNDCOVERS.
4. PLANTS WILL BE GROUPED ONTO SEPARATE VALVES ACCORDING TO SUN EXPOSURE AND WATER USE TO ALLOW FOR IRRIGATION APPLICATION BY HYDROZONE. THE IRRIGATION SCHEDULING WILL REFLECT THE REGIONAL EVAPOTRANSPIRATION RATES. THE ENTIRE SITE WILL BE DESIGNED TO RUN DURING NIGHTTIME HOURS WHEN IRRIGATION IS MOST EFFICIENT.
5. ALL MWELO DOCUMENTATION INCLUDING IRRIGATION PLANS, WATER USE CALCULATIONS AND CERTIFICATES SHALL BE SUBMITTED WITH THE LANDSCAPE IMPROVEMENT PLANS FOR REVIEW AND APPROVAL.

OPEN SPACE CALCULATIONS

PARK:	9,425 SF
OTHER LANDSCAPE AREAS:	21,911 SF
TOTAL LANDSCAPE AREA:	**31,336 SF TOTAL (35% OF NET SITE)**

PROPOSED PLANT PALETTE

SHRUBS

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ACACIA COGNATA 'COUSIN ITT'	RIVER WATTLE	5 GAL	LOW	36" o.c.
ARCTOSTAPHYLOS D. 'HOWARD MCMINN'	HOWARD MCMINN MANZANITA	5 GAL	LOW	60" o.c.
CALLISTEMON CITRINUS 'LITTLE JOHN'	DWARF BOTTLE BRUSH	5 GAL	LOW	36" o.c.
CARPENTERIA CALIFORNICA	BUSH ANEMONE	5 GAL	LOW	48" o.c.
CEANOTHUS MARITIMUS 'VALLEY VIOLET'	MARITIME CEANOTHUS	5 GAL	LOW	36" o.c.
CEANOTHUS RIGIDUS 'SNOWBALL'	CEANOTHUS SNOWBALL	5 GAL	LOW	72" o.c.
DODONAEA VISCOSA 'PURPUREA'	PURPLE LEAFED HOPSEED BUSH	15 GAL	LOW	72" o.c.
EUONYMUS JAPONICUS 'GREENSPIRE'	GREENSPIRE UPRIGHT EUONYMUS	5 GAL	LOW	24" o.c.
GALVEZIA SPECIOSA 'BOCA ROSA'	ISLAND SNAPDRAGON	5 GAL	LOW	36" o.c.
GREVILLEA X 'NOELLIE'	GREVILLEA	15 GAL	LOW	48" o.c.
HELIANTHEMUM N. 'HENFIELD BRILLIANT'	HENFIELD BRILLIANT ROCK ROSE	5 GAL	LOW	24" o.c.
JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	5 GAL	LOW	48" o.c.
LAVATERA MARITIMA	TREE MALLOW	5 GAL	LOW	48" o.c.
LEUCOPHYLLUM FRUTESCENS 'COMPACTA'	COMPACT TEXAS RANGER	5 GAL	LOW	48" o.c.
LOROPETALUM C. 'PURPLE DIAMOND'	FRINGE FLOWER	5 GAL	LOW	48" o.c.
PHORMIUM TENAX 'FIREBIRD'	FIRE BIRD FLAX	5 GAL	LOW	48" o.c.
PHORMIUM X 'BLACK ADDER'	NEW ZEALAND FLAX	5 GAL	LOW	36" o.c.
PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	5 GAL	LOW	48" o.c.
RHAMNUS CALIFORNICA 'EVE CASE'	CALIFORNIA COFFEEBERRY	5 GAL	LOW	72" o.c.
ROSA CALIFORNICA	CALIFORNIA WILD ROSE	5 GAL	LOW	60" o.c.
SALVIA CLEVELANDII 'WINIFRED GILLMAN'	CLEVELAND SAGE	5 GAL	LOW	36" o.c.
SALVIA GREGGII 'PINK'	PINK AUTUMN SAGE	5 GAL	LOW	36" o.c.
SALVIA LEUCANTHA	MEXICAN BUSH SAGE	15 GAL	LOW	48" o.c.
SALVIA MICROPHYLLA 'HOT LIPS'	BABY SAGE	5 GAL	LOW	48" o.c.
TEUCRIUM FRUTICONS 'COMPACTA'	BUSH GERMANDER	5 GAL	LOW	36" o.c.
VIBURNUM DAVIDII	DAVID VIBURNUM	5 GAL	MOD	36" o.c.

GRASSES

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
CALAMAGROSTIS X A. 'KARL FOERSTER'	FEATHER REED GRASS	5 GAL	LOW	24" o.c.
CAREX TESTACEA 'PRAIRIE FIRE'	PRAIRIE FIRE SEDGE	1 GAL	MOD	24" o.c.
HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL	LOW	36" o.c.
LEYMUS CONDENSATUS 'CANYON PRINCE'	NATIVE BLUE RYE	1 GAL	LOW	48" o.c.
LOMANDRA HYSTRIX 'TROPIC BELLE'	TROPIC BELLE MAT RUSH	1 GAL	LOW	30" o.c.
LOMANDRA LONGIFOLIA 'LIME TUFF'	LIME TUFF DWARF MAT RUSH	1 GAL	LOW	24" o.c.

PERENNIALS

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ACHILLEA MILLEFOLIUM 'TERRA COTTA'	TERRA COTTA YARROW	1 GAL	LOW	24" o.c.
DIETES VEGETA	AFRICAN IRIS	5 GAL	LOW	36" o.c.
ERIGERON KARVINSKIANUS	FLEABANE	1 GAL	LOW	36" o.c.
ERIOGONUM GRANDE RUBESCENS	RED BUCKWHEAT	1 GAL	LOW	24" o.c.
LIMONIUM PEREZII	STATICE	1 GAL	LOW	24" o.c.
MIMULUS X 'JELLY BEAN ORANGE'	ORANGE MONKEYFLOWER	1 GAL	LOW	12" o.c.
NANDINA DOMESTICA 'LEMON LIME'	LEMON LIME NANDINA	1 GAL	LOW	36" o.c.
NEPETA X FAASSENII 'SELECT BLUE'	CATMINT	1 GAL	LOW	24" o.c.
PENSTEMON H. 'MARGARITA BOP'	BEARD TONGUE	1 GAL	LOW	18" o.c.
SALVIA MICROPHYLLA 'BERZERKELEY'	BERZERKELEY SAGE	1 GAL	LOW	36" o.c.
SCAEVOLA AEMULA 'MAUVE CLUSTERS'	FAN FLOWER	1 GAL	LOW	36" o.c.
VERBENA LILACINA 'DE LA MINA'	LILAC VERBENA	1 GAL	LOW	30" o.c.
ZAUSCHNERIA C. 'SCHIEFFLIN S CHOICE'	CALIFORNIA FUCHSIA	1 GAL	LOW	36" o.c.

BIORETENTION BASIN PLANTING

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	LOW	24" o.c.
CHONDROPETALUM TECTORUM	CAPE RUSH	5 GAL	LOW	36" o.c.
JUNCUS PATENS	CALIFORNIA GRAY RUSH	5 GAL	LOW	18" o.c.
LIPPIA NODIFLORA	KURAPIA	PLUGS	LOW	24" o.c.

BIORETENTION BANK/UPLAND PLANTING

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ARCTOSTAPHYLOS D. 'HOWARD MCMINN'	HOWARD MCMINN MANZANITA	5 GAL	LOW	60" o.c.
BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLUE GRAMA	1 GAL	LOW	18" o.c.
DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL	LOW	24" o.c.
ERIOGONUM LATIFOLIUM	COAST BUCKWHEAT	1 GAL	LOW	18" o.c.
FESTUCA IDAHOENSIS 'STONY CREEK'	IDAHO FESCUE	1 GAL	V. LOW	24" o.c.
MIMULUS AURANTIACUS	STICKY MONKEY FLOWER	5 GAL	V. LOW	36" o.c.
MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	LOW	36" o.c.
SALVIA SONOMENSIS	CREEPING SAGE	1 GAL	LOW	36" o.c.
SEDUM X 'AUTUMN JOY'	AUTUMN JOY SEDUM	1 GAL	LOW	18" o.c.

VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126

320 VIRGINIA AVENUE

Campbell, California

OVERALL LANDSCAPE PLAN

CONCEPTUAL LANDSCAPE PLAN
APRIL 4, 2024

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com

VTA

0' 10' 20' 40'
SCALE: 1" = 20'-0"
NORTH

L-1
Project No. 02322

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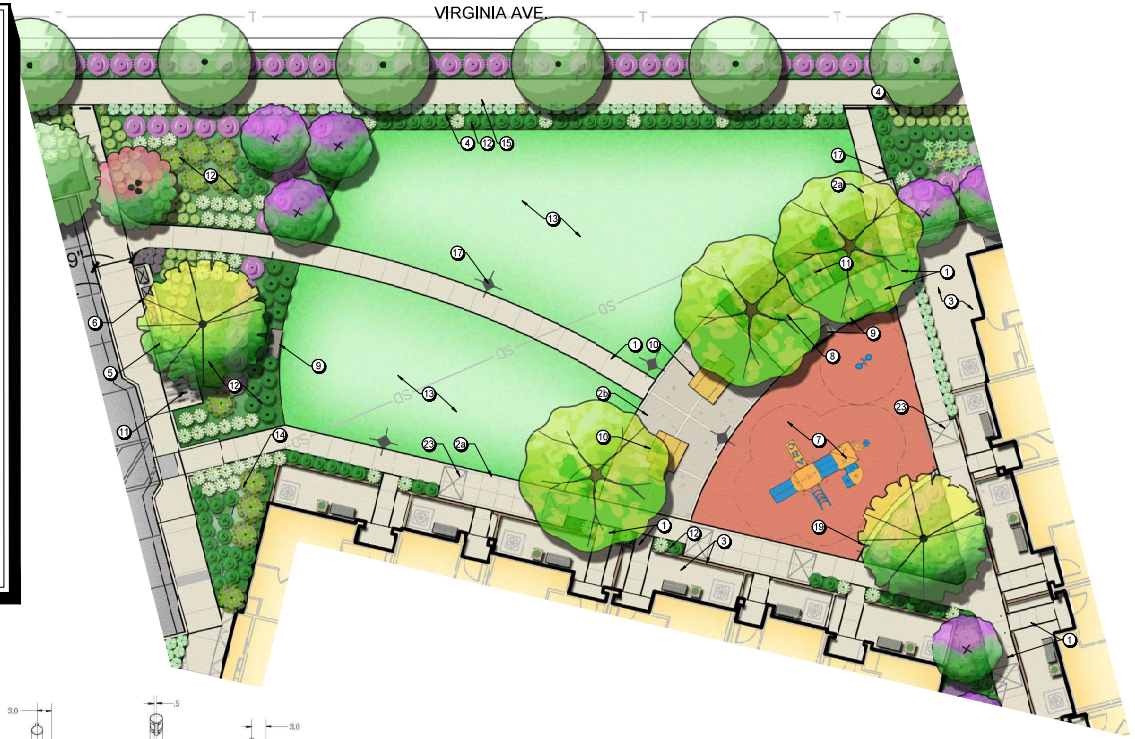
PRELIMINARY LEGEND

1. CONCRETE WALK, TYP.
2a. CONCRETE PAVING W/ ENHANCED SCORING
2b. CONCRETE PAVING AT PICNIC AREA W/ ENHANCED SCORING AND FINISH
3. FRONT YARD PATIOS AND WALLS PER ARCHITECT
4. 3' HT. SPLIT RAIL FENCE ALONG RIGHT OF WAY, TYP.
5. DIRECTORY / MAP SIGN
6. CLUSTER MAILBOX UNITS. SEE MAILBOX ROUTING & CIRCULATION PLAN, SHEET L-4.
7. PLAYGROUND WITH RUBBERIZED SURFACE
8. TRASH AND RECYCLING RECEPTACLES
9. (3) BENCHES
10. (2) PICNIC TABLE
11. (5) BIKE RACK (PARKING SPACES FOR 10 BIKES TOTAL). BIKE GARDEN BIKE RACK (CONFIGURATION A) AVAILABLE THROUGH FORMS + SURFACES. SEE IMAGE AND DETAIL ON SHEET L-2.
12. PLANTING AREA, TYP.
13. TURF AREA, TYP. (DELTA BLUEGRASS 90/10 TALL FESCUE BLEND - MODERATE WATER USE)
14. BIO-RETENTION AREA, TYP.
15. EXISTING RIGHT OF WAY WALKWAY TO REMAIN
16. CROSSWALK PER CIVIL ENGINEER
17. BOLLARD LIGHTS PER LIGHTING CONSULTANT
18. CONCRETE DRIVEWAY PER CIVIL ENGINEER
19. CONCRETE SEAT WALL
20. 6' HT. WOOD BOUNDARY FENCE
21. VISION TRIANGLE
22. POST TOP LIGHTS PER LIGHTING CONSULTANT
23. LADDER PAD PER ARCHITECT
24. PLANT MATERIAL SCREENING AT ABOVE-GROUND UTILITIES



PROPOSED SHRUB PALETTE

SHRUBS

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ACACIA COGNATA `COUSINITT`	RIVER WATTLE	5 GAL	LOW	36" o.c.
ARCTOSTAPHYLOS D. `HOWARD MCMINN`	HOWARD MCMINN MANZANITA	5 GAL	LOW	60" o.c.
CALLISTEMON CITRINUS `LITTLE JOHN`	DWARF BOTTLE BRUSH	5 GAL	LOW	36" o.c.
CARPENTERIA CALIFORNICA	BUSH ANEMONE	5 GAL	LOW	48" o.c.
CEANOTHUS MARITIMUS `VALLEY VIOLET`	MARITIME CEANOTHUS	5 GAL	LOW	36" o.c.
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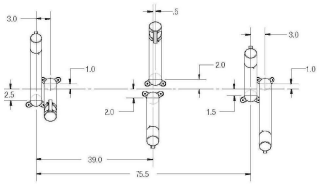
BIKE RACKS



RECREATIONAL TURF

PLAYGROUND WITH RUBBER SURFACING

METAL SITE FURNISHINGS

SPLIT RAIL FENCE

ACCENT PAVING AT PICNIC TABLES

CONCRETE SEAT WALL

VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126

320 VIRGINIA AVENUE
Campbell, California

OPEN SPACE ENLARGEMENT
CONCEPTUAL LANDSCAPE PLAN
APRIL 4, 2024

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com

SCALE: 1" = 10'-0" NORTH

L-2
Project No. 02322

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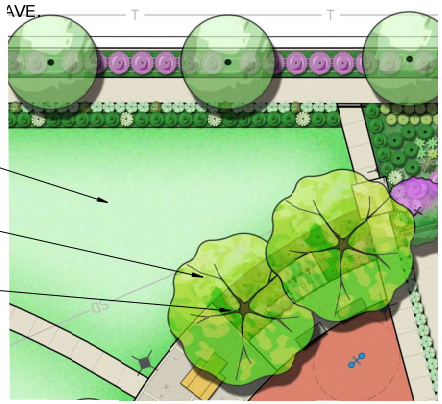
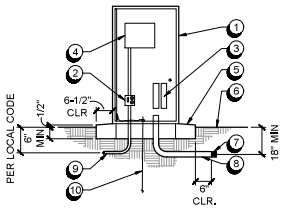


IRRIGATION NOTES

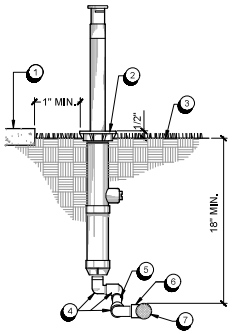
1. THE IRRIGATION DESIGN FOR THE SITE SHALL COMPLY WITH THE STATE MANDATED MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO).
2. THE IRRIGATION SYSTEMS WILL BE AUTOMATICALLY CONTROLLED BY AN ET/SMART IRRIGATION CONTROLLER CAPABLE OF MULTIPLE PROGRAMMING AND INDEPENDENT TIMING OF INDIVIDUAL IRRIGATION SYSTEMS. THE CONTROLLER WILL HAVE A 24-HOUR CLOCK TO ALLOW MULTIPLE START TIMES AND REPEAT CYCLES TO ADJUST FOR SOIL PERCOLATION RATES.
3. THE IRRIGATION SYSTEMS WILL CONSIST PRIMARILY OF LOW VOLUME, LOW FLOW BUBBLERS FOR TREES, AND DRIP IRRIGATION FOR SHRUBS AND GROUNDCOVERS.
4. PLANTS WILL BE GROUPED ONTO SEPARATE VALVES ACCORDING TO SUN EXPOSURE AND WATER USE TO ALLOW FOR IRRIGATION APPLICATION BY HYDROZONE. THE IRRIGATION SCHEDULING WILL REFLECT THE REGIONAL EVAPOTRANSPIRATION RATES. THE ENTIRE SITE WILL BE DESIGNED TO RUN DURING NIGHTTIME HOURS WHEN IRRIGATION IS MOST EFFICIENT.
5. ALL MWELO DOCUMENTATION INCLUDING IRRIGATION PLANS, WATER USE CALCULATIONS AND CERTIFICATES SHALL BE SUBMITTED WITH THE LANDSCAPE IMPROVEMENT PLANS FOR REVIEW AND APPROVAL.



NOTE:
ALL ELECTRICAL WORK SHALL COMPLY W/ LOCAL AND NATIONAL CODES. INSTALL PEDESTAL BASE MOUNT PER MFG.'S SPECIFICATIONS.

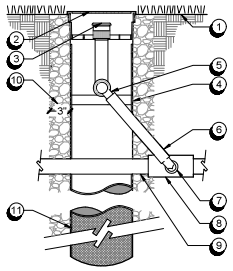
1. IRRIGATION CONTROLLER ENCLOSURE PER PLAN.
2. 115 VOLT SWITCH W/ GROUNDED OUTLETS.
3. TERMINAL STRIP TO ACCOMODATE STATIONS ON CONTROLLER AND 1 COMMON.
4. IRRIGATION CONTROLLER LOCATION.
5. POURED CONCRETE FOOTING - 6" MIN. THICK AND AS REQUIRED BY MFG'S INSTALLATION GUIDE.
6. FINISH GRADE.
7. U.F. DIRECT BURIAL WIRES (TO REMOTE CONTROL VALVES).
8. PVC LONG SWEEP ELL.
9. 125 VOLT SERVICE IN CONDUIT.
10. 3/4" BY 8' COPPER COATED GROUND ROD.

A CONTROLLER ENCLOSURE
N.T.S.



1. SIDEWALK, CURB, ETC.
2. POP-UP SHRUB SPRAY HEAD WITH PURPLE COVER. INSTALL 1/2" ABOVE FINISH GRADE.
3. FINISH GRADE.
4. MARLEX STREET ELL.
5. PVC SCH. 80 NIPPLE LENGTH AS REQUIRED.
6. PVC SCH. 40 SST TEE.
7. PVC LATERAL LINE.

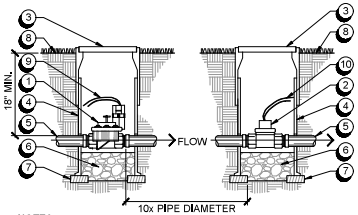
B 6" POP-UP SHRUB SPRAY HEAD
N.T.S.



1. FINISH GRADE.
2. 4" LOCKING GRATE. INSTALL FLUSH WITH FINISH GRADE OR TOP OF MULCH. (SEE NOTE #3)
3. PRESSURE COMPENSATING BUBBLER PER LEGEND
4. ROOT WATERING SYSTEM (RWS) UNIT (QUANTITY PER LEGEND). SEE NOTES BELOW.
5. PRE-ASSEMBLED FITTINGS.
6. 1/2" FLEXIBLE SWING PIPE. MAXIMUM LENGTH OF 18".
7. 1/2" NPT X BARB SWING PIPE ELBOW.
8. PVC SCH 40 TEE OR ELL. (ST.)
9. LATERAL PVC PIPE.
10. PEA GRAVEL FOR CLAY SOILS, WHERE APPLICABLE.
11. SAND SOCK FOR SANDY SOILS, WHERE APPLICABLE.

NOTES:
1. ONCE RWS HAS BEEN INSTALLED, FILL THE BASKET WITH PEA GRAVEL.
2. RWS INCLUDES FACTORY ASSEMBLED RISER, BUBBLER, GRATE, SWING ASSEMBLY, CANISTER & FITTINGS.
3. FOR RECLAIMED WATER APPLICATION, INSTALL PURPLE GRATE.

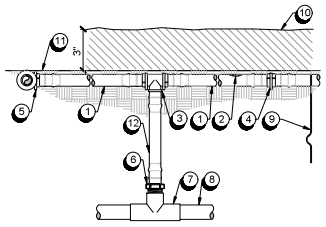
C TREE BUBBLER - ROOT WATERING SYSTEM (RWS)
N.T.S.



NOTES:
1. ALL WIRES SHALL BE INSTALLED PER LOCAL CODE.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS.
3. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (10 WRAPS AROUND AT 1/2" DIA. PIPE).
4. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREAS AND SET FLUSH WITH FINISH GRADE IN TURF AREAS.
5. UTILIZE PURPLE IDENTIFICATION FOR RECLAIMED LINES.

1. MASTER VALVE. SEE LEGEND FOR TYPE.
2. FLOW SENSOR. SEE LEGEND FOR TYPE.
3. ROUND VALVE BOX W/ M.V. OR F.S. BURNED INTO LID (MIN. 2" HIGH)
4. VALVE BOX EXTENSION, LENGTH AS REQUIRED
5. PVC MAINLINE
6. PEA GRAVEL
7. BRICK SUPPORTS
8. FINISH GRADE
9. WIRE W/ SHIELDED CABLE TO CONTROLLER ASSEMBLY W/ 12" MIN. SERVICE COIL AND WATERPROOF WIRE SPLICE CONNECTORS. WIRE COLORS PER SPECIFICATIONS.
10. FLOW SENSOR WIRES W/ SHIELDED CABLE TO CONTROLLER ASSEMBLY.

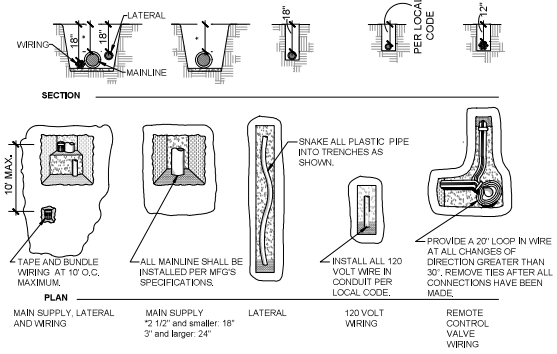
D MASTER VALVE W/ FLOW SENSOR
SCALE: N.T.S.



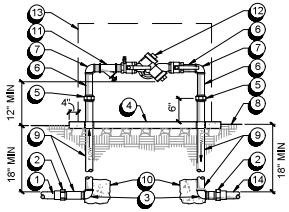
NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE - FOUR FEET TO SECURE DRIPLINE TO GRADE.
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

1. ON-SURFACE DRIPLINE. SEE IRRIGATION FOR TYPE.
2. INLINE DRIP EMITTER OUTLET, SEE PLANS FOR DRIPLINE OUTLET SPACING.
3. BARB TEE
4. BARB COUPLING
5. BARB ELBOW
6. BARB MALE ADAPTER
7. PVC TEE (SST)
8. DRIPLINE LATERAL SUPPLY HEADER
9. GALVANIZED TIE DOWN STAKE
10. DECORATIVE BARK MULCH
11. FINISH GRADE
12. BLANK DRIP TUBING

E ON-SURFACE DRIPLINE RISER ASSEMBLY
N.T.S.



F PIPE & WIRE TRENCHING DETAIL
SCALE: N.T.S.



1. IRRIGATION MAINLINE FROM WATER METER.
2. PVC FEMALE ADAPTER.
3. GALVANIZED 90 ELBOW.
4. 4" CONCRETE PAD ON 4" COMPACTED AGGREGATE BASE. INSTALL PVC PIPE SLEEVE PRIOR TO INSTALLATION OF CONCRETE PAD.
5. DIELECTRIC UNION.
6. BRASS NIPPLE, TYPICAL.
7. BRASS 90 ELBOW, TYPICAL.
8. FINISH GRADE.
9. GALVANIZED NIPPLES. WRAP UNDERGROUND PIPE WITH (2) WRAPS PIPE TAPE.
10. CONCRETE THRUST BLOCK ON 2 1/2" PIPE SIZE OR LARGER. SIZE OF THRUST BLOCK AS SPECIFIED BY PIPE MFR.
11. BRONZE WYE STRAINER, LINE SIZE.
12. REDUCED PRESSURE BACKFLOW PREVENTER WITH IN LINE VALVES. INSTALL PER LOCAL CODE & PREFER APPROVED LIST OF DEVICES.
13. BACKFLOW PREVENTER ENCLOSURE BY LEMEUR MANUFACTURING OR APPROVED EQ.
14. PVC MAINLINE SUPPLY TO VALVES.

NOTES:
1. LEMEUR ENCLOSURE UNIT SHALL BE HINGED; PROVIDE ADEQUATE SIZE AS REQUIRED TO HINGE OVER BACKFLOW UNIT.CAST SUPPORT HARDWARE INTO CONCRETE SLAB.
2. PROVIDE INSULATED BLANKET, POLAR BLANKET OR EQ.
3. INSTALLATION SHALL BE APPROVED & DEVICE SHALL BE TESTED BY AN AWWA CERTIFIED BACKFLOW TESTER.

G REDUCED PRESSURE BACKFLOW PREVENTER
N.T.S.

VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126

320 VIRGINIA AVENUE
Campbell, California

CONCEPTUAL IRRIGATION DESIGN
CONCEPTUAL LANDSCAPE PLAN
APRIL 4, 2024

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com

SCALE: 1" = 10'-0"
NORTH

L-3
Project No. 02322

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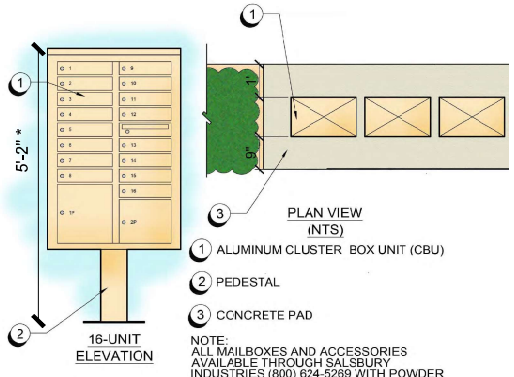
CIRCULATION LEGEND

- PEDESTRIAN ROUTE
- VEHICULAR ROUTE

*NOTE: MAILBOX UNIT TO BE DEPRESSED BY 2" FOR OVERALL HEIGHT OF 5'-0"



CLUSTER MAILBOX UNITS

DIRECTORY/ MAP SIGN

VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126

320 VIRGINIA AVENUE

Campbell, California

MAILBOX ROUTING & CIRCULATION PLAN

CONCEPTUAL LANDSCAPE PLAN
APRIL 4, 2024

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com

SCALE: 1" = 20'-0" NORTH

L-4

Project No. 02322

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PROPOSED TREE LEGEND

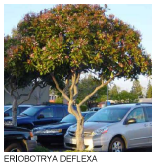
TREES	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	QTY
	ACER BUERGERIANUM	TRIDENT MAPLE	24"BOX	MOD	6
	DODONAEA VISCOSA 'PURPUREA' STANDARD	PURPLE LEAFED HOPSEED BUSH	15 GAL	LOW	20
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	24"BOX	MOD	7
	LAURUS NOBILIS 'SARATOGA'	SWEET BAY	36"BOX	LOW	9
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM DWARF SOUTHERN MAGNOLIA	24"BOX	MOD	6
	PLATANUS X ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	24"BOX	LOW	3
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS'	KRAUTER VESUVIUS PURPLE-LEAF PLUM	24"BOX	LOW	14
	RHAPHIOLEPIS INDICA 'MAJESTIC BEAUTY'	MAJESTIC BEAUTY INDIAN HAWTHORNE	15 GAL	LOW	22

NOTE: ALL TREES TO BE IN STANDARD FORM.

TOTALS

15 GAL = 44 TREES
24" BOX = 36 TREES
36" BOX = 9 TREES

ACER BUERGERIANUM


ERIOBOTRYA DEFLEXA

DODONAEA V. 'PURPUREA'

LAURUS NOBILIS 'SARATOGA'

MAGNOLIA G. 'LITTLE GEM'

PRUNUS C. 'KRAUTER VESUVIUS'

RHAPHIOLEPIS I. 'MAJESTIC BEAUTY'

PROPOSED SHRUB PALETTE

SHRUBS

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ACACIA COGNATA 'COUSIN ITT'	RIVER WATTLE	5 GAL	LOW	36" o.c.
ARCTOSTAPHYLOS D. 'HOWARD MCMINN'	HOWARD MCMINN MANZANITA	5 GAL	LOW	60" o.c.
CALLISTEMON CITRINUS 'LITTLE JOHN'	DWARF BOTTLE BRUSH	5 GAL	LOW	36" o.c.
CARPENTERIA CALIFORNICA	BUSH ANEMONE	5 GAL	LOW	48" o.c.
CEANOTHUS MARITIMUS 'VALLEY VIOLET'	MARITIME CEANOTHUS	5 GAL	LOW	36" o.c.
CEANOTHUS RIGIDUS 'SNOWBALL'	CEANOTHUS SNOWBALL	5 GAL	LOW	72" o.c.
DODONAEA VISCOSA 'PURPUREA'	PURPLE LEAFED HOPSEED BUSH	15 GAL	LOW	72" o.c.
EUONYMUS JAPONICUS 'GREENSPIRE'	GREENSPIRE UPRIGHT EUONYMUS	5 GAL	LOW	24" o.c.
GALVEZIA SPECIOSA 'BOCA ROSA'	ISLAND SNAPDRAGON	5 GAL	LOW	36" o.c.
GREVILLEA X 'NOELLII'	GREVILLEA	15 GAL	LOW	48" o.c.
HELIANTHEMUM N. 'HENFIELD BRILLIANT'	HENFIELD BRILLIANT ROCK ROSE	5 GAL	LOW	24" o.c.
JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	5 GAL	LOW	48" o.c.
LAVATERA MARITIMA	TREE MALLOW	5 GAL	LOW	48" o.c.
LEUCOPHYLLUM FRUTESCENS 'COMPACTA'	COMPACT TEXAS RANGER	5 GAL	LOW	48" o.c.
LOROPETALUM C. 'PURPLE DIAMOND'	FRINGE FLOWER	5 GAL	LOW	48" o.c.
PHORMIUM TENAX 'FIREBIRD'	FIRE BIRD FLAX	5 GAL	LOW	48" o.c.
PHORMIUM X 'BLACK ADDER'	NEW ZEALAND FLAX	5 GAL	LOW	36" o.c.
PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	5 GAL	LOW	48" o.c.
RHAMNUS CALIFORNICA 'EVE CASE'	CALIFORNIA COFFEEBERRY	5 GAL	LOW	72" o.c.
ROSA CALIFORNICA	CALIFORNIA WILD ROSE	5 GAL	LOW	60" o.c.
SALVIA CLEVELANDII 'WINIFRED GILLMAN'	CLEVELAND SAGE	5 GAL	LOW	36" o.c.
SALVIA GREGGII 'PINK'	PINK AUTUMN SAGE	5 GAL	LOW	36" o.c.
SALVIA LEUCANTHA	MEXICAN BUSH SAGE	15 GAL	LOW	48" o.c.
SALVIA MICROPHYLLA 'HOT LIPS'	BABY SAGE	5 GAL	LOW	48" o.c.
TEUCRIUM FRUTICANS 'COMPACTA'	BUSH GERMANDER	5 GAL	LOW	36" o.c.
VIBURNUM DAVIDII	DAVID VIBURNUM	5 GAL	MOD	36" o.c.

GRASSES

BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
CALAMAGROSTIS X A. 'KARL FOERSTER'	FEATHER REED GRASS	5 GAL	LOW	24" o.c.
CAREX TESTACEA 'PRAIRIE FIRE'	PRAIRIE FIRE SEDGE	1 GAL	MOD	24" o.c.
HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL	LOW	36" o.c.
LEYMUS CONDENSATUS 'CANYON PRINCE'	NATIVE BLUE RYE	1 GAL	LOW	48" o.c.
LOMANDRA HYSTRIX 'TROPIC BELLE'	TROPIC BELLE MAT RUSH	1 GAL	LOW	30" o.c.
LOMANDRA LONGIFOLIA 'LIME TUFF'	LIME TUFF DWARF MAT RUSH	1 GAL	LOW	24" o.c.

PERENNIALS

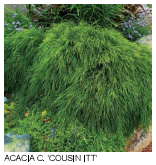
BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ACHILLEA MILLEFOLIUM 'TERRA COTTA'	TERRA COTTA YARROW	1 GAL	LOW	24" o.c.
DIETES VEGETA	AFRICAN IRIS	5 GAL	LOW	36" o.c.
ERIGERON KARVINSKIANUS	FLEABANE	1 GAL	LOW	36" o.c.
ERIOGONUM GRANDE RUBESCENS	RED BUCKWHEAT	1 GAL	LOW	24" o.c.
LIMONIUM PEREZII	STATICE	1 GAL	LOW	24" o.c.
MIMULUS X 'JELLY BEAN ORANGE'	ORANGE MONKEYFLOWER	1 GAL	LOW	12" o.c.
NANDINA DOMESTICA 'LEMON LIME'	LEMON LIME NANDINA	1 GAL	LOW	36" o.c.
NEPETA X FAASSENII 'SELECT BLUE'	CATMINT	1 GAL	LOW	24" o.c.
PENSTEMON H. 'MARGARITA BOP'	BEARD TONGUE	1 GAL	LOW	18" o.c.
SALVIA MICROPHYLLA 'BERZERKELEY'	BERZERKELEY SAGE	1 GAL	LOW	36" o.c.
SCAEVOLA AEMULA 'MAUVE CLUSTERS'	FAN FLOWER	1 GAL	LOW	36" o.c.
VERBENA LILACINA 'DE LA MINA'	LILAC VERBENA	1 GAL	LOW	30" o.c.
ZAUSCHNERIA C. 'SCHIEFFLIN'S CHOICE'	CALIFORNIA FUCHSIA	1 GAL	LOW	36" o.c.

BIORETENTION BASIN PLANTING

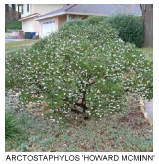
BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	LOW	24" o.c.
CHONDROPETALUM TECTORUM	CAPE RUSH	5 GAL	LOW	36" o.c.
JUNCUS PATENS	CALIFORNIA GRAY RUSH	5 GAL	LOW	18" o.c.
LIPPIA NODIFLORA	KURAPIA	PLUGS	LOW	24" o.c.

BIORETENTION BANK/UPLAND PLANTING

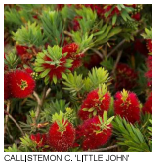
BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING
ARCTOSTAPHYLOS D. 'HOWARD MCMINN'	HOWARD MCMINN MANZANITA	5 GAL	LOW	60" o.c.
BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLUE GRAMA	1 GAL	LOW	18" o.c.
DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL	LOW	24" o.c.
ERIOGONUM LATIFOLIUM	COAST BUCKWHEAT	1 GAL	LOW	18" o.c.
FESTUCA IDAHOENSIS 'STONY CREEK'	IDAHO FESCUE	1 GAL	V. LOW	24" o.c.
MIMULUS AURANTIACUS	STICKY MONKEY FLOWER	5 GAL	V. LOW	36" o.c.
MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	LOW	36" o.c.
SALVIA SONOMENSIS	CREEPING SAGE	1 GAL	LOW	36" o.c.
SEDUM X 'AUTUMN JOY'	AUTUMN JOY SEDUM	1 GAL	LOW	18" o.c.


ACACIA C. 'COUSIN ITT'

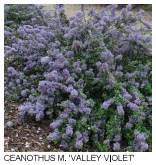
ACHILLEA M. 'TERRA COTTA'


ARCTOSTAPHYLOS 'HOWARD MCMINN'

BOUTELOUA G. 'BLONDE AMBITION'


CALLISTEMON C. 'LITTLE JOHN'

CARPENTERIA CALIFORNICA


CEANOTHUS M. 'VALLEY VIOLET'

CHONDROPETALUM TECTORUM

DESCHAMPSIA CESPITOSA

DIETES VEGATA

ERIGERON KARVINSKIANUS

ERIOGONUM GRANDE RUBESCENS

GREVILLEA X 'NOELLII'

HELICTOTRICHON SEMPERVIRENS

JUNIPERUS C. 'SEA GREEN'

LAVATERA MARITIMA

LIMONIUM PEREZII

MIMULUS X 'JELLY BEAN ORANGE'

MUHLENBERGIA RIGENS

PENSTEMON H. 'MARGARITA BOP'

PHORMIUM TENAX 'FIREBIRD'

SALVIA LEUCANTHA

SCAEVOLA A. 'MAUVE CLUSTERS'

VERBENA L. 'DE LA MINA'

VALLEY OAK PARTNERS
734 THE ALAMEDA
SAN JOSE, CA 95126

320 VIRGINIA AVENUE
Campbell, California

PLANT IMAGERY
CONCEPTUAL LANDSCAPE PLAN
APRIL 4, 2024

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com

L-5
Project No. 02322

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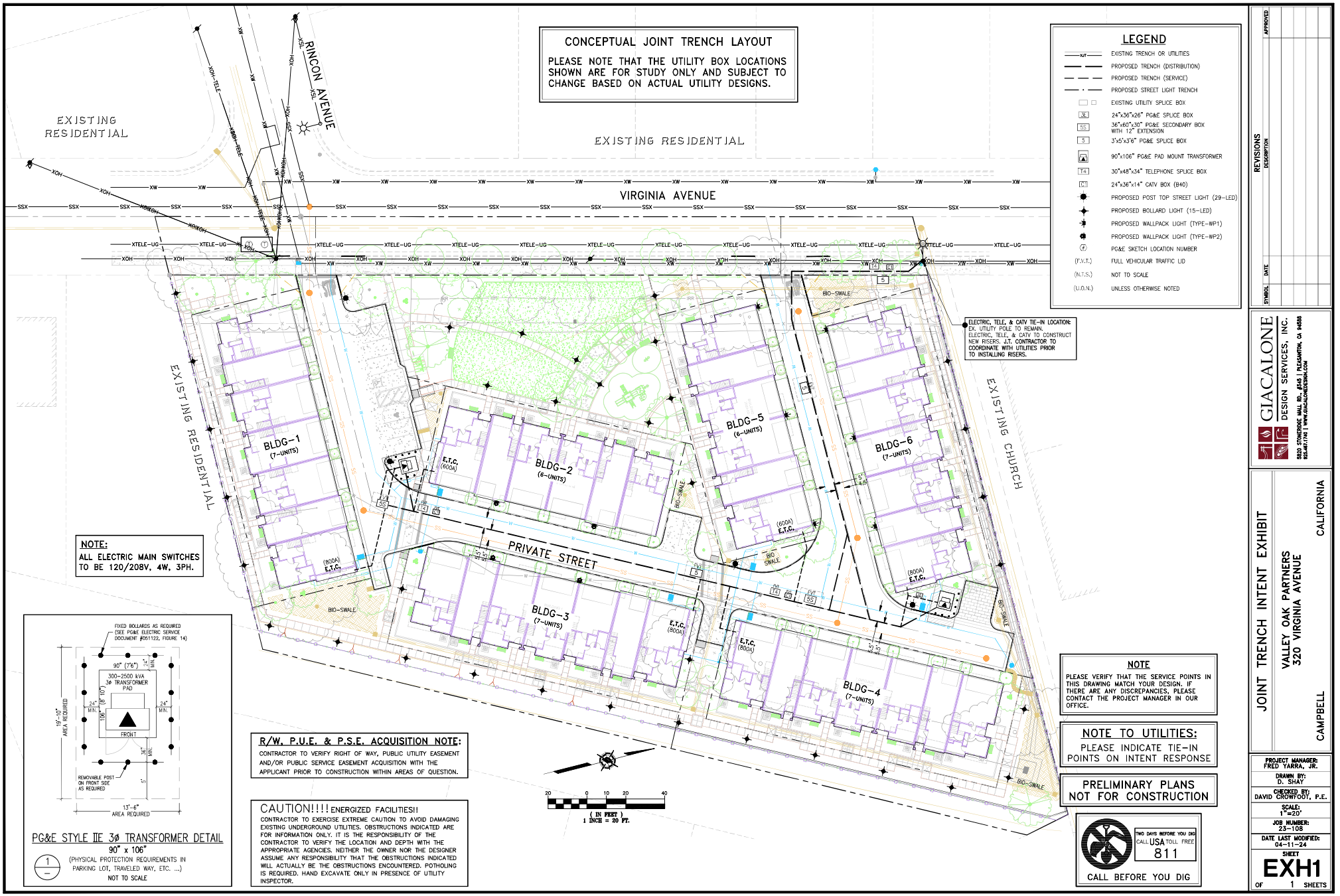
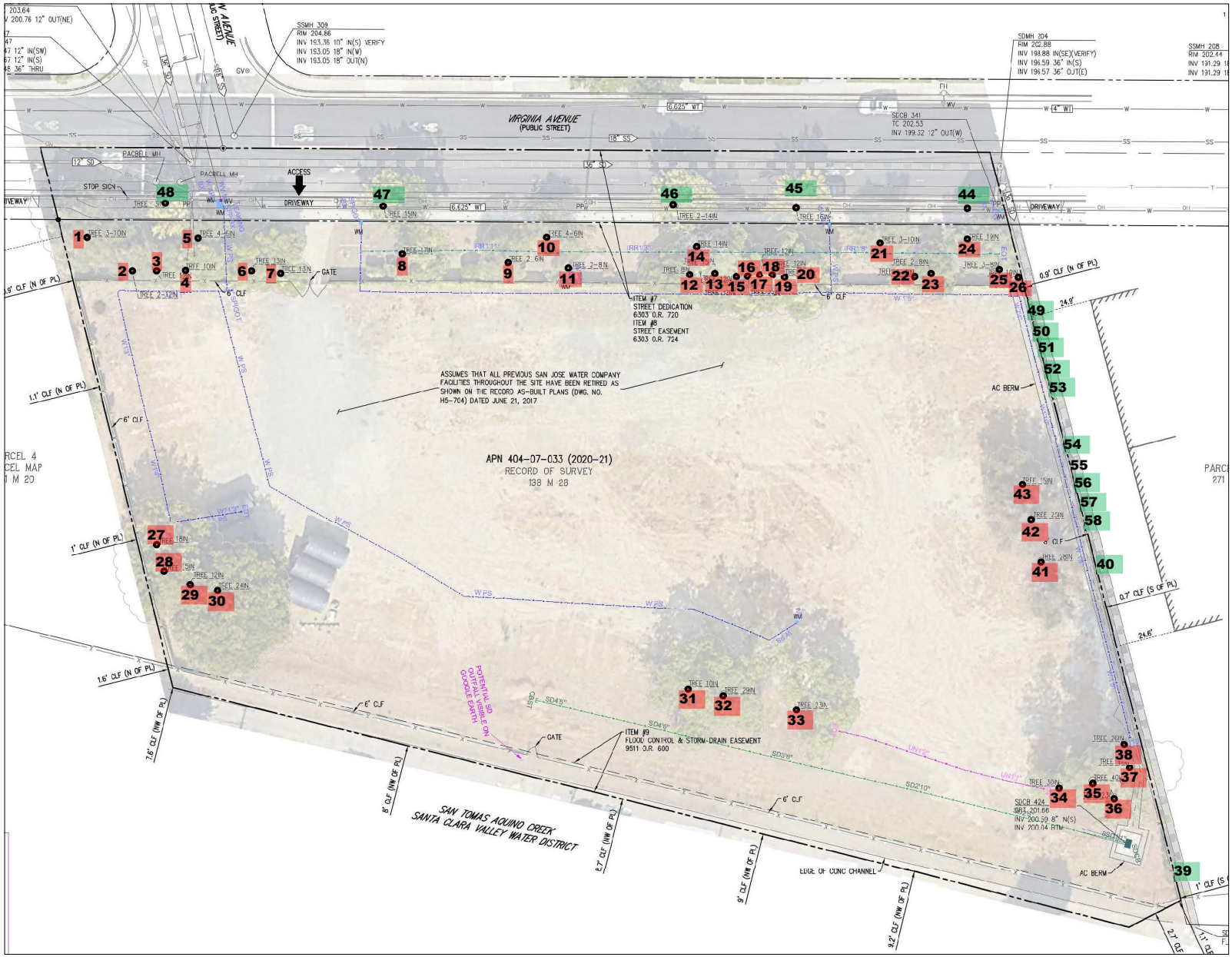

CONCEPTUAL JOINT TRENCH LAYOUT
PLEASE NOTE THAT THE UTILITY BOX LOCATIONS SHOWN ARE FOR STUDY ONLY AND SUBJECT TO CHANGE BASED ON ACTUAL UTILITY DESIGNS.
LEGEND
EXISTING TRENCH OR UTILITIES
PROPOSED TRENCH (DISTRIBUTION)
PROPOSED TRENCH (SERVICE)
PROPOSED STREET LIGHT TRENCH
EXISTING UTILITY SPLICE BOX
24"x36"x26" PG&E SPLICE BOX
36"x60"x30" PG&E SECONDARY BOX WITH 12" EXTENSION
3'x5'x3'6" PG&E SPLICE BOX
90"x106" PG&E PAD MOUNT TRANSFORMER
30"x48"x34" TELEPHONE SPLICE BOX
24"x36"x14" CATV BOX (B40)
PROPOSED POST TOP STREET LIGHT (29-LED)
PROPOSED BOLLARD LIGHT (15-LED)
PROPOSED WALLPACK LIGHT (TYPE-WP1)
PROPOSED WALLPACK LIGHT (TYPE-WP2)
PG&E SKETCH LOCATION NUMBER
(F.V.T.) FULL VEHICULAR TRAFFIC LID
(N.T.S.) NOT TO SCALE
(U.O.N.) UNLESS OTHERWISE NOTED
EXISTING RESIDENTIAL
RINCON AVENUE
VIRGINIA AVENUE
EXISTING RESIDENTIAL
EXISTING RESIDENTIAL
EXISTING CHURCH
BLDG-1 (7-UNITS)
BLDG-2 (6-UNITS)
BLDG-3 (7-UNITS)
BLDG-4 (7-UNITS)
BLDG-5 (6-UNITS)
BLDG-6 (7-UNITS)
PRIVATE STREET
BIO-SWALE
E.T.C. (600A)
ELECTRIC, TELE, & CATV TIE-IN LOCATION: EX. UTILITY POLE TO REMAIN. ELECTRIC, TELE, & CATV TO CONSTRUCT NEW RISERS. J.T. CONTRACTOR TO COORDINATE WITH UTILITIES PRIOR TO INSTALLING RISERS.
NOTE:
ALL ELECTRIC MAIN SWITCHES TO BE 120/208V, 4W, 3PH.
FIXED BOLLARDS AS REQUIRED (SEE PG&E ELECTRIC SERVICE DOCUMENT #051122, FIGURE 14)
90" (76")
300-2500 kVA 3ø TRANSFORMER PAD
106" (8' 10")
24" MIN.
FRONT
36" MIN.
REMOVABLE POST ON FRONT SIDE AS REQUIRED
19'-10" AREA REQUIRED
13'-6" AREA REQUIRED
PG&E STYLE IIE 3ø TRANSFORMER DETAIL
90" x 106"
1/- (PHYSICAL PROTECTION REQUIREMENTS IN PARKING LOT, TRAVELED WAY, ETC. ...)
NOT TO SCALE
R/W, P.U.E. & P.S.E. ACQUISITION NOTE:
CONTRACTOR TO VERIFY RIGHT OF WAY, PUBLIC UTILITY EASEMENT AND/OR PUBLIC SERVICE EASEMENT ACQUISITION WITH THE APPLICANT PRIOR TO CONSTRUCTION WITHIN AREAS OF QUESTION.
CAUTION!!!! ENERGIZED FACILITIES!!
CONTRACTOR TO EXERCISE EXTREME CAUTION TO AVOID DAMAGING EXISTING UNDERGROUND UTILITIES. OBSTRUCTIONS INDICATED ARE FOR INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND DEPTH WITH THE APPROPRIATE AGENCIES. NEITHER THE OWNER NOR THE DESIGNER ASSUME ANY RESPONSIBILITY THAT THE OBSTRUCTIONS INDICATED WILL ACTUALLY BE THE OBSTRUCTIONS ENCOUNTERED. POTHOLING IS REQUIRED. HAND EXCAVATE ONLY IN PRESENCE OF UTILITY INSPECTOR.
20 0 10 20 40
(IN FEET)
1 INCH = 20 FT.
NOTE
PLEASE VERIFY THAT THE SERVICE POINTS IN THIS DRAWING MATCH YOUR DESIGN. IF THERE ARE ANY DISCREPANCIES, PLEASE CONTACT THE PROJECT MANAGER IN OUR OFFICE.
NOTE TO UTILITIES:
PLEASE INDICATE TIE-IN POINTS ON INTENT RESPONSE
PRELIMINARY PLANS NOT FOR CONSTRUCTION
TWO DAYS BEFORE YOU DIG CALL USA TOLL FREE 811
CALL BEFORE YOU DIG
REVISIONS
SYMBOL DATE DESCRIPTION APPROVED
GIACALONE DESIGN SERVICES, INC.
5820 STONERIDGE MALL RD., #340 | PLEASANTON, CA 94588
925.467.7740 | WWW.GIACALONEDESIGN.COM
JOINT TRENCH INTENT EXHIBIT
VALLEY OAK PARTNERS
320 VIRGINIA AVENUE
CAMPBELL CALIFORNIA
PROJECT MANAGER: FRED YARRA, JR.
DRAWN BY: D. SHAY
CHECKED BY: DAVID CROWFOOT, P.E.
SCALE: 1"=20'
JOB NUMBER: 23-108
DATE LAST MODIFIED: 04-11-24
SHEET EXH1
OF 1 SHEETS



Tree Assessment Plan

320 Virginia Avenue
Campbell, CA

Prepared for:
Valley Oak Partners, LLC
San Jose, CA

September 2021

No Scale

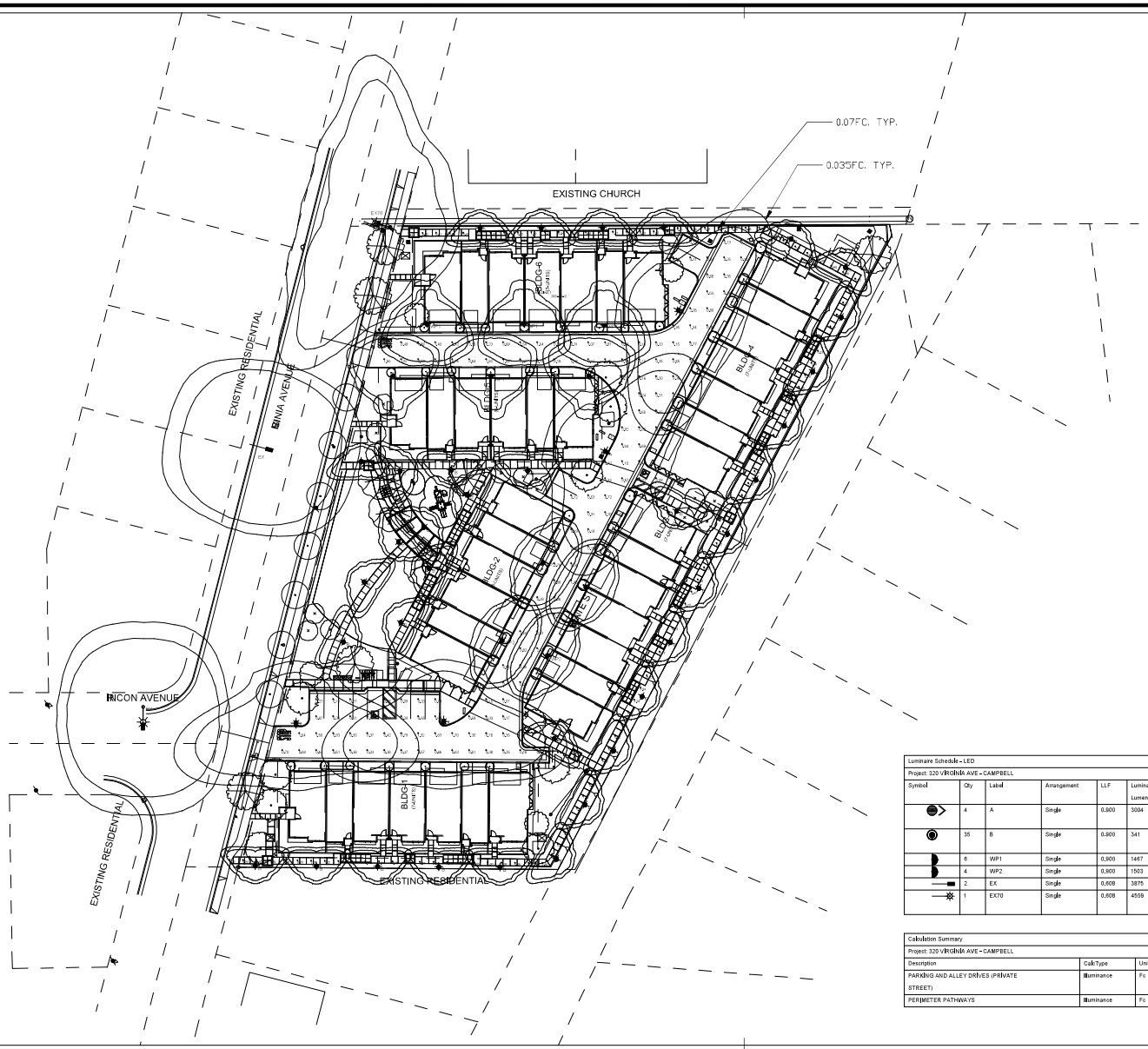
Notes:

- Base map provided by:
  Civil Engineering Associates
  San Jose, CA
- Numbered tree locations are approximate.

= Tree to be Removed

= Tree to be Preserved

HORT SCIENCE
BARTLETT CONSULTING
A Division of The H.A. Bartlett Tree Expert Company
325 Ray Street
Pleasanton, California 94566
Phone 925.484.0211
Fax 925.484.0596



Luminaire Schedule - LED								
Project: 320 VIRGINIA AVE - CAMPBELL								
Symbol	Qty	Label	Arrangement	LLF	Luminaire Lumens	Luminaire Watts	Description	Filename
	4	A	Single	0.900	3004	32.8	LUMEC VLR-29L350WW-G1-3 - 12' POLE	vlr-29l350ww-g1-3_-crt1508171449-002-009lm.ies
	35	B	Single	0.900	341	7	LUMEC VBR-15L100WW-G1-3	VBR-15L100WW-G1-3 (CRT1508171449-007-009Am).ies
	6	WP1	Single	0.900	1467	10.2	GARDCO GBS-A01-830-T4M @ 5.5'	GBS-A01-830-T4M.ies
	4	WP2	Single	0.900	1503	10.2	GARDCO GBS-A01-830-T3M @ 5.5'	GBS-A01-830-T3M.ies
	2	EX	Single	0.600	3875	0	EXISTING LPS COBRAHEAD @ 30' + 6' ARM	LML_13_L_R2_FP.ies
	1	EX70	Single	0.600	4559	87	EXISTING 70HPS COBRAHEAD @ 25' + 4' ARM ON UTILITY POLE	GE453236.IES

Calculation Summary								
Project: 320 VIRGINIA AVE - CAMPBELL								
Description	Calc Type	Units	Avg	Max	Min	Avg/Min	Max/Min	
PARKING AND ALLEY DRIVES (PRIVATE STREET)	Illuminance	Fc	0.64	2.78	0.06	10.67	46.33	
PERIMETER PATHWAYS	Illuminance	Fc	0.83	3.96	0.05	16.60	79.20	

ALL VALUES SHOWN ARE MAINTAINED HORIZONTAL FOOTCANDLES AT GRADE

PHOTOMETRIC DATA USED AS INPUT FOR THESE CALCULATIONS IS BASED ON ESTABLISHED IES PROCEDURES AND PUBLISHED LAMP, RATINGS, FIELD PERFORMANCE WILL DEPEND ON ACTUAL LAMP, BALLAST, ELECTRICAL, AND SITE CHARACTERISTICS.

Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

Associated Lighting Representatives, Inc.

ASSOCIATED LIGHTING REPRESENTATIVES, INC
7777 PARDEE LANE
P.O. BOX 2265
OAKLAND, CA 94621
PHONE: (510) 638-0158 - FAX (510) 638-2908

REPORT FOR: GIACALONE DESIGN SERVICES
BY: APPLICATIONS ENGINEERING: RAMON ZAPATA
SALES REPRESENTATIVE: ALR: KRISTIAN REYES

AGI32 VERSION 20.1
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CITY OF CAMPBELL

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Air Quality and Greenhouse Gas Emissions Report
Virginia Avenue Project
City of Campbell, Santa Clara County, California

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
AEP	Association of Environmental Professionals
AERMOD	American Meteorological Society/EPA Regulatory Model
Air Basin	San Francisco Bay Area Air Basin
APN	Assessor's Parcel Number
AQI	Air Quality Index
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
ASF	age sensitivity factors
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BAU	Business as Usual
BMP	Best Management Practice
C^{2}ES	Center for Climate and Energy Solutions
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARE	Community Air Risk Evaluation
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCAP	Community-Wide climate Action Plan
CCCC	California Climate Change Center
CDC	Center for Disease Control and Prevention
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CH_4	methane
CMS	Clean Mile Standards
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COS	Conservation and Open Space
CPF	cancer potency factor
CPUC	California Public Utility Commission
DBR	daily breathing rates
DPM	diesel particulate matter
EIR	Environmental Impact Report
EMFAC	EMission FACtor Model
EPA	United States Environmental Protection Agency
EV	electric vehicle
FEIR	Final Environmental Impact Report
FSM	Further Study Control Measures
GHG	greenhouse gas
GWP	global warming potential
HAP	Hazardous Air Pollutant
HFC	hydrofluorocarbon
HHDT	Heavy Heavy-Duty Truck
HI	hazard index
hp	horsepower
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
IAQ	Indoor Air Quality
IG	General Industrial
IPCC	United Nations Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
LCFS	Low Carbon Fuel Standard
LDA	Light-Duty Auto
LDT	Light-Duty Truck
LEED®	Leadership in Energy Efficient Design
LEV	Low Emission Vehicle
LHD1	Light Heavy-Duty One-Axle Truck

LHD2	Light Heavy-Duty Two-Axle Truck
LID	Low Impact Development
LNG	liquefied natural gas
LPG	liquefied petroleum gas
MDV	Medium-Duty Vehicle
MHD	Medium Heavy-Duty Vehicle
MIR	Maximally Impacted Sensitive Receptor
MM	Mitigation Measure
MMT	million metric ton
mpg	miles per gallon
MPO	Metropolitan Planning Organization
MT	metric ton
MTC	Metropolitan Transportation Commission
MWh	megawatt-hour
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NF_3	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration
NO_X	nitrogen oxides
NSR	New Source Review
NW	Natural and Working
OAL	Office of Administrative Law
OEHHA	California Office of Environmental Health Hazard Assessment
PERP	Portable Equipment Registration Program
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
PKG	Parking
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
REL	Reference Exposure Level
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
RTPA	Regional Transportation Planning Agency
SB	Senate Bill
SCH	State Clearinghouse

SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLCP	Short-Lived Climate Pollutant
SNAP	Significant New Alternatives Policy
SORE	Small Off-Road Engines
SO_X	sulfur oxides
SP	service population
SSMM	start-up, shutdown, maintenance, and malfunction
SVCE	Silicon Valley Clean Energy
TAC	toxic air contaminant
TIS	Transportation Impact Study
TNC	Transportation Network Companies
TRU	Transport Refrigeration Unit
USGS	United States Geological Survey
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
VOC	volatile organic compound
WELO	Water Efficient Landscape Ordinance
ZEV	Zero-Emission Vehicle

SECTION 1: INTRODUCTION

1.1 - Purpose and Methods of Analysis

This Air Quality and Greenhouse Gas Emissions Analysis Report was prepared to evaluate whether the estimated criteria air pollutant, ozone precursor, toxic air contaminant (TAC), and/or greenhouse gas (GHG) emissions generated from construction and/or operation of the proposed Virginia Avenue Project (proposed project) would cause significant impacts to air resources in the project area. The respective analyses were conducted within the context of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] § 21000, *et seq*.). The analysis methodology follows the Bay Area Air Quality Management District (BAAQMD) and City of Campbell's recommendations for the quantification of emissions and evaluation of potential impacts on air resources.

1.2 - Project Summary

1.2.1 - Location

The project site is located at 320 Virginia Avenue in the City of Campbell in Santa Clara County, California (Exhibit 1). The approximately 2.08 net acre site is located on Assessor's Parcel Number (APN) 404-07-033 on the United States Geological Survey (USGS) *San José West, California* 7.5-minute Topographic Quadrangle Maps in the northwestern portion of Santa Clara County (Exhibit 2). Santa Clara County is bounded by Alameda County to the north, San Mateo County to the northwest, Santa Cruz County to the west, Stanislaus County to the east, and San Benito County to the south. Regional access is provided by San Tomas Expressway, by Interstate 280 (I-280), by California State Route (SR) 85, and by SR-17.

1.2.2 - Existing Land Use Activities

The project site is currently vacant and undeveloped. There are various trees, shrubs, and grasses located on the project site. A cement easement is located along the eastern side of the project site, as well as a wire fence.

1.2.3 - Surrounding Land Uses

The proposed project is bounded by Virginia Avenue and residential developments to the west, a church to the north, residential development to the south, and San Tomas Aquinas Creek and residential developments on the east.

1.2.4 - Land Use Designation and Zoning

The City of Campbell General Plan (General Plan) designates the project site "Medium Density Residential (18-25)" (MDR [18-25]). The MDR (18-25) designation generally consists of duplexes, apartment buildings, townhomes, and other similar uses. This designation is typically applied to transition areas between lower-density neighborhoods and higher-density developments or commercial areas. The allowable density is 18 to 25 dwelling units per gross acre. The residential density of the proposed project would be 18.39 dwelling units per acre, which would be consistent

with the MDR (18-25) district requirements of the General Plan. The project site is also designated at T4.N-M in the City's zoning map.

1.2.5 - Proposed Project

VOP Ref Virginia, LLC (Applicant) proposes to develop the proposed Virginia Avenue Project (proposed project) on approximately 2.08 acres of the 2.18-acre project site (Exhibit 3). The housing project would include the construction of up to 40 townhome units. The proposed project would consist of approximately 73,248 net square feet of new residential units with an approximately 18.39 dwelling units per acre density. The proposed project would also include 94 total parking spaces, including 14 on-site surface parking spaces. When completed, the proposed project is expected to generate housing for an estimated 100 residents. The proposed project would also include a common open space adjacent to Virginia Avenue.

Residential Dwelling Units

Dwelling units would consist of 40 3-story townhomes. The product mix would include 2- and 4-bedroom homes, with living areas ranging from 1,410 to 2,093 square feet per unit.

The attached townhomes would include two 6-plexes and four 7-plexes. These townhomes would include five floor plans, ranging from 1,410 to 2,093 square feet, and 2-car garages in each dwelling unit.

Design and Appearance

The proposed building would be no more than three stories in height at any location, with a maximum height of approximately 36 feet.

Circulation and Parking

Circulation

The proposed project would allow access from two driveways on Virginia Avenue. An internal network of private streets would provide access to townhome garages and guest parking.

Parking

The proposed project would provide 80 on-site garage parking spaces and 14 surface parking spaces, totaling 94 parking spaces.

Open Space and Landscaping

The proposed project would include 9,425 square feet of park open space, as well as an additional 21,911 square feet of other landscaped areas throughout the project site. Additionally, the proposed project would include 11,270 total square feet of private open space on the ground level.

The planting design for the proposed project would consist of drought-tolerant plant material, with a balance of evergreen and deciduous plants, as well as native and ornamental planting. The park open space would include a recreational turf area, playground area with a seat wall and bench

seating and two picnic tables. Paved pedestrian walkways would be provided throughout the park open space, as well as additional bench seating, five bike racks and various shade trees.

Exhibit 1: Regional Location Map

Exhibit 2: Local Vicinity Map

Exhibit 3: Site Plan

Construction and Project Phasing

The proposed project would be constructed in one phase over 11 months, starting in September 2024 and last approximately 11 months. Site preparation and grading for the entire project site would also be completed at the beginning of the construction. During site preparation, 1,000 cubic yards of imported soil would be required. As specific construction schedules and detailed information are not known at this time, conservative default assumptions will be used for purposes of analyzing and modeling construction durations and equipment.

1.3 - Summary of Analysis Results

The following is a summary of the analysis results. Please refer to Section 5, Air Quality Impact Analysis and Section 6, Greenhouse Gas Impact Analysis, which provide a comprehensive analysis in support of the findings and conclusion of significance.

Impact AIR-1 The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

Less than significant impact.

Impact AIR-2 The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Less than significant impact.

Impact AIR-3 The proposed project could expose sensitive receptors to substantial pollutant concentrations.

Less than significant impact with mitigation incorporated.

Impact AIR-4 The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Less than significant impact.

Impact GHG-1 The proposed project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Less than significant impact.

Impact GHG-2 The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of GHG.

Less than significant impact with mitigation incorporated.

1.4 - Mitigation Measures Applied to the Proposed Project

Air Quality

MM AIR-1 During construction activities, all off-road equipment with engines greater than 50 horsepower shall meet either the United States Environmental Protection Agency (EPA) or California Air Resources Board (ARB) Tier IV off-road emission standards. The construction contractor shall maintain records documenting compliance with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

SECTION 2: AIR QUALITY SETTING

2.1 - Environmental Setting

The proposed project is located in the City of Campbell, in Santa Clara County, California, and is within in the San Francisco Bay Area Air Basin (Air Basin). This part of the Air Basin is under the jurisdiction of the BAAQMD. Regional air quality and local air quality are impacted by topography, dominant airflows, atmospheric inversions, location, and season. The following section describes these conditions as they pertain to the BAAQMD.

2.1.1 - San Francisco Bay Area Air Basin

The San Francisco Bay Area has a Mediterranean climate characterized by mild, dry summers and mild, moderately wet winters; moderate daytime onshore breezes, and moderate humidity. The North Bay region of the Bay Area extends from the Golden Gate Bridge northward to Santa Rosa and eastward to Fairfield.

A semi-permanent, high-pressure area centered over the northeastern Pacific Ocean dominates the summer climate of the West Coast. Because this high-pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are a northwest airflow and negligible precipitation. A thermal low-pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

The steady northwesterly flow around the eastern edge of the Pacific High (a high-pressure cell) exerts stress on the ocean surface along the West Coast. This induces upwelling of cold water from below. Upwelling produces a band of cold water off San Francisco that is approximately 80 miles wide. During July, the surface waters off San Francisco are 3°F (degrees Fahrenheit) cooler than those off Vancouver, British Columbia, more than 900 miles to the north. The air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce condensation—a high incidence of fog and stratus clouds along the Northern California coast in summer.

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the gap in the western Coast Ranges, known as the Golden Gate, and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream, producing southwest winds at Berkeley and northwest winds at San José; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Golden Gate, the Carquinez Strait, or San Bruno Gap.

The sea breeze between the coast and the Central Valley commences near the surface along the coast in late morning or early afternoon; it may first be observed only through the Golden Gate. Later in the day, the layer deepens and intensifies while spreading inland. As the breeze intensifies and deepens, it flows over the lower hills farther south along the peninsula. This process frequently can be observed as a bank of stratus clouds "rolling over" the coastal hills on the west side of the bay. The depth of the sea breeze depends in large part upon the height and strength of the inversion. The generally low elevation of this stable layer of air prevents marine air from flowing over the coastal hills. It is unusual for the summer sea breeze to flow over terrain exceeding 2,000 feet in elevation.

In winter, the Air Basin experiences periods of storminess, moderate-to-strong winds, and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon, and otherwise light and variable winds.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This is caused by most of the sun's energy being converted to sensible heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air actually increases with height. This condition is known as temperature inversion because the temperature profile of the atmosphere is "inverted" from its usual state. The frequent occurrence of temperature inversions limits mixing depth over the Air Basin and, consequently, limits the availability of air for dilution.

2.2 - Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the EPA with setting air quality standards. The State of California also sets air quality standards that are, in some cases, more stringent than federal standards and address additional pollutants. The following section describes these federal and State standards and the health effects of the regulated pollutants.

2.2.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act in 1970 and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants and listed below) are addressed in the Clean Air Act. The EPA calls these pollutants criteria air pollutants because it regulates them by developing human health-based and environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health are called primary standards. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Another set of limits intended to prevent environmental and property damage are called secondary standards.[1] The federal standards are called National

[1] United States Environmental Protection Agency (EPA). 2023. NAAQS Table. December 20. Website: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed September 25, 2023.

Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone (O_3)
- Nitrogen dioxide (NO_2)
- Lead (Pb)
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants.

2.2.2 - California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the Federal Clean Air Act at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. The ARB administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 State air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride.

2.2.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate Hazardous Air Pollutants (HAPs). Section 112 of the Clean Air Act lists 187 HAPs to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. The ARB and local air districts regulate TACs and HAPs in California.

The California Almanac of Emissions and Air Quality–2013 edition presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data.[2] The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen

[2] California Air Resources Board (ARB). 2013. The California Almanac of Emissions and Air Quality—2013 Edition. Website: https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality/about. Accessed September 25, 2023.

and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk.[3] In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

2.2.4 - Air Pollutant Description and Health Effects

The federal and State ambient air quality standards, relevant effects, properties, and sources of the air pollutants are summarized in Table 1.

[3] California Air Resources Board (ARB). 2015. The Report on Diesel Exhaust. Website: https://ww2.arb.ca.gov/sites/default/files/classic//toxics/dieseltac/de-fnds.htm. Accessed September 25, 2023.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind. Hot, sunny, and calm weather conditions are favorable to ozone formation.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hours	0.070 ppm	0.070 ppm[f]			
CO	1 Hour	20 ppm	35 ppm	Ranges depend on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood-burning, and natural sources.
	8 Hours	9.0 ppm	9 ppm			
NO_2[b]	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. NO_2 forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources
SO_2[c]	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.	SO_2 is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor like rotten eggs. Sulfur oxides (SO_X) include SO_2 and sulfur trioxide. Sulfuric acid is formed from SO_2, which can lead to acid deposition and can harm natural resources and materials. Although SO_2 concentrations have been reduced to levels well below State and federal standards, further reductions are desirable because SO_2 is a precursor to sulfate and PM_{10}.	Human caused sources include fossil fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of SO_2. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. SO_2 is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The SO_2 levels in the State are well below the maximum standards.
	3 Hours	—	0.5 ppm			
	24 Hours	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 hours	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hours	—	35 µg/m^3			
	Annual	12 µg/m^3	9 µg/m^3			
Visibility-reducing particles	8 Hours	See note below[d]				

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hours	25 µg/m^3	—	Decrease in ventilatory function; aggravation of asthmatic symptoms; aggravation of cardiopulmonary disease; vegetation damage; degradation of visibility; and property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of SO_2. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead[e]	30 days	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[e]	24 Hours	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, the ARB identified vinyl chloride as a TAC and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application-sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources
VOC		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified TACs.	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, lightheadedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, several which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) µg/m^3 = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary NAAQS, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3-Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour NO_2 national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb) (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility-reducing particles: In 1989, the ARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the Statewide and Lake Tahoe Air Basin standards, respectively.

[e] The ARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015, and became effective on December 28, 2015.

[g] The official level of the 1-hour NO_2 standard is 100 ppb, equal to 0.100 ppm, which is shown here for the purpose of clearer comparison to the other standards.

[h] On February 7, 2024, the EPA strengthened the NAAQs for Particulate Matter and set the level of the primary (health-based) annual $PM_{2.5}$ standard at 9.0 micrograms per cubic meter.

Source of effects, properties, and sources: United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. September.
United States Environmental Protection Agency (EPA). 2009. Ozone and your Health EPA-456/F-09-001.

United States Environmental Protection Agency (EPA). 2009. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July.

United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated December 2, 2022. Health Effects Notebook for Hazardous Air Pollutants. December. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed September 25, 2023.

National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene.

National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.

California Environmental Protection Agency (Cal/EPA). 2002. Office of Environmental Health Hazard Assessment (OEHHA). Health Effects of Diesel Exhaust.

California Air Resources Board (ARB). 2023. Vinyl Chloride & Health. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed September 25, 2023.

United States Environmental Protection Agency (EPA). 2023. Indoor Air Quality (IAQ). Stationary Sources of Air Pollution November. Website: https://www.epa.gov/stationary-sources-air-pollution. Accessed September 25, 2023.

National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.

Source of standards: National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS)

Several pollutants listed in Table 1 are not addressed in this analysis. An analysis of lead is not included in this report because the proposed project would not generate a new source of lead emissions. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed under the analysis for PM_{10} and $PM_{2.5}$. No components of the proposed project would result in vinyl chloride or hydrogen sulfide emissions in any substantial quantity; therefore, these compounds are not further evaluated in this report.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate HAPs. Section 112 of the Clean Air Act lists 187 HAPs to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. The ARB and local air districts regulate TACs and HAPs in California.

The 2013 Edition of the California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data.[4] The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and DPM.

Several studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk.[5] In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. However, unlike the other TACs, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10}

[4] California Air Resources Board (ARB). 2013. The California Almanac of Emissions and Air Quality—2013 Edition. Website: https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality/about. Accessed September 25, 2023.

[5] California Air Resources Board (ARB). 2015. The Report on Diesel Exhaust Website: https://ww2.arb.ca.gov/sites/default/files/classic//toxics/dieseltac/de-fnds.htm. Accessed September 25, 2023.

monitoring data, and the results from several studies to estimate concentrations of DPM.

Asbestos

Asbestos is the name given to several naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site.[6]

2.3 - Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 summarizes published monitoring data from 2020 through 2022. The table displays data from the monitor stations near Los Gatos and San José-Jackson Street. The data shows that during the past few years, the project area has exceeded the standards for ozone (State and national), and PM_{10} (State), and $PM_{2.5}$ (federal). The data in the table reflects the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for the area was available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2020	2021	2022
Ozone[1]	1 Hour	Max 1 Hour (ppm)	0.107	0.090	0.080
		Days > State Standard (0.09 ppm)	1	0	0
	8 Hour	Max 8 Hour (ppm)	0.085	0.083	0.069
		Days > Standard (0.070 ppm)	3	3	0
		Days > National Standard (0.075 ppm)	1	1	0
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
	Annual	Annual Average (ppm)	0.009	0.008	0.009

[6] California Department of Conservation, Division of Mine Reclamation. 2000. A General Location Guide for Ultramafic Rocks in California—Areas More likely to Contain Naturally Occurring Asbestos. August.

Air Pollutant	Averaging Time	Item	2020	2021	2022
Nitrogen dioxide (NO_2)[2]	1 Hour	Max 1 Hour (ppm)	0.052	0.048	0.047
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide (SO_2)	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})[2]	Annual	National Annual Average (µg/m^3)	24.6	19.6	20.5
	24 Hour	Highest State 24 Hour (µg/m^3)	137.1	45.1	44.5
		Days > State Standard (50 µg/m^3)	10	0	0
		Days > National Standard (150 µg/m^3)	0	0	0
Fine particulate matter ($PM_{2.5}$)[1]	Annual	State Annual Average (12 µg/m^3)	11.5	8.9	10.1
	24 Hour	Highest Daily 24 Hour (µg/m^3)	120.5	38.1	36.2
		Days > National Standard (35 µg/m^3)	12	1	2

Notes:
> = exceed ppm = parts per million µg/m^3 = micrograms per cubic meter
ND = no data max = maximum **Bold** = exceedance
State Standard = California Ambient Air Quality Standard National Standard = National Ambient Air Quality Standard
[1] Data is extracted from station at 306 University Avenue, Los Gatos, approximately 4.0 miles south of the project site
[2] Data is extracted from station at 158B Jackson Street, San José, approximately 5.9 miles northeast of the project site.

Sources: California Air Resources Board (ARB). 2022. Trends Summary. Website: https://www.arb.ca.gov/adam/trends/trends1.php. Accessed September 12, 2023.
California Air Resources Board (ARB). 2022. Top Four Summary. Website: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed September 12, 2023.

The health impacts of the various air pollutants of concern can be presented in several ways. The clearest comparison is to the State and federal particulate matter standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. [7, 8]

Based on the AQI scale for the PM_{10} standard, City of Campbell experienced 21 days in the last 3 years that would be categorized as moderate (AQI 51-100, PM_{10} 55-154 µg/m^3) as measured at the San José-Jackson Street Station. The highest 1-hour maximum PM_{10} concentration was 137.1 µg/m^3 on September 12, 2020, and the highest 24-hour maximum $PM_{2.5}$ concentration was 120.5 µg/m^3 on September 11, 2020, which is likely to be caused by destructive wildfire events. Under such conditions, unusually sensitive people should consider reducing prolonged or heavy exertion. Generally, the area has healthy air quality that are below the national and State standards.

[7] AirNow. Air Quality Index (AQI) Basics. Website: https://www.airnow.gov/aqi/aqi-basics/. Accessed September 25, 2023.
[8] AirNow. Air Quality Index (AQI) Calculator. Website: https://www.airnow.gov/aqi/aqi-calculator/. Accessed September 25, 2023.

Table 3: Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ 24-hour $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups**: Some people who may be unusually sensitive to particulates.
Concentration 12.1-35.4 µg/m^3	**Health Effects Statements**: Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups**: Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
Concentration 35.5-55.4 µg/m^2	**Health Effects Statements**: Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.
	Cautionary Statements: Sensitive groups: Reduce prolonged or heavy exertion. It is OK to be active outside but take more breaks and do less intense activities. Watch for symptoms such as coughing or shortness of breath. People with asthma should follow their asthma action plans and keep quick relief medicine handy. If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.
AQI 151–200—Unhealthy	**Sensitive Groups**: Everyone
Concentration 55.5-150.4 µg/m^3	**Health Effects Statements**: Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201-300—Very Unhealthy	**Sensitive Groups**: Everyone
Concentration 150.5-250.4 µg/m^3	**Health Effects Statements**: Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.

Notes:
AQI = Air Quality Index
µg/m^3 = micrograms per cubic meter
Source: Air Now. 2015. Air Quality Index (AQI) Calculator: AQI to Concentration. Website: https://www.airnow.gov/aqi/aqi-calculator/. Accessed September 25, 2023.

2.3.1 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the 3-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 4. The Air Basin is currently classified as nonattainment for the State ozone, PM_{10}, and $PM_{2.5}$, standards, nonattainment for the national ozone and $PM_{2.5}$ standards, and unclassified for the national PM_{10} standard.

Table 4: San Francisco Bay Area Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Marginal Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Nonattainment	Unclassified/Nonattainment
Sulfates	Attainment	N/A
Hydrogen Sulfates	Unclassified	N/A
Visibility-reducing Particles	Unclassified	N/A
Lead	N/A	Attainment

Notes:
CO = carbon monoxide
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_2 = sulfur dioxide
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. January. Website: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed September 25, 2023.

2.4 - Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level; each agency has a different level of regulatory responsibility. The EPA regulates at the national level, and the ARB regulates at the State level. The proposed project is located within the BAAQMD.

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans (SIPs), provides research and guidance for air pollution programs, and sets NAAQS, also known as the federal standards, described earlier.

A SIP is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal air standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts—an air district prepares their federal attainment plan, which is sent to the ARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

Areas designated as nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain and maintain air quality standards on schedule. For many areas of California, however, additional State and local regulations are required to achieve the standards. Regulations adopted by California are described below.

2.4.1 - California Regulations

California Passenger Car Regulations

The ARB first adopted Low Emission Vehicle (LEV) program standards for light-duty automobiles in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, strengthened the emission standard and expanded the regulation to the light-duty truck category to cover sport utility vehicles, minivans, and pickup trucks. The LEV II standards flat lined at model year 2010 levels through model year 2014.[9]

In 2012, the ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for criteria pollutants and GHG emissions for new passenger vehicles. The most recent amendments in 2022, the Advanced Clean Cars II Regulations,

[9] California Air Resources Board (ARB). 2023. Low Emission Vehicle Program. Website: https://ww2.arb.ca.gov/our-work/programs/low-emission-vehicle-program/about. Accessed June 21, 2023.

applies to light-duty passenger car, truck, and SUV emissions starting with the 2026 model year through 2035.[10]

The Advanced Clean Car II Regulations will take the State's already growing ZEV market and robust motor vehicle emission control rules and augment them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent ZEVs. Adopted by the ARB in August 2022, the Advanced Clean Cars II Regulations support the implementation of Executive Order N-79-20 and require that, by 2035, all new passenger cars, trucks and SUVs sold in California will be zero emissions.[11]

The Clean Mile Standards (CMS) for Transportation Network Companies (TNC) regulation applies to light-duty vehicles used in rideshare programs (e.g., Uber and Lyft). The GHG targets start in 2023 with an aggressive schedule to transition these fleets to 90 percent ZEV by 2030.[12]

California Truck Regulations

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles and test procedures. The ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.[13]

The Truck and Bus Regulation

The Truck and Bus Regulation (California Code of Regulations [CCR] § 2025) and amendments[14] is one of the most far-reaching and important tools to reduce smog-forming and toxic emissions. The rule, designed to reduce both emissions of NO_X and DPM, required all heavy-duty diesel trucks and buses that operate in California to upgrade to 2010 or newer model year engines by January 1, 2023. It is a key element in the ARB's Diesel Risk reduction plan and the SIP, both of which are designed to provide clean air for Californians by helping to meet State and federal health-protective standards.

Tractor-Trailer Greenhouse Gas Regulation

The California Tractor-Trailer Greenhouse Gas regulation's goal is to significantly reduce GHG emissions produced by certain heavy-duty tractor trailers. The regulation requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that reduce fuel consumption and associated GHG emissions. Tractor trailers 2014 model year

[10] California Air Resource Board (ARB). Advanced Clean Car Program. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed June 21, 2023.
[11] California Air Resource Board (ARB). Proposed Advanced Clean Cars II Regulations. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Accessed June 20, 2023.
[12] California Air Resources Board (ARB). 2023. Clean Miles Standard – About. Website: https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard/about. Accessed June 21, 2023.
[13] California Air Resources Board (ARB). 2013. The California Almanac of Air Quality and Emissions—2013 Edition. Website: https://ww2.arb.ca.gov/our-work/programs/resource-center/technical-assistance/air-quality-and-emissions-data/almanac. Accessed June 9, 2023.
[14] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about. Accessed July 21, 2023.

and newer are not subject to this regulation since they must meet requirements of federal Heavy-Duty Greenhouse Gas regulations.

The Heavy-Duty Omnibus Regulation

The Heavy-Duty Omnibus Regulation[15] has the goal of continued reduction of NO_X and particulate matter emissions from heavy-duty gasoline and diesel on-road vehicles. It updates standards, testing and compliance mechanisms for NO_X and PM emissions from heavy-duty on-road vehicle for model year 2024 through 2031. The rule will be implemented in phases with the standards becoming more stringent in 2027. Of all the measures in the State Implementation Plan (California's blueprint for meeting federal air quality standards), the Heavy-Duty Omnibus Rulemaking is expected to provide the most NO_X emission benefits–24 tons per day in 2031 for California-only standards.[16]

Heavy-Duty Inspection and Maintenance Regulation

The Heavy-Duty Inspection and Maintenance (HD I/M) regulation was approved on December 9, 2021, with implementation to be phased in starting January 2023. Its goal is to ensure that vehicles' emissions control systems are properly functioning when traveling on California's roadways. Trucks registered in other states would have to comply with the HD I/M regulation if they drive on California's roadways. The regulation, rebranded as "the Clean Truck Check," implements a program combining periodic vehicle testing requirements with other emissions monitoring techniques and expanded enforcement strategies. This will ensure that vehicles in need of emissions are identified and that any needed repairs are performed. When fully implemented, the program will provide significant reductions in smog-forming and carcinogenic toxic air pollution necessary to achieve federal air quality mandates and healthy air in California's communities.[17]

The Advanced Clean Truck Regulation

The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emission medium and heavy-duty vehicles. The regulation has a manufacturer sales requirement; by 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b–3 truck sales, 75 percent of class 4–8 straight truck sales, and 40 percent of truck tractor sales. The rule also has a company and fleet requirement that gathers information about shipments and shuttle services. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

The Advanced Clean Fleet Regulation

The Advanced Clean Fleet regulation was approved by ARB on April 28, 2023.[18] Advanced Clean Fleets is a first-of-its-kind rule that requires a phased-in transition toward zero-emission medium and

[15] California Air Resources Board (ARB). 2022. Heavy-Duty Omnibus Rule. Website: https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit/omnibus-regulation#:~:text=The%20Omnibus%20Regulation%20will%20significantly,GVWR)%20greater%20than%2010%2C000%20pounds. Accessed July 21, 2023.

[16] California Air Resources Board (ARB). 2023. Facts About the Low NOx Heavy-Duty Omni Bus Regulation. Website: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/hdlownox/files/HD_NOx_Omnibus_Fact_Sheet.pdf. Accessed July 16, 2023.

[17] California Air Resources Board (ARB). 2023. Clean Truck Check (HD I/M) Website: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program, Accessed July 4, 2023.

[18] California Air Resources Board (ARB) 2023. California approves groundbreaking regulation that accelerates the deployment of

heavy-duty vehicles. The new rule helps put California on a path toward fully transitioning the trucks that travel across the State to zero emissions technology by 2045.[19] The regulation has the goal of achieving a zero-emission truck and bus California fleet by 2045 everywhere feasible and significantly earlier for certain market segments such as last mile delivery and drayage applications. The initial focus would be on high-priority fleets with vehicles that are suitable for early electrification, their subhaulers, and entities that hire them.

The Final Package was submitted June 13, 2023, and withdrawn from Office of Administrative Law review on July 26, 2023. ARB will resubmit the Final Package at a subsequent date.[20]

California Off-Road Vehicle Regulations

The ARB and EPA require off-road engines to meet emission standards at the time they are manufactured and sold. The standards vary among different horsepower (hp) engines but generally become stricter over time. Model year groups of engines are subject to the same standards, defined as engine tiers. Tier 1 standards began in 1996. The most recent standards are Tier 4 Final, which took effect in 2014 or 2015 for most hp groups.

The In-Use Off-Road Diesel-Fueled Fleets Regulation

The In-Use Off-Road Diesel-Fueled Fleets (Off-Road Regulation) was enacted to accelerate retirement of older, higher-emitting engines, and increase purchases of newer, cleaner engines. It applies to all off-road, diesel, self-propelled equipment over 25 hp used in California that is not exempted under agricultural or cargo handling equipment provisions. This includes construction equipment such as excavators, loaders, backhoes, cranes, forklifts, oil-drilling rigs, and aircraft towing equipment.

The rule applies to fleets of construction equipment and establishes a 5-minute idling limit for off-road vehicles at construction sites as well as emission limits that become increasingly more stringent each year. These limits may be met by replacing older tier equipment with newer tiers or by installing exhaust retrofits (also known as Verified Diesel Emission Control Strategies or VDECS). Recent 2022 amendments[21] require the use of R99 or R100 renewable diesel in off-road diesel vehicles at the beginning of 2024. Starting in 2023, older tiers are banned and only Tier 3 or higher engines may be added to any fleet. A recent requirement requires that prime contractors and public works awarding bodies obtain and retain a fleet's valid Certificate of Reported Compliance prior to awarding a contract or hiring a fleet.

heavy-duty ZEVs to protect public health. Website: https://ww2.arb.ca.gov/news/california-approves-groundbreaking-regulation-accelerates-deployment-heavy-duty-zevs-protect#:~:text=Advanced%20Clean%20Fleets%20follows%20the,Biden%20Administration's%20Environmental%20Protection%20Agency. Accessed on July 4, 2023.

[19] California Air Resources Board (ARB). 2023. Advanced Clean Fleet Fact Sheet. Website: https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-summary. Accessed July 5, 2023.

[20] California Air Resources Board (ARB). 2023. Second Notice of Public Availability of Modified Text and Availability of Additional Documents – Advanced Clean Fleet Regulation. Website: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/ac/2nd15daynotice.pdf. Accessed August 22, 2023.

[21] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/news/carb-approves-amendments-road-regulation-further-reduce-emissions. Accessed on July 21, 2023.

Small Off-Road Engine Regulations

Small Off-Road Engine Regulations will require that most newly manufactured Small Off-Road Engines (SORE), such as those found in leaf blowers, lawn mowers, and other equipment, be zero-emission starting in 2024. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected to be nearly twice those of passenger cars by 2031. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.[22] Engines that use diesel fuel and engines that are used in stationary equipment, including standby generators, are not subject to the SORE regulations.

Large Spark Ignition Regulation

The Large Spark Ignition Fleet Rule and Amendments, commonly referred to as the "Forklift Rule" applies to forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment. It applies to fleets (four or more vehicles) and includes off-road gasoline, propane, liquefied petroleum gas (LPG), compressed natural gas, and electric forklifts ≥25 hp.[23] The regulation sets fleet average emission level requirements that decreases each year to encourage the use of EV and low-emissions engines.

The ARB is currently working on drafting a zero-emission forklift measure to drive greater deployment of zero-emission forklifts within fleets throughout the State. The intent of this proposed rule is to phase out any propane forklifts 13 years or older beginning in 2026 for use in California. The new change would also mean facilities would not be able to purchase new propane forklifts beginning 2026. The measure is currently in rulemaking and scheduled for Board consideration in September 2023.[24]

California Airborne Toxic Control Measures

As of December 2022, the ARB had developed 26 mobile and stationary source Airborne Toxic Control Measures (ATCMs).[25] The following summarizes the ATCMs that are potentially applicable for land use development projects such as logistics, warehouse, residential, mixed use, and retail development. Source and industry-specific requirements apply to industrial projects, gas stations, dry cleaners, and other types of facilities which are significant sources of TACs.

Transport Refrigeration Unit ATCM

Transport Refrigeration Units (TRUs) are refrigeration systems powered by small diesel-fueled engines (typically only 9-36 hp) designed to refrigerate or heat perishable products that are transported in various containers, including truck vans, semi-truck trailers, shipping containers, and railcars. TRUs typically operate at refrigerated warehouses or distribution centers, grocery stores,

[22] California Air Resources Board (ARB). 2021. Website: https://ww2.arb.ca.gov/news/carb-approves-updated-regulations-requiring-most-new-small-road-engines-be-zero-emission-2024. Accessed on July 16, 2023.
[23] California Air Resources Board (ARB). 2023. Large Spark-Ignition Fleet Regulation Overview. Website: https://ww2.arb.ca.gov/sites/default/files/offroadzone/landing/lsi.html. Accessed July 21, 2023.
[24] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts. Accessed July 21, 2023.
[25] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/resources/documents/airborne-toxic-control-measures. Accessed July 21, 2023.

seaport facilities, intermodal railyards, and other locations that are often near sensitive receptors, and often in overburdened disadvantaged communities. TRUs can be found in different sizes and locations depending on the type of transport carrying the goods. Truck TRUs that are used to refrigerate insulated cargo vans are mounted on the frames of straight trucks, while trailer TRUs that refrigerate insulated trailers are mounted on semitrailers.

The ATCM for In-Use Diesel-Fueled TRUs and TRU Generator Sets and Facilities Where TRUs Operate ATCM establishes stringent emission standards to lower DPM emissions from all truck-mounted TRUs that operate in California, regardless of where the vehicle is registered. The regulation applies to refrigerated warehouse facilities (20,000 square feet or greater) which has phase-in requirements for conversion to zero-emission technology from 2024–2029. TRU owners shall turnover at least 15 percent of their truck TRU fleet (defined as truck TRUs operating in California) to ZE technology each year (for 7 years). By 2030, all truck TRUs operating in California will be ZE, eliminating all NO_X and DPM emissions from these sources.

The current TRU ATCM amendments do not apply to trailer-mounted (semi-trailer) TRUs or railcar TRUs. The ARB will assess zero-emission options for trailer TRUs and the remaining TRU categories as part of an additional rulemaking for Board consideration in the 2025 timeframe.[26]

Asbestos ATCM

In July 2001, ARB approved an ATCM for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of Best Management Practices (BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification, and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than 1 acre. These projects require the submittal of a "Dust Mitigation Plan" and approval by the ARB prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs; the project site includes structures, including one single-family residence with associated outbuildings that would be demolished as part of the proposed project. In addition, asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

[26] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation. Accessed July 21, 2023.

Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found near the project site.[27]

Portable Equipment Registration Program ATCM

Owners or operators of portable engines and other types of equipment which meet the qualifications of the ATCM can register their equipment to operate throughout California.[28] Permits issued under the Portable Equipment Registration Program (PERP) must be honored by all air districts throughout California. However, owners and operators of portable engines which meet the qualifications of this ATCM who do not register their equipment under the PERP must obtain individual permits from local air districts.

Non-Vehicular Source ATCMs

The ARB has also adopted ATCM for non-vehicular sources[29] in Title 17, Section 93100. These ATCMs are implemented by local Air Pollution Districts through their local regulations for stationary sources. They include 13 separate ATCM regulations detailed in Section 93101 through 93113 which address a variety of stationary and area sources of toxics emissions. ATCM's most relevant rules of land use development includes the Asbestos rule (for Construction and Grading Operations described above), the benzene ATCM for retail service stations, the ATCM for stationary compression-ignition engines (e.g., diesel generators and pumps), and the ATCM for DPM from portable engines rated 50 hp and greater.

California Significant New Alternatives Policy

As part of California's effort to reduce emissions of Short-Lived California Climate Pollutants under Senate Bill (SB) 1383, California is required to reduce hydrofluorocarbon (HFC) emissions 40 percent below 2013 levels by 2030. HFCs have a powerful impact on climate as they trap heat in the atmosphere at a rate thousands of times that of carbon dioxide.

The ARB was originally relying on EPA Significant New Alternatives Policy (SNAP) Rules to meet a large portion of HFC emission reductions required by SB 1383. However, on August 8, 2017, in *Mexichem Fluor v. U.S. EPA*, the D.C. District Circuit Court significantly limited the EPA's ability to regulate high global warming potential (GWP) HFCs under the federal SNAP Program Rules.[30] As a result, in 2018, California adopted a new ARB HFC regulation and additional legislation under SB 1013, referred to as the California Cooling Act. The regulation and the Senate Bill together are

[27] United States Geological Survey (USGS). 2019. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in the Conterminous United States. Website: https://www.usgs.gov/data/reported-historic-asbestos-mines-historic-asbestos-prospects-and-other-natural-occurrences. Accessed August 17, 2023.

[28] California Air Resources Board, 2023. Portable Equipment Registration Program. Website: https://ww2.arb.ca.gov/our-work/programs/portable-equipment-registration-program-perp. Accessed July 21, 2023.

[29] California Air Resources Board (ARB). 2023. Air Toxic Control Measures: Mobile and Stationary Sources, Website: https://ww2.arb.ca.gov/resources/documents/airborne-toxic-control-measures. Accessed July 21, 2023.

[30] California Air Resources Board (ARB). 2023. California Significant New Alternatives Policy (SNAP). Website: https://ww2.arb.ca.gov/our-work/programs/california-significant-new-alternatives-policy-snap/about. Accessed July 19, 2023.

referred to as California SNAP and cover all end-use specific HFC prohibitions except motor vehicle air conditioning systems. In 2020, the ARB amended the regulation to adopt GWP limits for new refrigeration and air conditioning equipment, which ensures that industry not only shifts away from the highest GWP refrigerants but swiftly transitions to technologies with the lowest GWP that are technologically and commercially feasible. The rule applies to air conditioning systems, household refrigerators and freezers, chillers, retail food facilities, retail refrigeration, cold storage facilities, and even vending machines.

New cold storage facilities containing more than 50 pounds of refrigerants are subject to the GWP limit Section 95374(c) Table 3 and to the requirements under Section 95475(c), which includes exceptions, and labeling and recordkeeping requirements. Cold Storage Warehouses are prohibited from using refrigerants with GWP of 150 or greater as of January 1, 2022.[31]

Community Air Protection Program

In response to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), the ARB established the Community Air Protection Program. The Program's focus is to reduce exposure in communities most impacted by air pollution. Communities around the State are working together to develop and implement new strategies to measure air pollution and reduce health impacts. As part of this Program, the ARB established the Community Air Risk Evaluation (CARE) program that identifies the areas where air pollution contributes most to health impacts and where populations are most vulnerable to air pollution.[32]

2.4.2 - Bay Area Air Quality Management District

Bay Area Air Quality Management District California Environmental Quality Act Air Quality Guidelines

The BAAQMD is the primary agency responsible for ensuring that air quality standards (NAAQS and CAAQS) are attained and maintained in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD prepares plans to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans for the national ozone standard, Clean Air Plans for the California standard, and PM plans to fulfill federal air quality planning requirements. The BAAQMD also inspects stationary sources of air pollution; responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the Clean Air Act, the Clean Air Act Amendments of 1990, and the CCAA.

The BAAQMD developed quantitative thresholds of significance for its CEQA Guidelines in 2010, which were also included in its updated subsequent guidelines. BAAQMD's adoption of the 2010 thresholds of significance was later challenged in court. In an opinion issued on December 17, 2015, related to the BAAQMD CEQA Guidelines, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to

[31] California Air Resources Board (ARB). 2023. Cold Storage. Website: https://ww2.arb.ca.gov/our-work/programs/california-significant-new-alternatives-policy-snap/cold-storage. Accessed July 4, 2023.

[32] California Air Resources Board (ARB). 2023. Community Air Risk Evaluation Program. Website: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program. Accessed August 28, 2023.

environmental hazards unless the proposed project would exacerbate existing environmental hazards. The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The Supreme Court also held that public agencies remain free to voluntarily conduct this analysis not required by CEQA for their own public projects (*CBIA v. BAAQMD* [2016] 2 Cal.App.5th 1067, 1083).

In view of the Supreme Court's opinion, the BAAQMD published a new version of its CEQA Guidelines in May 2017. The BAAQMD CEQA Guidelines state that local agencies may rely on thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA or where the agency has determined that such an analysis would assist in making a decision about the proposed project. However, the thresholds are not mandatory and agencies should apply them only after determining that they reflect an appropriate measure of a project's impacts. BAAQMD's CEQA Guidelines for implementation of the thresholds are for informational purposes only, to assist local agencies. In April 2023, the BAAQMD updated the CEQA Guidelines that supersede the previous guidance. BAAQMD's CEQA Guidelines for implementation of the thresholds are for informational purposes only, to assist local agencies.

The BAAQMD has two roles under CEQA:

1. Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the BAAQMD where the BAAQMD has primary approval authority over the project.
2. Commenting Agency: the BAAQMD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The BAAQMD also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the project area.

Clean Air Plan

The BAAQMD is primarily responsible for assuring that the NAAQS and CAAQS are attained and maintained in the Air Basin. Sonoma County, and the Bay Area as a whole, is classified as a nonattainment area for the 8-hour ozone and $PM_{2.5}$ NAAQS and nonattainment for the ozone, PM_{10}, and $PM_{2.5}$ CAAQS. The County is either in attainment or unclassified for other pollutants.

Regional Air Quality Management Districts, such as the BAAQMD, must prepare air quality plans specifying how State air quality standards would be met. The BAAQMD's most recently adopted air quality plan is the 2017 Clean Air Plan: Spare the Air, Cool the Climate. The 2017 Clean Air Plan focuses on two closely related BAAQMD goals, protecting public health and protecting the climate. To protect public health, the 2017 Clean Air Plan describes how the BAAQMD will continue its progress toward attaining State and federal air quality standards and eliminating health risk

disparities from exposure to air pollution among Bay Area communities. To that end, the 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and TACs. To protect the climate, the 2017 Clean Air Plan includes control measures intended to reduce GHG emissions by reducing fossil fuel combustion.

The Bay Area Clean Air Plan addresses four categories of pollutants: ground level ozone and its key precursors, reactive organic gases (ROG) and NO_X; PM, primarily $PM_{2.5}$, and precursors to secondary $PM_{2.5}$; air toxics; and GHGs. The control measures are categorized based on the economic sector framework including stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water measures.

BAAQMD Regulations

Regulation 1, Rule 301 (Odorous Emissions)

The BAAQMD is responsible for investigating and controlling odor complaints in the Bay Area. The agency enforces odor control by helping the public to document a public nuisance. Upon receipt of a complaint, the BAAQMD sends an investigator to interview the complainant and to locate the odor source if possible. The BAAQMD typically brings a public nuisance court action when there are a substantial number of confirmed odor events within a 24-hour period. An odor source with five or more confirmed complaints per year, averaged over 3 years is considered to have a substantial effect on receptors.

Several BAAQMD regulations and rules apply to odorous emissions. Regulation 1, Rule 301 is the nuisance provision that states that sources cannot emit air contaminants that cause nuisance to a number of persons. Regulation 7 specifies limits for the discharge of odorous substances where the BAAQMD receives complaints from 10 or more complainants within a 90-day period. Among other things, Regulation 7 precludes discharge of an odorous substance that causes the ambient air at or beyond the property line to be odorous after dilution with four parts of odor-free air and specifies maximum limits on the emission of certain odorous compounds.

Regulation 6, Rule 1 (Particulate Matter–General Requirements)

The BAAQMD regulates particulate matter emissions through Regulation 6 by means of establishing limitations on emission rates, emissions concentrations, and emission visibility and opacity. Regulation 6, Rule 1 provides existing standards for particulate matter emissions that could result during project construction or operation that a project would be required to comply with, as applicable, such as the prohibition of emissions from any source for a period or aggregate periods of more than three minutes in any hour which are equal to or greater than 20 percent opacity.

Regulation 6, Rule 6 (Particulate Matter–Prohibition of Trackout)

One rule by which the BAAQMD regulates particulate matter includes Regulation 6, Rule 6, which prohibits particulate matter trackout during project construction and operation. Regulation 6, Rule 6 requires the prevention or timely cleanup of trackout of solid materials onto paved public roads outside the boundaries of large bulk material sites, large construction sites, and large disturbed surface sides such as landfills.

Regulation 8, Rule 3 (Architectural Coatings)

This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of paint available for use during the construction.

Regulation 8, Rule 15 (Emulsified and Liquid Asphalts)

Although this rule does not directly apply to the proposed project, it does dictate ROG content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits on the ROG content in asphalt.

Regulation 9, Rule 8 (Inorganic Gaseous Pollutants–Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines)

Under Regulation 9, Rule 8, the BAAQMD regulates the emissions of nitrogen oxides and carbon monoxide from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake hp. As such, any proposed stationary source equipment (e.g., backup generators, fire pumps) which would be greater than 50 hp would require a BAAQMD permit under Regulation 9, Rule 8 to operate.

2.4.3 - Local

City of Campbell General Plan

The City of Campbell adopted its General Plan in 2001 and have adopted updates as recent as April 2023. The General Plan Land Use Diagram was last updated April 2023. The General Plan 2040 guides local government decision on growth, capital investment, and physical development in the City. The Conservation and Open Space (COS) Element General Plan has the following measures adopted to reduce air quality impacts and related to energy:

Conservation and Open Space

COS-10.1 Improve air quality through continuing to require a development pattern that focuses growth in and around existing urbanized areas, locates new housing near places of employment, encourages alternative modes of transportation, supports efficient parking strategies, reduces vehicle miles traveled, and requires projects to mitigate significant air quality impacts.

COS-10.2 Align the City's local GHG reduction targets with the Statewide GHG reduction targets of Assembly Bill 32, and align the City's GHG reduction goal with the Statewide GHG reduction goal of Executive Order S-03-05.

COS-10.3 Minimize exposure of sensitive receptors to concentrations of air pollutant emissions and toxic air contaminants. For discretionary projects involving sensitive receptors (i.e., children, the elderly, or people with illnesses) proposed within 500 feet of State Route 17 or State Route 85, require an analysis of mobile source toxic air contaminant health risks and, if necessary, incorporate appropriate mitigation measures to reduce health risks to the greatest extent feasible.

COS-10.4 Require projects to adhere to the requirements of the Bay Area Air Quality Management District (BAAQMD), including standards related to fireplaces, wood stoves, heaters, dust control, and abatement measures.

COS-10.6 Use the City's development review process and the California Environmental Quality Act (CEQA) to evaluate and mitigate the local and cumulative effects of new development on air quality.

Community Design

CD-2.5 Encourage passive solar design and energy-efficient concepts, including, but not limited to natural heating and/or cooling, sun and wind exposure and orientation, and other solar energy opportunities.

COS-8.1 Require all development projects to comply with the mandatory energy efficiency requirements of the California Green Building Standards Code (CALGreen) and Building and Energy Efficiency Standards.

COS-8.2 Support and encourage the implementation of innovative and green building best management practices including, but not limited to, sustainable site planning, solar opportunities, LEED® certification for new development, the local adoption of Reach Codes, and incorporation of net zero energy development standards in the California Code of Regulations, Title 24, if feasible.

City of Campbell General Plan Final Environmental Impact Report

The Final Environmental Impact Report (FEIR) for the Envision Campbell General Plan and Housing Element Update (State Clearinghouse [SCH] No. 2022030566) was published in March 2023.[33] The proposed General Plan Update would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled by providing opportunities for pedestrian-oriented neighborhoods, appropriately-scaled commercial areas with strong pedestrian and bicycle connections, and infill development within the Downtown areas with a commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. The Land Use Plan and policies and actions emphasize alternative transportation access and multimodal connectivity throughout the Planning Area and into the surrounding areas. Implementation of the General Plan Update goals, policies, and actions would minimize criteria pollutant emissions.

The General Plan Update includes policies and implementing measures that address short-term GHG emissions. For example, Policy COS-10.b requires the review of development, infrastructure, and planning projects for consistency with BAAQMD requirements during the CEQA review process,

[33] City of Campbell. 2023. Envision Campbell General Plan and Housing Element Update (SCH: 2022030566), Final Environmental Impact Report. Website: https://www.campbellca.gov/DocumentCenter/View/19965/Final-EIR_Campbell-GPU_3-14-23-SR?bidId=. Accessed September 12, 2023.

including requiring project applicants to prepare air quality analyses to address BAAQMD and General Plan requirements, which includes analysis and identification of:

- Air pollutant emissions associated with the project during construction, project operation, and cumulative conditions;
- Potential exposure of sensitive receptors to toxic air contaminants;
- Significant air quality impacts associated with the project for construction, project operation, and cumulative conditions; and
- Mitigation measures to reduce significant impacts to less than significant or the maximum extent feasible where impacts cannot be mitigated to less than significant.

City of Campbell Municipal Code

On November 15, 2022, the City of Campbell passed a reach code (Municipal Code Chapter 18.26) that exceeds the minimum requirements for energy use in the CBC Green Building Code. Along other requirements, it would require all newly constructed residential living units and new dwellings using portions of the existing structure shall be prohibited from using natural gas in the living unit. In addition, all residential new homes, condominiums, and townhouses are required to provide one completed and ready to use (Level 1) 110-volt outlet and a (Level 2) 208/240-volt outlet dedicated and labeled as EV charging in the garage.

SECTION 3: CLIMATE CHANGE SETTING

3.1 - Climate Change

Climate change is a change in the average weather of the Earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In the 2022 Annual Report Technical Summary, Working Group I predicted that increase in global surface temperature is 1.09°C (degrees Celsius) in 2011–2020 above 1850–1900. The estimated increase in global surface temperature since Fifth Assessment Report is principally due to further warming from 2003–2012. Considering all five illustrative scenarios assessed by Working Group I, there is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near term, even for the very low GHG emissions scenario.[34] The report also stated that "[e]xtreme climate events comprising conditions beyond which many species are adapted are occurring on all continents, with severe impacts," and that "[w]ithout urgent and ambitious emissions reductions, more terrestrial, marine and freshwater species and ecosystems will face conditions that approach or exceed the limits of their historical experience."

An individual project cannot generate enough GHG emissions to effect a discernible change in global climate. However, the proposed project participates in the potential for global climate change by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following.[35, 36]

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much

[34] Intergovernmental Panel on Climate Change (IPCC). 2022. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Website: https://www.ipcc.ch/report/ar6/wg2/. Accessed September 12, 2023.

[35] California Climate Change Center (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: https://www.scc.ca.gov/webmaster/ftp/pdf/climate_change/assessing_risks.pdf. Accessed September 12, 2023.

[36] Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website: https://lynceans.org/wp-content/uploads/2020/01/Moser-2009-Climate-change-impacts-across-CA-.pdf. Accessed September 12, 2023.

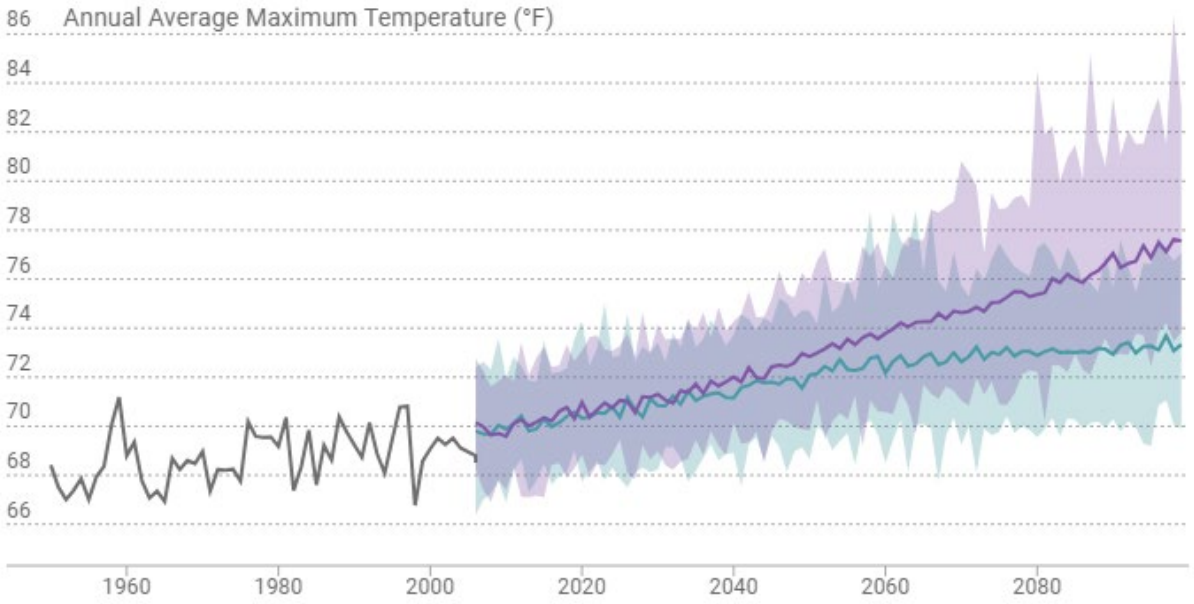
as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.

- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of Southern California are estimated to increase by approximately 30 percent toward the end of the twenty-first century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more Northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about 7 inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

City of Campbell

Figure 1 displays a chart of measured historical and projected annual average temperatures in the City of Campbell area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that temperatures by the end of the century are predicted to increase by 4.5°F under the medium emissions scenario and 7.4°F under the high emissions scenario.[37]

[37] Cal-Adapt. 2023. Local Climate Snapshots. Website: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed September 12, 2023.



Source: Cal-Adapt. 2023. Local Climate Snapshots. Website: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed September 12, 2023.

Figure 1: Observed and Projected Temperatures for Climate Change in the Project Area

3.2 - Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons, hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Individual GHG compounds have varying GWP and atmospheric lifetimes. The GWP is the potential of a gas or aerosol to trap heat in the atmosphere. To describe how much global warming a given type and amount of GHG may cause, the CO_2 equivalent (CO_2e) is used. The calculation of the CO_2 equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A CO_2 equivalent is the mass emissions of an individual GHG multiplied by its GWP. As described in Table 5, the GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, N_2O, HFC, PFC, and SF_6. A seventh GHG, nitrogen trifluoride (NF_3), was added to Health and Safety Code Section 38505(g)(7) as a GHG of concern.

Table 5: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential (GWP) is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
CH_4	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its GWP is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
CO_2	CO_2 is an odorless, colorless, natural GHG. CO_2's GWP is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
HFC	HFCs are a group of GHGs containing carbon, chlorine, and at least one hydrogen atom. GWP range from 140 to 11,700.	HFCs are synthetic man-made chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
PFC	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. GWP range from 6,500 to 9,200.	Two main sources of PFCs are primary aluminum production and semiconductor manufacturing.
SF_6	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high GWP, 23,900.	This gas is man-made and used for insulation in electric power transmission equipment in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code Section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.

Sources: Compiled from a variety of sources, primarily
Intergovernmental Panel on Climate Change (IPCC). 2007. AR4 Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: https://www.ipcc.ch/report/ar4/wg1/. Accessed September 12, 2023.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K. and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland. Website: https://www.ipcc.ch/report/ar4/syr/. Accessed September 12, 2023.

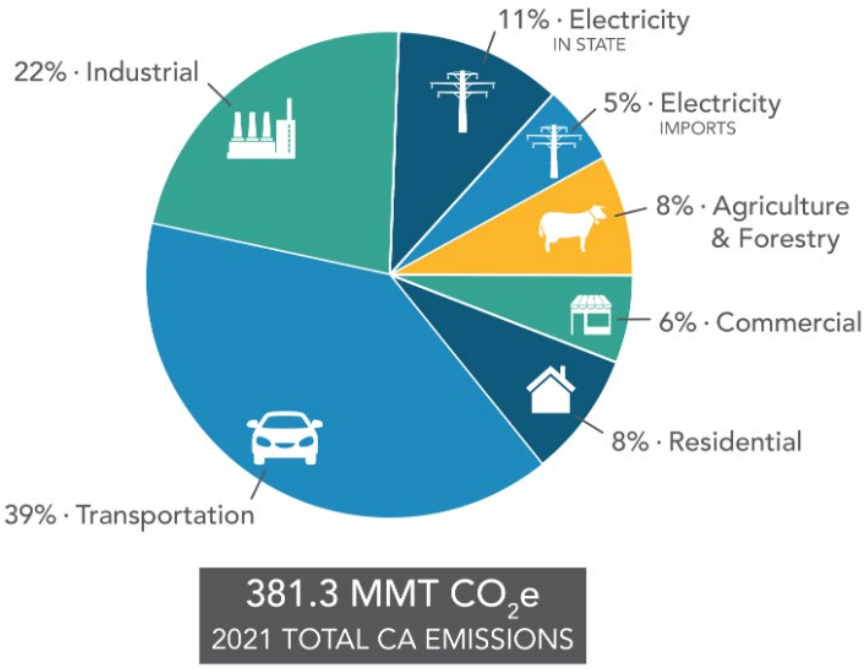
The State of California has begun the process of addressing pollutants referred to as short-lived climate pollutants. The short-lived climate pollutants include three main components: black carbon,

fluorinated gases, and methane. The ARB approved the Short-Lived Climate Pollutant Reduction Strategy in March 2017. The ARB has completed an emission inventory of these pollutants, identified research needs, identified existing and potential new control measures that offer co-benefits, and coordinated with other State agencies and districts to develop measures.[38] Typical sources of black carbon are already regulated by the ARB, and air district criteria pollutant and toxic regulations control $PM_{2.5}$ from diesel engines and other combustion sources.[39] Additional controls on the sources of black carbon, specifically for their GHG impacts beyond those required for toxic and fine particulates, are not likely to be needed.

3.2.1 - Emissions Inventories

California GHG Inventory

As the second largest emitter of GHG emissions in the United States, California contributes a large quantity (381.3 MMT in 2021) of GHG emissions to the atmosphere.[40] Anthropogenic CO_2 are largely byproducts of fossil fuel combustion and are attributable to transportation, industry/ manufacturing, electricity generation, natural gas consumption, and agriculture processes. As shown in Figure 2, in California, the transportation sector is the largest emitter at approximately 39 percent of GHG emissions, followed by industrial at approximately 22 percent of GHG emissions.



[38] California Air Resources Board (ARB). 2021. Short-Lived Climate Pollutants. Website: http://www.arb.ca.gov/cc/shortlived/shortlived.htm. Accessed September 12, 2023.

[39] California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed September 12, 2023.

[40] California Air Resources Board (ARB). 2024. Current California GHG Emission Inventory Data. Website: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed April 26, 2024.

Source: California Air Resources Board (ARB). 2023. California Greenhouse Gas Emissions for 2000 to 2021: Trends of Emissions and Other Indicators.

Figure 2: Total California GHG Emissions by Sector in 2021

3.3 - Regulatory Environment

3.3.1 - Regulations

The following are actions regarding relevant GHG analysis.

Assembly Bill 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the United States District Court for the District of Columbia in 2011.[41] The standards were to be phased in during the 2009 through 2016 model years.[42]

The second phase of the implementation for the Pavley Bill was incorporated into Amendments to the LEV Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car Program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation is anticipated to reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.[43]

Assembly Bill 32

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs.

The ARB is the State agency charged with monitoring and regulating sources of GHGs. The ARB approved the 1990 GHG emissions level of 427 MMT CO_2e on December 6, 2007.[44] Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 MMT CO_2e. Emissions in 2020 in a Business as Usual (BAU) scenario were estimated to be

[41] California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed June 30, 2023.
[42] California Air Resources Board (ARB). Advanced Clean Cars Summary. Website: https://ww2.arb.ca.gov/sites/default/files/2019-12/acc%20summary-final_ac.pdf. Accessed June 30, 2023.
[43] California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures. Website: https://calcarbondash.org/cc/scopingplan/sp_measures_implementation_timeline.pdf. Accessed June 30, 2023.
[44] California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf. Accessed June 30, 2023.

596 MMT CO_2e, which do not account for reductions from AB 32 regulations.[45] At that rate, a 28 percent reduction was required to achieve the 427 MMT CO_2e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. Under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.[46] On July 11, 2018, the ARB announced that the State has meet its target of reducing GHG emissions to 1990 levels.[47]

California Air Resources Board Scoping Plan

The ARB Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32.[48] The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target included energy efficiency programs, renewable energy expansion, Cap-and-Trade, establishing targets for transportation-related GHGs, high GWP fee program.

The ARB approved the First Update to the Scoping Plan on May 22, 2014. The First Update builds upon the Initial Scoping Plan with new strategies and recommendations.

Senate Bill 375—the Sustainable Communities and Climate Protection Act of 2008

Senate Bill (SB) 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires Metropolitan Planning Organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Senate Bill 32 and the 2017 Climate Change Scoping Plan Update

The Governor signed SB 32 in September 2016, giving the ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the State [air resources] board shall ensure that Statewide greenhouse gas emissions are reduced to at least 40 percent below the Statewide greenhouse gas emissions limit no later than December 31, 2030." The

[45] California Air Resources Board (ARB). 2008. (includes edits made in 2009) Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed June 30, 2023.

[46] California Air Resources Board (ARB). GHG 2020 Business-as-Usual Emissions Projection. 2014 Edition BAU Emissions Projection. Website: https://ww2.arb.ca.gov/ghg-bau. Accessed June 30, 2023.

[47] California Air Resources Board (ARB). 2018. Climate Pollutants Fall Below 1990 Levels for First Time. Website: https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time. Accessed June 30, 2023.

[48] California Air Resources Board (ARB). 2008. (includes edits made in 2009) Climate Change Scoping Plan, a framework for change. Website: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed June 30, 2023.

2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017.

2022 ARB Scoping Plan

The 2022 Scoping Plan[49] establishes a scenario by which the State may achieve carbon neutrality by 2045 or earlier, and it outlines a technologically feasible, cost-effective, and equity-focused path for achieving this climate target. The 2022 Scoping Plan addresses the latest climate-related legislation and direction from current Governor Gavin Newsom, who, by his signing of AB 1279, required the State to reduce Statewide anthropogenic GHG emissions to at least 85 percent below 1990 levels by 2045 and to maintain net negative GHG emissions thereafter. The 2022 Scoping Plan relies on the aggressive reduction of fossil fuels in all Statewide sectors and accelerating existing carbon reduction programs. Aspects of the 2022 Scoping Plan's scenario include:

- Rapidly moving to zero-emission transportation by electrifying cars, buses, trains, and trucks.
- Phasing out the use of fossil gas used for heating homes and buildings.
- Clamping down on chemicals, refrigerants, and other high GWP gases.
- Providing communities with sustainable options for walking, biking, and public transit to reduce reliance on cars.
- Continuing to develop solar arrays, wind turbine capacity, and other resources that provide clean, renewable energy.
- Scale up options such as renewable hydrogen and biomethane for end uses that are hard to electrify.

ARB estimates that successfully achieving the outcomes called for by the 2022 Scoping Plan will reduce demand for liquid petroleum by 94 percent and total fossil fuel by 86 percent in 2045, relative to 2022. The 2022 Scoping Plan also emphasizes the role of natural and working lands and carbon capturing technologies to address residual emissions and achieve net negative emissions.

Senate Bill 350: Clean Energy and Pollution Reduction Act

As enacted in 2015, this law establishes clean energy, clean air, and GHG emissions reduction goals, as well as increasing California's renewable electricity procurement goals from 33 percent to 50 percent by 2030. The bill further requires the State to double the energy efficiency in existing buildings by 2030.[50]

Senate Bill 100: Renewable Portfolio Standard Program

On September 10, 2018, former Governor Edmund G. Brown Jr. signed SB 100, requiring California electricity utility providers to supply all in-state end users with electricity sourced from renewable or carbon-free sources by 2045. Specifically, SB 100 accelerates previously established renewable goals

[49] California Air Resources Board (ARB). 2022 Scoping Plan. Website: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed August 26, 2023.

[50] California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed August 9, 2023.

and requires that the program achieve 100 percent of electricity sourced from carbon-free sources by the end of 2045, with interim milestones of 50 percent by the end of 2026 and 60 percent by 2030. SB 1020 establishes interim targets for the State's 100 percent clean energy goal in 2045 and accelerates the date by which State agencies must achieve 100 percent clean energy use. The bill requires that ARB's Scoping Plan workshops be held in non-attainment areas and requires the CPUC, the CEC and ARB to create a join report electricity reliability.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the State and guide the actions of State agencies.

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an Executive Order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07—Low Carbon Fuel Standard

The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a Statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, ARB, University of California, and other agencies to develop and propose protocols for measuring the "lifecycle carbon intensity" of transportation fuels. The ARB adopted the LCFS on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, on August 8, 2013, the Fifth District Court of Appeal (California) ruled that the ARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal directed that Resolution 09-31 and two Executive Orders of the ARB approving LCFS regulations promulgated to reduce GHG emissions be set aside. However, the Court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, the ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing

for the new LCFS regulation was held on September 24, 2015, and September 25, 2015, when the LCFS regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with the Office of Administrative Law (OAL) on October 2, 2015. The OAL approved the regulation on November 16, 2015. Recent amendment and complete regulation became effective in 2020.[51]

Executive Order B-30-15

On April 29, 2015, former Governor Edmund G. Brown Jr. issued an Executive Order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's Executive Order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Executive Order sets a new interim Statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MT CO_2e. The Executive Order also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions.

Executive Order N-79-20

Executive Order N-79-20 directs the State to require that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles.[52]

ARB Advanced Clean Truck Regulation

The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emission medium and heavy-duty vehicles. The regulation has a manufacturer sales requirement; by 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b–3 truck sales, 75 percent of class 4–8 straight truck sales, and 40 percent of truck tractor sales. The rule also has a company and fleet requirement that gathers information about shipments and shuttle services. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

ARB Advanced Clean Cars II Rule

Adopted by the ARB in August 2022, the Advanced Clean Cars II regulation supports the implementation of Executive Order N-79-20 and requires that by 2035, all new passenger cars, trucks, and SUVs sold in California will be zero emissions.[53]

Small Off-Road Engine Regulations

Small Off-Road Engine Regulations will require that most newly manufactured SORE, such as those found in leaf blowers, lawn mowers, and other equipment, be zero-emission starting in 2024. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected

[51] California Air Resource Board (ARB). 2023. LCFS Regulation. Website: https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-regulation. Accessed June 23, 2023.
[52] Executive Department State Of California. 2020. Executive Order N-79-20.
[53] California Air Resource Board (ARB). Proposed Advanced Clean Cars II Regulations. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Accessed June 30, 2023.

to be nearly twice those of passenger cars by 2031. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.[54] Engines that use diesel fuel and engines that are used in stationary equipment, including standby generators, are not subject to the SORE regulations.

Large Spark Ignition Regulation

The Large Spark Ignition Fleet Rule and Amendments, commonly referred to as the "Forklift Rule" applies to forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment. It applies to fleets (four or more vehicles) and includes off-road gasoline, propane, LPG, compressed natural gas, and electric forklifts ≥25 hp.[55] The regulation sets fleet average emission level requirements that decreases each year to encourage the use of EV and low-emissions engines.

The ARB is currently working on drafting a zero-emission forklift measure to drive greater deployment of zero-emission forklifts within fleets throughout the State. The intent of this proposed rule is to phase out any propane forklifts 13 years or older beginning in 2026 for use in California. The new change would also mean facilities would not be able to purchase new propane forklifts beginning 2026. The measure is currently in rulemaking and scheduled for Board consideration in September 2023.[56]

California Regulations and Building Standards Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.[57] This measure seeks to reduce public exposure to DPM and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle-reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets. This measure regulates NO_X, DPM, and other criteria pollutant emissions from in-use, off-road diesel-fueled vehicles. This measure also requires

[54] California Air Resources Board (ARB). 2021. https://ww2.arb.ca.gov/news/carb-approves-updated-regulations-requiring-most-new-small-road-engines-be-zero-emission-2024. Accessed on July 16, 2023.

[55] California Air Resources Board (ARB). 2023. Large Spark-Ignition Fleet Regulation Overview. Website: https://ww2.arb.ca.gov/sites/default/files/offroadzone/landing/lsi.html. Accessed July 21, 2023.

[56] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts. Accessed July 21, 2023.

[57] California Air Resource Board (ARB). Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Website: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling. Accessed September 25, 2023.

each fleet to meet fleet average requirements or demonstrate that it has met "Best Available Control Technology" requirements. Additionally, this measure requires medium and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

Title 20 Appliance Efficiency Regulations

California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The current version of Title 24 adopted by the CEC was effective on January 1, 2020. CEC recently approved the latest 2022 Energy Code, which became effective on January 1, 2023.[58]

Title 24 California Green Building Standards Code

California Code of Regulations Title 24 Part 11 code is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the current version consisting of the 2022 California Green Building Code Standards Code (CALGreen) that became effective January 1, 2023.[59] Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. California Building Standards Code (CBC) provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

In addition to the mandatory requirements, CALGreen encourages local jurisdictions to raise the sustainable goals by publishing two "voluntary" tiers of additional requirements, referred to as Tier 1 and Tier 2. Tier 1 adds additional requirements beyond the mandatory measures. Tier 2 further increases the requirements. The CALGreen tiers are only mandatory where local ordinances have specifically adopted them.

[58] California Energy Commission (CEC). 2022 Building Energy Efficiency Standards. Website: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency. Accessed September 25, 2023.

[59] California Energy Commission (CEC). 2021. CEC Approves 2022 CALGreen Building Standards Code. Website: http://calenergycommission.blogspot.com/2021/10/cec-approves-2022-calgreen-building.html. September 25, 2023.

Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local Landscape Ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for Ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (Executive Order B-29-15) directed the California Department of Water Resources to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems.
- Incentives for graywater usage.
- Improvements in on-site stormwater capture.
- Limits on the portion of landscapes that can be planted with high water use plants.
- Reporting requirements for local agencies.

Senate Bill 97 and the CEQA Guidelines Revisions

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. SB 97 states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

The 2010 CEQA Amendments first guided public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The 2010 CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change. The 2010 CEQA Amendments also revised Appendix F of the CEQA Guidelines, which focuses on energy conservation, and the sample environmental checklist in Appendix G was amended to include GHG questions.

- The most recent 2018 CEQA Amendments expanded upon the previous guidance by specifying that:
  - The lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to Statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and State regulatory schemes.
  - In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the

project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

A lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has the discretion to select the model or methodology it considers most appropriate to enable decision-makers to intelligently take into account the proposed project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of a particular model or methodology selected for use.

California Supreme Court GHG Ruling

In a November 30, 2015, ruling, the California Supreme Court in *Center for Biological Diversity v. California Department of Fish and Wildlife* on the Newhall Ranch project concluded that whether the project was consistent with meeting Statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25-27 of the ruling to address this issue summarized below:

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with Statewide goals (page 25).
- **Compliance with Regulatory Programs or Performance Based Standards**. A lead agency "might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities" (page 26).
- **Compliance with GHG Reduction Plans or Climate Action Plans**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as Climate Action Plans (CAPs) or GHG emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (page 26).
- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (page 27).

3.3.2 - Bay Area Air Quality Management District

Plan Bay Area 2050: Strategy for a Sustainable Region

On October 21, 2021, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050, an integrated transportation and land-use strategy through 2050 that updates the nine-county region's long-range plan to meet the requirements of SB 375. Working in collaboration with cities and counties, the Plan Bay Area 2050 advances initiatives to expand housing and transportation choices, create healthier communities,

and build a stronger regional economy. Plan Bay Area 2050 remains on track to meet a 20 percent per capita reduction of GHG emissions by 2035 from 2005 conditions.[60]

Bay Area Air Quality Management District 2050 Climate Resolution Goals

In 2013, the Bay Area Air Quality Management District (BAAQMD) Board of Directors approved a Resolution (No. 2013-11) adopting a GHG goal and a commitment to developing a regional climate protection strategy that commits to the following:

- Setting a goal for the Bay Area region to reduce GHG emissions to 80 percent below 1990 levels by 2050.
- Developing a Regional Climate Protection Strategy to make progress toward the 2050 goal and to complement existing climate action efforts at the State, regional, and local levels.
- Preparing a work program to guide the BAAQMD climate protection activities in the near term.

Bay Area Air Quality Management District 2017 Clean Air Plan

BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017, to comply with State air quality planning requirements set forth in the California Health and Safety Code. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as PM, ozone, and TACs, to reduce emissions of methane and other "super-greenhouse gases" that are potent climate pollutants in the near term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 Clean Air Plan consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and Super GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the 2017 Clean Air Plan. In general, a project is considered consistent if the project (1) supports the primary goals of the 2017 Clean Air Plan, (2) includes control measures, and (3) does not interfere with implementation of the 2017 Clean Air Plan measures.

Bay Area Air Quality Management District CEQA Air Quality Guidelines

The purpose of the BAAQMD's 2022 CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality and GHG impacts of projects and plans proposed in the Air Basin. The most recent version of the CEQA Air Quality Guidelines was revised April 2023 and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area*

[60] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. Plan Bay Area 2050. October 21.

Air Quality Management District, December 2015).[61] The BAAQMD's 2022 CEQA Air Quality Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. They focus on criteria air pollutant, GHG, TAC, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The 2022 CEQA Air Quality Guidelines are presented as advisory recommendations based on substantial evidence to assist local agencies.

In addition to the BAAQMD's 2022 CEQA Air Quality Guidelines, the BAAQMD adopted an updated Justification Report to support BAAQMD newly updated-recommended GHG significance thresholds in April 2022.[62] The Justification Report provides recommended significance thresholds for GHGs for land use development projects and plans and replaces those recommended in the BAAQMD's 2022 CEQA Air Quality Guidelines; however, the methodologies for quantifying and analyzing GHG emissions from land use development projects and plans contained in the 2022 Guidelines were still recommended by the BAAQMD at the time this analysis was prepared.

As previously discussed, CEQA Guidelines Section 15183.5(b) allows projects and plans to be analyzed through a streamlined or tiered approach utilizing an adopted Greenhouse Gas Reduction Plan. According to both CEQA Guidelines Section 15183.5(b) and the BAAQMD's 2022 CEQA Air Quality Guidelines, for a Greenhouse Gas Reduction Plan to be considered a "qualified" reduction strategy capable of being utilized for a streamlined or tiered analysis under CEQA that plan must meet the following requirements:[63, 64]

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendments if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

[61] In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

[62] Bay Area Air Quality Management District (BAAQMD). 2022. Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. April.

[63] Bay Area Air Quality Management District (BAAQMD). 2022. California Environmental Quality Act Air Quality Guidelines.

[64] Association of Environmental Professionals (AEP). 2023. 2023 CEQA California Environmental Quality Act Statute and Guidelines.

3.3.3 - Local

City of Campbell

The City of Campbell adopted a General Plan Update in 2023. The General Plan 2023 includes a Conservation and Open Space Element to conserve energy as well as reduce GHG emissions:[65]

City of Campbell General Plan

Energy

COS-8.1 Require all development projects to comply with the mandatory energy efficiency requirements of the California Green Building Standards Code (CALGreen) and Building and Energy Efficiency Standards.

COS-8.2 Support and encourage the implementation of innovative and green building best management practices including, but not limited to, sustainable site planning, solar opportunities, LEED® certification for new development, the local adoption of Reach Codes, and incorporation of net zero energy development standards in the California Code of Regulations, Title 24, if feasible.

COS-8.3 Promote City operations as a model for energy efficiency and green building and install, as feasible, energy-efficient lighting, appliances, and alternative energy infrastructure in City facilities.

COS-8.4 Pursue the use of alternative energy and fuel-efficient City vehicles and equipment that meet or surpass State emissions requirements, to the extent feasible.

COS-8.5 Continue to participate in Silicon Valley Clean Energy (SVCE) whereby City-owned facilities, parks, and streetlights will run on 100 percent renewable energy sources like wind and solar, and motivate and encourage Campbell residents and businesses to participate in Silicon Valley Clean Energy (SVCE) to reduce greenhouse gas emissions and support Statewide alternative energy use.

COS-8.6 Coordinate with Pacific Gas and Electric Company (PG&E) to increase public awareness of electrical and natural gas conservation practices and programs, such as rebate programs and energy efficiency audits.

COS-8.7 Expand water conservation, reuse, and recycling efforts throughout the City in order to meet the conservation goals established by the San José Water Company's adopted Urban Water Management Plan and the Campbell Climate Action Plan once adopted.

COS-8.8 Encourage all public and private landscaping in new development and renovation projects to be designed to reduce water demand, prevent runoff, decrease flooding,

[65] City of Campbell. 2001. Campbell General Plan 2040. (Updated April 2023).

and recharge groundwater through the installation of LID measures, irrigation systems, the selection of appropriate plant material, and proper soil preparation.

COS-8.9 Maintain and enhance the health of the groundwater basin by encouraging new groundwater recharge opportunities, promoting the use of permeable surface materials, providing ample areas of open space in order to decrease surface runoff and promote groundwater recharge, and through the use of other LID techniques, such bioswales, where feasible.

COS-8.10 Support the use of on-site rainwater harvesting/catchment systems and small-scale recycled water systems for new and existing development.

COS-8.11 Support the use and installation of on-site gray water reuse systems.

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1 - Model Selection and Guidance

Regional air pollutant emissions are composed of those on-site and off-site construction and operational emissions generated from all facets of the proposed project. Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant over a given time or activity, for example, grams of NO_X per vehicle mile traveled or grams of NO_X per hp hour of equipment operation. The activity factor is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, hp of a piece of equipment used, the amount of fuel consumed in a given amount of time, or Vehicle Miles Traveled (VMT) per day. The ARB has published emission factors for on-road mobile vehicles/trucks in the Emission Factor (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) was developed in cooperation with the South Coast Air Quality Management District (South Coast AQMD) and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses. The current version of CalEEMod, Version 2022, was launched on May 1, 2023, as part of a coordinated development effort between the California Air Pollution Control Officers Association (CAPCOA), the California Air Districts and Trinity Consultants. Regional construction and operational emissions reported in this analysis were modeled using CalEEMod Version 2022.1.1.12.

4.2 - Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur oxides (SO_X)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the proposed project would emit ozone precursors ROG and NOX. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

The proposed project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

The proposed project could emit GHGs that are not defined by AB 32. For example, the proposed project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high GWP; however, the IPCC states that it has a low level of scientific certainty.[66]

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The proposed project would emit NO_x and VOCs, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the proposed project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the proposed project. Therefore, it is not anticipated that the proposed project would emit perfluorocarbons or sulfur hexafluoride.

4.3 - Modeling Assumptions

4.3.1 - Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

Construction activities for activities occurring on the 2.08-acre project site would consist of site preparation, grading, building construction, paving, and architectural coating of the inside and

[66] Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: https://www.ipcc.ch/report/ar4/wg1/. Accessed September 25, 2023.

outside of the building. A conceptual construction schedule is provided in Table 6 that presents the duration for each construction activity. Table 7 presents the number of assumed construction equipment along with hours of operation per day, hp, and load factor. Where project-specific information was not available or unknown, default assumptions were used to complete emissions modeling. Where the CalEEMod default schedule was compressed to match applicant provided information, the construction equipment usage was increased proportionally to retain the CalEEMod default hp hours (see Appendix A). The activity for construction equipment is based on the hp and load factors of the equipment. In general, the hp is the power of an engine—the greater the hp, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated hp. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

The anticipated construction schedule, as shown in Table 6, reflects the construction start date and construction phase durations assumed for the purposes of this environmental analysis. Based on applicant provided information, site preparation of the proposed project would start in September 2024 and would take approximately three construction working days. Construction would be completed in one phase, beginning in September 2024, and concluding in August 2025. Grading is expected to start at the beginning of the proposed project and would last 12 working days. The proposed project is expected to be operational in August 2025. The construction schedule used in the analysis represents a "worst-case" analysis scenario since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and compliance with more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by the CEQA Guidelines.

Table 6: Construction Schedule

Construction Activity	Conceptual Construction Schedule		Working Days per Week	Working Days
	Start Date	End Date		
Site Preparation	9/4/2024	9/6/2024	5	3
Grading	9/9/2024	9/24/2024	5	12
Building Construction	9/25/2024	9/18/2025	5	257
Paving	7/10/2025	7/23/2025	5	10
Architectural Coating	2/7/2025	8/22/2025	5	141
Source: CalEEMod Output (Appendix A).				

A summary of the on-site, off-road construction equipment usage assumptions used to estimate emissions for the main site is presented in Table 7.

Table 7: Project Construction Equipment Assumptions

Construction Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Site Preparation	Graders	1	8	148	0.41
	Scrapers	1	8	423	0.48
	Crawler Tractors	1	8	84	0.37
Grading	Graders	1	8	148	0.41
	Rubber Tired Bulldozers	1	8	367	0.4
	Crawler Tractors	2	8	84	0.37
Building Construction	Cranes	1	8	367	0.29
	Forklifts	2	8	82	0.2
	Generator Sets	1	8	14	0.74
	Tractors/Loaders/Backhoes	1	8	84	0.37
	Welders	3	8	46	0.45
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37
	Pavers	1	8	81	0.42
	Paving Equipment	1	6	89	0.36
	Rollers	2	8	36	0.38
	Cement and Mortar Mixers	1	8	10	0.56
Architectural Coating	Air Compressors	1	8	37	0.48
Source: CalEEMod Output (Appendix A).					

A summary of the construction-related vehicle trips is shown in Table 8. Based on project applicant provided information, during grading project site construction require 1,000 cubic yards of imported soil on-site. CalEEMod default values for trip lengths and vehicle fleets were used. Note that the total number of off-site construction vehicle trips would not necessarily occur on the same day, since construction activities would vary each day during the construction period.

Table 8: Construction Off-site Trips

Construction Activity	Worker (Trips per day)	Vendor (Trips per day)	Haul (Total Trips)
Site Preparation	8	0	0
Grading	10	0	10
Building Construction	29	4	0
Paving	15	0	0
Architectural Coating	6	0	0
Source: CalEEMod Output (Appendix A).			

Fugitive Dust

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from bulldozers moving dirt around, dust from graders or other construction equipment leveling the land, and loading or unloading dirt into haul trucks. Every project within the BAAQMD's jurisdiction is required to comply with the requirements of BAAQMD Regulation 6 and BMPs to reduce emissions of fugitive dust. As shown in Appendix A, the BMPs are accounted for in CalEEMod through selection of the appropriate selections in CalEEMod. Development of the proposed project would include features which would reduce fugitive dust compared to default values.

4.3.2 - Operation

The major sources of operational emissions that would occur over the long-term operations of the proposed project are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the motor vehicles that would travel to and from and within the project site. The regional emissions from the proposed project's mobile sources were estimated using CalEEMod defaults. The proposed project would generate passenger vehicle trips from employees and visitors traveling to and from the project site.

Other Emission Sources

Area Sources

In addition to typical mobile- and energy-source emissions, long-term operational emissions also include area-source emissions. Area-source emissions include occasional architectural coating activities for repainting and maintenance of the warehouse building associated with the proposed project. CalEEMod assumes that repainting occurs at a rate of 10 percent of the buildings per year. Therefore, on average, it is assumed that the building would be fully repainted every 10 years.

Other area-source emissions include consumer products that involve solvents that emit VOCs during use. CalEEMod includes default consumer product use rates based on building square footage. The default emission factors developed for CalEEMod were used for consumer products associated with parking uses. Lastly, CalEEMod default emission factors for landscape maintenance equipment were used in this analysis.

Indirect Emissions

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where actual emissions are generated. For example, electricity would be consumed at the proposed project site; however, emissions associated with producing that electricity are generated off-site at a power plant.

CalEEMod includes calculations for indirect GHG emissions for electricity consumption, water consumption, and solid waste disposal. For water consumption, CalEEMod calculates embedded

energy (e.g., treatment, conveyance, distribution) associated with providing each gallon of potable water to the project site. For solid waste disposal, CalEEMod calculates GHG emissions generated as solid waste generated by the proposed project decomposes in a landfill. For electricity-related emissions, CalEEMod contains default electricity intensity factors for various utilities throughout California.

Refrigerants

During operation, there may be leakages of refrigerants (hydrofluorocarbons) from air conditioners and any refrigeration systems. Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. The proposed project does not include a cold storage facility. Any leakage of refrigerants associated with an unrefrigerated industrial building is expected to be minor; therefore, they were not estimated.

Vegetation

The project site is currently undeveloped and contains some small amounts of vegetation in the form of low-lying grasses. Therefore, there is currently some carbon sequestration occurring on-site. The project applicant proposes to plant trees and integrate landscaping into the proposed design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that the existing landscaping has on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the proposed project would be balanced; therefore, emissions due to carbon sequestration were not included.

SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section calculates expected emissions from project construction and operation as a necessary requisite for assessing the regulatory significance of project emissions on a regional and local level. The methodology follows the BAAQMD CEQA and Federal Conformity Guidelines, which set forth recommended thresholds of significance and analysis methodologies and provides guidance on mitigating significant impacts.

5.1 - CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine whether a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the proposed project must be evaluated.

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the BAAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the proposed project has the potential to exceed these air pollution thresholds, the proposed project would be considered to have significant air quality impacts.

5.1.1 - Thresholds of Significance

This analysis uses the air quality significance thresholds contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the proposed project would:

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

b) Result in cumulative considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

c) Exposure sensitive receptor to substantial pollutant concentrations.

d) Create objectionable odors affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the BAAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If a lead agency finds that a project has the potential to exceed these air pollution thresholds, the proposed project should be considered to have significant air quality impacts. The applicable BAAQMD thresholds and methodologies are contained under each impact statement below.

5.2 - Impact Analysis

5.2.1 - Consistency with Air Quality Management Plan

Impact AIR-1: **The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.**

Impact Analysis

The BAAQMD is responsible for reducing emissions from area, stationary, and mobile sources in the Air Basin to achieve National and CAAQS. The BAAQMD 2017 Clean Air Plan is a regional and multiagency effort to reduce air pollution in the Air Basin. A consistency determination with the Air Quality Management Plan (AQMP) plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision-makers of the proposed project's environmental effects under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the 2017 Clean Air Plan.

The BAAQMD completes the regional emissions inventory for the Air Basin. In part, the regional population, housing, and employment projections developed by the ABAG are based on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the 2017 Clean Air Plan. These demographic trends are incorporated into Plan Bay Area, compiled by ABAG and the MTC, to determine priority transportation projects and VMT in the Bay Area. Projects consistent with the local general plan are considered consistent with the regional air quality plan. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional inventory compiled as part of the 2017 Clean Air Plan.

The proposed project would build up to 40 townhome units on approximately 2.08 acres of the 2.18-acre project site. The project site is designated "Medium Density Residential (18-25)" (MDR [18-25]) by the City of Campbell General Plan and is consistent with the allowable density. As previously described, demographics trends such as employment and population growth were estimated in ABAG's Plan Bay Area 2040 based on local general plan land use patterns, which the BAAQMD utilized in part to inform the emissions inventory and projections contained in the 2017 Clean Air Plan. As a result, the ABAG regional population, housing, and employment estimates for this project site would be reasonably accounted for because the proposed project is consistent with these General Plan land use designations. Thus, the proposed project would generally be consistent with the underlying general plan land use designation and would not have the potential to substantially affect housing, employment, and population projections in the region that are the basis of the 2017 Clean Air Plan projections.

Table 9 identifies the control measures in the 2017 Clean Air Plan required by BAAQMD to reduce emissions for a wide range of stationary and mobile sources and the proposed project's consistency analysis with these control measures. As shown in Table 9, the proposed project would not conflict with the control measures of the 2017 Clean Air Plan. Additionally, the proposed project would comply with all the construction emission mitigation measures shown in Appendix A.

Table 9: Consistency with 2017 Clean Air Plan Control Measures

Type	Measure Number/Title	Consistency Analysis
Stationary Source Control Measure	MSM C-1–Construction and Farming Equipment SS 1–Fluid Catalytic Cracking in Refineries SS 2–Equipment Leaks SS 3–Cooling Towers SS 4–Refinery Flares SS 5–Sulfur Recovery Units SS 6–Refinery Fuel Gas SS 7–Sulfuric Acid Plants SS 8–Sulfur Dioxide from Coke Calcining SS 9–Enhanced NSR Enforcement for Changes in Crude Slate SS 10–Petroleum Refining Emissions Tracking SS 11–Petroleum Refining Facility-Wide Emission Limits SS 12–Petroleum Refining Climate Impacts Limit SS 13–Oil and Gas Production, Processing and Storage SS 14–Methane from Capped Wells SS 15–Natural Gas Processing and Distribution SS 16–Basin-Wide Methane Strategy SS 17–GHG BACT Threshold SS 18–Basin-Wide Combustion Strategy SS 19–Portland Cement SS 20–Air Toxics Risk Cap and Reduction from Existing Facilities SS 21–New Source Review for Toxics SS 22–Stationary Gas Turbines SS 23–Biogas Flares SS 24–Sulfur Content Limits of Liquid Fuels SS 25–Coatings, Solvents, Lubricants, Sealants and Adhesives SS 26–Surface Prep and Cleaning Solvent SS 27–Digital Printing SS 28–LPG, Propane, Butane SS 29–Asphaltic Concrete SS 30–Residential Fan Type Furnaces SS 31–General Particulate Matter Emission Limitation SS 32–Emergency Backup Generators SS 33–Commercial Cooking Equipment SS 34–Wood Smoke SS 35–PM from Bulk Material Storage, Handling and Transport, Including Coke and Coal SS 36–PM from Trackout SS 37–PM from Asphalt Operations SS 38–Fugitive Dust	**Not applicable**. Stationary sources are regulated directly by the BAAQMD, which routinely adopts/revises rules or regulations to implement the Stationary Source (SS) control measures to reduce stationary source emissions. Any new stationary sources associated with the proposed project would be required to comply with BAAQMD's regulations. However, based on the proposed residential use for the project site, it is not anticipated that the proposed project would result in any new major stationary source emissions. Additionally, in the event stationary equipment would be installed on-site, it is anticipated that the equipment would be small-quantity emitters and would require review by BAAQMD for permitted sources of air pollutants which would ensure consistency with the 2017 Clean Air Plan.

Type	Measure Number/Title	Consistency Analysis
	SS 39–Enhanced Air Quality Monitoring SS 40–Odors	
Transportation Control Measures	TR 1–Clean Air Teleworking Initiative TR 2–Trip Reduction Programs TR 3–Local and Regional Bus Service TR 4–Local and Regional Rail Service TR 5–Transit Efficiency and Use TR 6–Freeway and Arterial Operations TR 7–Safe Routes to Schools and Safe Routes to Transit TR 8–Ride sharing, Last-Mile Connection TR 9–Bicycle and Pedestrian Access and Facilities TR 10–Land Use Strategies TR 11–Value Pricing TR 12–Smart Driving TR 13–Parking Policies TR 14–Cars and Light Trucks TR 15–Public Outreach and Education TR 16–Indirect Source Review TR 17–Planes TR 18–Goods Movement TR 19–Medium and Heavy-Duty Trucks TR 20–Ocean Going Vessels TR 21–Commercial Harbor Craft TR 22–Construction, Freight and Farming Equipment TR 23–Lawn and Garden Equipment	**Consistent**. Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion to reduce motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or California Department of Transportation (Caltrans)—the 2017 Clean Air Plan relies on local communities to assist with the implementation of some measures. Electrical conduits would be provided in the proposed project parking lot areas to accommodate future electric vehicle (EV) parking spaces. The provision of EV charging infrastructure would contribute toward achieving the TR goals of reducing air pollutant emissions. The proposed project also includes bicycle infrastructure which will promote non-vehicular use and reduced VMT. If applicable, the proposed project would also offer commuter benefits per the Bay Area's Commuter Benefits Program. This program requires all employers in BAAQMD's jurisdiction that have 50 or more full-time employees to offer commuter benefits to their employees.
Energy and Climate Control Measures	EN 1–Decarbonize Electricity Production EN 2–Renewable Energy Decrease Electricity Demand	**Consistent**. The Energy and Climate (EN) control measures are intended to reduce energy use as a means of reducing adverse air quality emissions. Additionally, the proposed buildings would comply with Building Energy Efficiency Standards in effect that permits are issued the for the proposed project. The current version Building Energy Efficiency Standards includes solar requirements, and the proposed project would be constructed to support future roof-mounted solar systems.
Buildings Control Measures	BL 1–Green Buildings BL 2–Decarbonize Buildings	**Consistent**. The Buildings (BL) control measures focus on working with local governments to adopt the best GHG

Type	Measure Number/Title	Consistency Analysis
	BL 3–Market-Based Solutions BL 4–Urban Heat Island Mitigation	emissions control practices and policies. As discussed above for the EN control measures, the proposed buildings would comply with Building Energy Efficiency Standards—i.e., constructed to support a roof-mounted solar system and achieving greater energy efficiency compared to the earlier Building Energy Efficiency Standards. Furthermore, the proposed project will be all-electric in design (to decarbonize buildings).
Agriculture ControlMeasures	AG 1–Agricultural Guidance and Leadership AG 2–Dairy Digesters AG 3–Enteric Fermentation AG 4–Livestock Waste	**Not Applicable**. Agricultural (AG) practices in the Bay Area account for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane, nitrous oxide, and carbon dioxide. The proposed project would not involve any agricultural activities or operations.
Natural and WorkingLands Control Measures	NW 1–Carbon Sequestration in Rangelands NW 2–Urban Tree Planting NW 3–Carbon Sequestration in Wetlands	**Consistent**. The control measures for the Natural and Working Lands (NW) sector focus on increasing carbon sequestration on rangelands and wetlands. The proposed project would include the planting of various ornamental and shade trees throughout the project site. These actions would support the State's working lands and would therefore make the proposed project consistent with this measure.
Waste Management Control Measures	WA 1–Landfills WA 2–Composting and Anaerobic Digesters WA 3–Green Waste Diversion WA 4–Recycling and Waste Reduction	**Consistent**. The Waste Management (WA) control measures include strategies to increase waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with Assembly Bill (AB) 341, which requires mandatory commercial recycling for businesses that generate four cubic yards or more of commercial solid waste per week. Additionally, the proposed project would be required to reduce construction waste by 75 percent and use 30 percent recycled content during the construction of the proposed facility. Therefore, the proposed project would not conflict with these WA control measures.

Type	Measure Number/Title	Consistency Analysis
Water Control Measures	WR 1–Limit GHGs from publicly owned treatment works (POTWs) WR 2–Support Water Conservation	**Consistent.** The 2017 Clean Air Plan includes measures to reduce water use. The proposed project would include water efficiency measures required under CALGreen. In addition, the proposed project would include water efficient indoor fixtures consistent with the requirements of CALGreen and water efficient landscaping outdoors.
Super GHG ControlMeasures	SL 1–Short-Lived Climate Pollutants SL 2–Guidance for Local Planners SL 3–GHG Monitoring and Emissions Measurements Network	**Consistent**. Super-GHGs include methane, black carbon, and fluorinated gases. These compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally fairly short. Measures to reduce super-GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. The proposed project would not produce super-GHGs because it would include standard residential uses with primarily passenger vehicles and no significant stationary sources of GHGs, such as petroleum refineries. Furthermore, the proposed project would comply with AB 341, which mandates commercial recycling for businesses that generate four cubic yards or more of commercial solid waste per week, which could contribute to reducing methane by diverting waste from landfills.
Further Study ControlMeasures	FSM SS 1–Internal Combustion Engines FSM SS 2–Boilers, Steam Generator and Process Heaters FSM SS 3–GHG Reductions from Non Cap-and-Trade Sources FSM SS 4–Methane Exemptions from Wastewater Regulation FSM SS 5–Controlling start-up, shutdown, maintenance, and malfunction (SSMM) Emissions FSM SS 6–Carbon Pollution Fee FSM SS 7–Vanishing Oils and Rust Inhibitors FSM SS 8–Dryers, Ovens and Kilns FSM SS 9–Omnibus Rulemaking to Achieve Continuous Improvement FSM BL 1–Space Heating FSM AG 1–Wineries	**Consistent**. The majority of the Further Study Control Measures (FSM) apply to sources regulated directly by the BAAQMD. Because the BAAQMD is the implementing agency, any new sources of stationary and area sources in the project site would be required to comply with these additional study control measures in the 2017 Clean Air Plan. Notwithstanding, the proposed project is a proposed residential development that would not be a source of stationary or area-source emissions.

Type	Measure Number/Title	Consistency Analysis
Notes: AG = Agricultural BL = Buildings EN = Energy and Climate FSM = Further Study Measures NW = Natural and Working Lands SL = Super GHG (Short-Lived) SS = Stationary Sources TR = Transportation WA = Waste Management WR = Water Control Measures Source: Bay Area Air Quality Management District (BAAQMD). 2017, April 19. Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area.		

As shown in Table 9, the proposed project would not conflict with the clean air measures contained in the Clean Air Plan after mitigation. Nonetheless, the BAAQMD's CEQA Air Quality Guidelines further recommend determining a project's consistency with the 2017 Clean Air Plan, in part, by determining a project's consistency with the significance thresholds presented in Table 9.[67] As discussed under Impact AIR-2, the proposed project would generate emissions which would not exceed the BAAQMD's significance thresholds. Therefore, the proposed project would not conflict with the applicable air quality plan and impacts would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

5.2.2 - Cumulative Impacts

Impact AIR-2:	**The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality (including releasing emissions which exceed quantitative thresholds for ozone precursors).**

Impact Analysis

This impact is related to the cumulative effect of a project's regional criteria pollutant emissions. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants results from past and present development within the Air Basin, and this regional impact is a cumulative impact. Therefore, new development projects (such as the proposed project) within the Air Basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by

[67] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 25, 2023.

itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when evaluated in combination with past, present, and future development projects.

Potential localized and regional impacts would result in exceedances of State or federal standards for NO_X, particulate matter (PM_{10} and $PM_{2.5}$), or CO. NO_X emissions are of concern because of potential health impacts from exposure to NO_X emissions during both construction and operation and as a precursor in the formation of airborne ozone. PM_{10} and $PM_{2.5}$ are of concern during construction because of the potential to emit exhaust emissions from the operation of off-road construction equipment and fugitive dust during earth-disturbing activities (construction fugitive dust). CO emissions are of concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion and potential health effects.

ROG emissions are also important because of their participation in the formation of ground level ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children.

The cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the proposed project's incremental effects would be cumulatively considerable. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in regional emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The significance thresholds represent the allowable amount of emissions each project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on the project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. Construction and operational emissions are discussed separately below.

Construction

During construction, fugitive dust would be generated from site grading and other earthmoving activities. The majority of this fugitive dust would remain localized and deposited near the project site; however, fugitive dust's potential impacts exist unless control measures are implemented to reduce this source's emissions. Exhaust emissions would also be generated from the operation of the off-road construction equipment and on-road construction vehicles.

Construction Fugitive Dust

The BAAQMD does not recommend a numerical threshold for fugitive dust PM emissions. Instead, the BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented, referred to as BMPs. If all appropriate emissions control measures are implemented for a project as recommended by the BAAQMD, then fugitive dust

emissions during construction are not considered significant. Therefore, the BAAQMD determines a project to result in a potentially significant impact if that project were not to implement construction BMPs to minimize the extent of fugitive dust emissions, such as soil erosion, sediment migration, roadway dust re-entrainment, and soil trackout, during project construction. The proposed project would be required to include all construction BMPs as part of compliance with construction permits and existing regulations contained in the Campbell Municipal Code Title 18 Buildings and Construction. Therefore, impacts related to fugitive dust would be less than significant.

Construction Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

CalEEMod, Version 2022.1.1.12, was used to estimate the proposed project's construction emissions. CalEEMod provides a consistent platform for estimating construction and operational emissions from various land use projects and is the model recommended by the BAAQMD for estimating project emissions. Estimated construction emissions are compared with the applicable thresholds of significance established by the BAAQMD to assess ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$ construction emissions to determine significance for this impact.

At the time of this analysis, the construction of the proposed project was anticipated to begin in September 2024 and be completed by August 2025. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements.

Construction activities such as grading, excavation, and travel on unpaved surfaces would generate dust and lead to elevated concentrations of PM_{10} and $PM_{2.5}$. According to the applicant-provided information, during grading activity soil would require 1,000 CY of export and 10 haul trips would occur. As the BAAQMD dust control measures would be required to ensure fugitive dust impacts are less than significant, the emission estimates shown below account for the implementation of these dust control measures. The operation of construction equipment results in exhaust emissions, which include ROG and NO_X.

Table 10 presents construction-period emissions that would result from the development of the proposed project. Complete CalEEMod output files are included as part of Appendix A.

Table 10: Unmitigated Construction Emissions by Construction Year

Construction Activity	Criteria Pollutant Emissions (Tons)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Site Preparation	0.00	0.02	0.00	0.00
Grading	0.01	0.12	0.02	0.01
Building Construction	0.18	1.43	0.09	0.06
Paving	0.00	0.03	0.00	0.00
Architectural Coating	0.25	0.08	0.01	0.00
Total Construction Emissions (Tons)	**0.44**	**1.69**	**0.12**	**0.08**

Construction Activity	Criteria Pollutant Emissions (Tons)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Average Daily Emissions				
Total Construction Emissions (Pounds)	770	3,359	332	201
Average Daily Construction Emissions (Pounds/Day)[1]	**2.83**	**12.35**	**1.22**	**0.74**
BAAQMD Significance Thresholds	54	54	82	54
Significant Impact?	**No**	**No**	**No**	**No**

Notes:
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter
ROG = reactive organic gases
This analysis relies on a 272-day construction schedule, consistent with the construction schedule and modeling results contained in Appendix A. The total working days are 272 days and some construction activities are expected to overlap.
[1] The average daily emissions are calculated using 272 construction working days for the proposed project.
Source: Appendix A.

As shown in above in Table 10, the proposed project's construction emissions would not exceed any of the applicable significance threshold. Therefore, the proposed project would have a less than significant impact related to air quality during project construction.

Cumulative Operational Emissions

Operational Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

Following project construction, long-term operational emissions would be generated, resulting from daily operations. Operational emissions would include area, energy, and mobile sources. Area sources would include emissions from architectural coatings, consumer products, and landscape equipment. Energy sources include emissions from the combustion of natural gas for water heaters and other heat sources. Mobile sources include exhaust and road dust emissions from the automobiles that would travel to and from the project site. Stationary sources include emissions from stationary source equipment, such as backup generators, which would require a permit issued by the BAAQMD. Pollutants of concern include ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Project operations were analyzed at full buildout immediately following the completion of construction in August 2025 According to the CalEEMod defaults for the proposed project, the proposed project is expected to generate an estimated 218 trips per weekday and 180 average weekend trips at full buildout. The CalEEMod defaults for trip generation is reflected by the landuse subtype which is defined as "Condo/Townhouse High Rise". Default trip rates utilized in CalEEMod are described in detail in Appendix C, Emission Calculation Details for CalEEMod.[68]

[68] ICF in collaboration with Sacramento Metropolitan Air Quality Management District, Fehr & Peers, STI and Ramboll. 2022. Appendix C, Emission Calculations Details for CalEEMod. April.

Table 11: Operational Regional Pollutants

Emissions Source	ROG	NO_X	PM_{10} Total	$PM_{2.5}$ Total
	Tons per Year			
Area	0.33	0.01	0.00	0.00
Energy	0.00	0.02	0.00	0.00
Mobile	0.12	0.09	0.18	0.05
Total (tons/year)	**0.45**	**0.11**	**0.18**	**0.05**
Significance Threshold (Tons/Year)	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**
Average Daily Emissions				
Total Average (pounds/day)[1]	**0.85**	**0.46**	**0.53**	**0.12**
Significance Threshold (Pounds/Day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter
ROG = reactive organic gases
[1] The average daily emissions are calculated using 365 operational days in 2025.
Source: Appendix A.

As shown in Table 11, the proposed project's regional daily operational emissions would not exceed any of the BAAQMD thresholds of significance. Therefore, the proposed project would not result in a considerable net increase of any criteria pollutant for which the project region is nonattainment during operation or construction.

Operational Carbon Monoxide Hotspot

The CO emissions from traffic generated by the proposed project are a concern at the local level. Congested intersections can result in high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The proposed project would result in a less than significant impact to air quality for local CO if all the following screening criteria are met:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; and

2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Consistency With an Applicable Congestion Management Program

The proposed project would not conflict with a program, plan, ordinance, or policy of the circulation system, including transit, roadway, bicycle, and pedestrian facilities. As discussed in the TIS, the proposed project would screen out of potentially significant VMT impacts because the proposed project is within an area that has been pre-screened by the City of Campbell draft guidelines for VMT analysis as having a VMT below the significance threshold and therefore the proposed project would be presumed to have a less than significant impact with regard to VMT. Additionally, all four study intersections would operate at acceptable Levels of Service under existing and Baseline conditions, without and with traffic generated by the proposed project.

Increase Traffic Volumes at Affected Intersections to No More Than 44,000 Vehicles Per Hour

As indicated for the proposed project, no intersections impacted by the proposed project would experience traffic volumes of 44,000 vehicles per hour. As discussed therein, there would be an estimated 218 trips from the proposed project. Therefore, the proposed project would not result in any nearby intersection having peak-hour traffic volumes exceeding 44,000 vehicles per hour.

Increase Traffic Volumes Where Vertical and/or Horizontal Mixing Is Substantially Limited

Nonetheless, CO hotspots can occur when a transportation facility's design or orientation prevents the adequate dispersion of CO emissions from vehicles, resulting in the accumulation of local CO concentrations. The design or orientation of a transportation facility that may prevent the dispersion of CO emissions include tunnels, parking garages, bridge underpasses, natural or urban canyons, below-grade roadways, or other features where vertical or horizontal atmospheric mixing is substantially limited. Adjacent roadways that would receive new vehicle trips generated by the proposed project do not include roadway segments where vertical or horizontal atmospheric mixing is substantially limited.

Therefore, based on the above criteria, the proposed project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

5.2.3 - Sensitive Receptors

Impact AIR-3: The proposed project could expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

The proposed project could expose sensitive receptors to elevated pollutant concentrations if it causes or contributes significantly to elevated pollutant concentration levels. The closest sensitive receptors include a multi-family residence located approximately 120 feet south of the project site, a public park approximately 660 feet southeast of the project site, and an elementary school 2,100 feet northeast of the project site. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects. As the proposed project would constitute the development of approximately 40 townhomes, a construction Health Risk Assessment (HRA) has been prepared for the proposed project and modeling details are contained in Appendix B. The results of the HRAs are summarized below.

Construction

Diesel Particulate Matter and Cancer Risks

The proposed project could accommodate the construction of 40 townhomes. During construction, the proposed project would result in emissions of several TACs that could potentially impact nearby sensitive receptors. The BAAQMD has defined health risk significance thresholds. These thresholds are represented as a cancer risk to the public and a non-cancer hazard from exposures to TACs. Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a period of several years. The principal TAC emission analyzed in this assessment was DPM from operation of off-road equipment and diesel fuel delivery and worker vehicles during construction. DPM has been identified by the ARB as a carcinogenic substance. For purposes of this analysis, DPM is represented as exhaust emissions of PM_{10}.

Cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer as a direct result of exposure to potential carcinogens over a specified exposure duration. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 10 in a million implies a likelihood (or risk) that up to 10 persons out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer risk that is in addition to any environmental cancer risk borne by a person not exposed to these air toxins.

California Office of Environmental Health Hazard Assessment (OEHHA) has developed guidance for estimating cancer risks that considers the increased sensitivity of infants and adults to TAC emissions, different breathing rates, and time spent at home. This guidance was applied in estimating cancer risks from the construction and operation of the proposed project.

The recommended method for the estimation of cancer risk is shown in the equations.

$$\text{Cancer Risk} = C_{DPM} \times \text{Inhalation Exposure Factor} \quad \text{(EQ-1)}$$

Where:

Cancer Risk = Total individual excess cancer risk defined as the cancer risk a hypothetical individual faces if exposed to carcinogenic emissions from a particular source for specified exposure durations; this risk is defined as an excess risk because it is above and beyond the background cancer risk to the population; cancer risk is expressed in terms of risk per million exposed individuals.

C_{DPM}=Period average DPM air concentration calculated from the air dispersion model in $\mu g/m^3$

Inhalation is the most important exposure pathway to impact human health from DPM and the inhalation exposure factor is defined as follows:

$$\text{Inhalation Exposure Factor} = CPF \times EF \times ED \times DBR \times AAF/AT \quad \text{(EQ-2)}$$

Where:

CPF = Inhalation cancer potency factor for the TAC: 1.1 $(mg/kg\text{-}day)^{-1}$ for DPM
EF = Exposure frequency (days/year)
ED = Exposure duration (years of construction)
AAF = set of age-specific adjustment factors that include age sensitivity factors (ASF), daily breathing rates (DBR), and time at home factors (TAH)
AT = Averaging time period over which exposure is averaged (days)

Estimation of Chronic Non-Cancer Hazards

An evaluation of potential non-cancer effects of chronic chemical exposures was also conducted. Adverse health effects are evaluated by comparing the annual receptor concentration of each chemical compound with the appropriate Reference Exposure Level (REL). Available RELs promulgated by OEHHA were considered in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as an HI. The HI is a ratio of the predicted concentration of the proposed project's emissions to a concentration considered acceptable to public health professionals, termed the REL.

To quantify non-carcinogenic impacts, the HI approach was used.

$$HI = C_{ann}/REL \quad \text{(EQ-3)}$$

Where:

HI = chronic hazard index
C_{ann} = annual average concentration of TAC as derived from the air dispersion model ($\mu g/m^3$)
REL = reference exposure level above which a significant impact is assumed to occur ($\mu g/m^3$)

The HI assumes that chronic exposures to TACs adversely affect a specific organ or organ system (toxicological endpoint) of the body. For each discrete chemical exposure, target organs presented in regulatory guidance were used. To calculate the HI, each chemical concentration or dose is divided

by the appropriate toxicity REL. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds 1, a health hazard is presumed to exist. OEHHA has defined a REL for DPM of 5 μg/m^3. The principal toxicological endpoint assumed in this assessment was through inhalation.

Toxic Air Contaminant Construction Analysis

Major sources of DPM during construction include off-road construction equipment and heavy-duty delivery truck activities. The results of the HRA prepared for project construction for cancer risk and long-term chronic cancer risk are summarized below. Air dispersion modeling was utilized to assess the proposed project's potential health risks using American Meteorological Society/EPA Regulatory Model (AERMOD) Version 22112, which is the air dispersion model accepted by the EPA and the BAAQMD for preparing HRAs. Exhaust emissions of DPM (as $PM_{2.5}$ exhaust) were estimated using CalEEMod. The construction emissions were assumed to be distributed over the project area with a working schedule of eight hours per day and five days per week. Detailed model input, output, emissions and risk calculations are contained in Appendix B.

The estimated health and hazard impacts at the Maximally Impacted Sensitive Receptor (MIR) from the proposed project's unmitigated construction emissions are provided in Table 12.

Table 12: Summary of Health Risks at the Maximum Impacted Receptor (Unmitigated)

Impact Scenario	Cancer Risk[1] (risk per million)	Chronic Non-Cancer Hazard Index[2]	$PM_{2.5}$ Concentration (μg/m^3)
Residential MIR Impact			
Unmitigated Project Construction	32.75	0.081	0.40573
Thresholds of Significance	**10**	**1**	**0.3**
Exceeds Individual Source Threshold?	**Yes**	**No**	**Yes**

Notes:
MIR = Maximally Impacted Sensitive Receptor
$PM_{2.5}$ = particulate matter 2.5 micrometers or less in diameter
μg/m^3 = micrograms per cubic meter
[1] Cancer risk calculated based on an exposure duration of approximately 0.69 years commensurate with the proposed project's construction schedule.
[2] Chronic non-cancer hazard index was estimated by dividing the concentration by the REL.
The MIR was determined to be an existing residence located at 592064.88, 4126669.92 UTM.
Source of Thresholds: Bay Area Air Quality Management District (BAAQMD). 2022. California Environmental Quality Act Air Quality Guidelines.
Sources of Project-specific Data: Appendix B.

As shown in Table 12, the proposed project would result in potentially significant health impacts to the maximally impacted receptor prior to the incorporation of cleaner than average on-site construction equipment. Therefore, Mitigation Measure (MM) AIR-1 is required to reduce health risk impacts to sensitive receptors from construction of the proposed project.

Table 13, below, summarizes the health and hazard impacts at the MIR from construction of the proposed project after the implementation of MM AIR-1, which would require the use of off-road construction equipment that meet emissions standards for Tier IV engines for all equipment with engines greater than 50 hp.

Table 13: Summary of Health Risks at the Maximum Impacted Receptor (Mitigated)

Impact Scenario	Cancer Risk[1] (risk per million)	Chronic Non-Cancer Hazard Index[2]	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential MIR Impact			
Mitigated Project Construction	5.20	0.013	0.06438
Thresholds of Significance	**10**	**1**	**0.3**
Exceeds Individual Source Threshold?	**No**	**No**	**No**

Notes:
MIR = Maximally Impacted Sensitive Receptor
$PM_{2.5}$ = particulate matter 2.5 micrometers or less in diameter
$\mu g/m^3$ = micrograms per cubic meter
[1] Cancer risk is identified by multiplying the risk sum from HARP2 by 1,000,000.
[2] Chronic non-cancer hazard index was estimated using HARP2.
The MIR was determined to be an existing residence located at 38°24'50.4"N 122°45'02.0"W.
Source of Thresholds: Bay Area Air Quality Management District (BAAQMD). 2022. California Environmental Quality Act Air Quality Guidelines.
Sources of Project-specific Data: Appendix B.

As noted in Table 13, the proposed project's project-specific health risk impacts would be less than significant after incorporation of MM AIR-1. Therefore, the proposed project would not result in a significant impact on nearby sensitive receptors from TACs during construction after the implementation of MM AIR-1.

Toxic Air Contaminant Operational Analysis

A 40-unit townhome development is not expected to generate substantive DPM or TAC emissions during operational activity. As such, no impacts from operational activity associated with TACs is expected to occur.

Carbon Monoxide Hotspot

As discussed in Impact AIR-2, the proposed project would not generate sufficient vehicle traffic during project operation to substantiate creating a CO hotspot. Therefore, this impact would be less than significant with regard to exposing sensitive receptors to substantial concentrations of CO emissions. As such, the proposed project would result in less than significant impacts related to exposing sensitive receptors to substantial CO concentrations.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AIR-1 Prior to issuance of building permits, Developer or Contractor shall provide a plan for approval by the City demonstrating that all off-road equipment with engines greater than 50 horsepower shall meet either the United States Environmental Protection Agency (EPA) or California Air Resources Board (ARB) Tier IV off-road emission standards. The construction contractor shall maintain records documenting compliance with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

Level of Significance After Mitigation

Less than significant impact.

5.2.4 - Objectionable Odors

Impact AIR-4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact Analysis

Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor is located near an existing source of odor.

Odors can cause a variety of responses. The impact of an odor is dependent on interacting factors such as frequency (how often), intensity (strength), duration (in time), offensiveness (unpleasantness), location, and sensory perception. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Under BAAQMD Rule 1-301, the BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants. These screening distances by type of odor generator are listed in Table 14.

Table 14: BAAQMD Odor Screening-level Distances Thresholds

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles

Land Use/Type of Operation	Project Screening Distance
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Source: Bay Area Air Quality Management District (BAAQMD) 2017.	

Construction-Related Odors

Potential sources that may emit odors during construction activities include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions, the intermittent nature of construction activities, and the highly diffusive properties of diesel PM exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project site. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Operational-Related Odors

The proposed project includes the construction and development of 40 town homes. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations (the proposed project would include a small on-site private sewer lift station), composting facilities, feedlots, coffee roasters, asphalt batch plants, and rendering plants. The proposed project would not produce any offensive odor emitting end uses such as coffee roasting, composting, feed lots, refining, sewage treatment, or solid waste management and would not be considered an odor generator as identified in Table 14.

In summary, the proposed project's long-term operational activities would not have any substantial odor sources that would expose nearby receptors or future residents. Considering the low intensity of

potential odor emissions, the proposed project's operational activities would not expose receptors to objectionable odor emissions.

Level of Significance

Less than significant impact.

SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1 - CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine whether a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the proposed project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the proposed project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

6.1.1 - Thresholds of Significance for the Proposed Project

The BAAQMD's 2022 CEQA Air Quality Guidelines provides recommended significance thresholds for GHGs for land use development projects and plans. The new thresholds state that if a project would contribute its "fair share" of what will be required to achieve California's long-term climate goal of carbon neutrality by 2045, then a reviewing agency can find that the impact will not be significant because the project will help to solve the problem of global climate change. The thresholds for new land use projects require projects to meet either of one of two enumerated Criteria "A" or "B" detailed in Table 2. If a land use development project cannot demonstrate consistency with Criterion A or Criterion B, then that project would result in a potentially significant impact related to the generation of direct and indirect greenhouse gas emissions.

Project consistency with Criteria A is based on incorporating project design criteria based on key attributes consistent with the 2022 Scoping Plan and states long-term carbon neutrality goals. Projects incorporating these elements would be contributing their ""fair share" of what will be required to achieve California's long-term climate goal of carbon neutrality by 2045. These include criteria for building energy design (elimination of natural gas) as well as criteria related to reduction in transportation emissions via VMT reductions and installation of EV charging infrastructure.

Project consistency with Criterion B involves demonstrating compliance with a local "qualified" GHG plan. CEQA Guidelines Section 15183.5(b) allows projects and plans to be analyzed through a streamlined or tiered approach utilizing an adopted Greenhouse Gas Reduction Plan. A "qualified" reduction strategy capable of being utilized for a streamlined or tiered analysis under CEQA must meet the following requirements:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendments if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

While the above methodology is employed under Impact GHG-1, which focuses on the proposed project's direct and indirect generation of GHG emissions, Impact GHG-2 methodology for determining whether a potentially significance impact would occur focuses on the proposed project's consistency with the applicable plan adopted for the purpose of reducing GHG emissions. Consistent with the BAAQMD's CEQA Air Quality Guidelines, project's that are consistent with the applicable threshold would contribute its "fair share" of what is needed to achieve the State's long-term GHG reduction goals, and a lead agency can find that the project is adequately contributing to solving the problem of global climate change and the project's impact is not significant. As such, project's consistent with the BAAQMD-identified design elements (Criterion A, as described above), then these projects would contribute their portion of what is necessary to achieve California's long-term climate goals and the proposed project would not result in a cumulatively considerable contribution to climate change.

6.2 - Impact Analysis

6.2.1 - Greenhouse Gas Inventory

Impact GHG-1:	**The proposed project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.**

Impact Analysis

Both construction and operational activities have the potential to generate GHG emissions. The proposed project would generate GHG emissions during temporary (short-term) construction activities such as site grading, operation of construction equipment, operation of on-site heavy-duty construction vehicles, hauling of materials to and from the project site, asphalt paving, and construction worker vehicle trips. On-site construction activities would vary depending on the level of construction activity.

Long-term, operational GHG emissions would result from project-generated vehicular traffic, operation of any landscaping equipment, off-site generation of electrical power over the life of the proposed project, the energy required to convey water to and wastewater from the project site, the emissions associated with the hauling and disposal of solid waste from the project site, any fugitive refrigerants from air conditioning or refrigerators, and the operation of any proposed stationary sources such as backup generators or fire pumps.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this section measures the proposed project's incremental contribution to the cumulative environmental impact. The following is a discussion of the proposed project's contribution to GHG emissions during both the construction and operation phases. The proposed project's GHG emissions are quantified for informational purposes only.

Construction

The BAAQMD's 2022 CEQA Air Quality Guidelines do not contain recommended thresholds of significance for construction related GHG impacts. However, it is recommended that the construction related GHG emissions are calculated and disclosed, for informational purposes. Therefore, the proposed project's construction related GHG emissions are presented in Table 15. It should be noted that the analysis conservatively assumes that construction would start in September 2024. As vehicle and equipment fuel efficiencies and emission control standards continue to incrementally improve with each year, project construction emissions are likely to decrease nominally from what is shown in Table 15, should the construction schedule move to later years. Therefore, the construction GHG emissions contained in Table 15 represent a conservative assessment of project construction emissions.

Table 15: Proposed Project Construction GHG Emissions

Construction Activity	Total GHG Emissions (MT CO_2e per year)
Site Preparation	4
Grading	19
Building Construction	83
Paving	6
Architectural Coating	14
Total Construction Emissions	**126**
Emissions Amortized Over 30 Years[1]	**4.2**

Notes:
GHG = greenhouse gas
MT CO_2e = metric tons carbon dioxide equivalent
Totals may not appear to sum exactly due to rounding.

Construction Activity	Total GHG Emissions (MT CO_2e per year)

[1] Construction GHG emissions are conservatively amortized over the 30-year lifetime of the project; project lifetime is typically much longer than 30 years and therefore the amortized emissions are a conservative annual estimate of construction-related emissions.
Source: Appendix B.

As shown above, the proposed project would generate approximately 126 MT CO_2e during construction.

Operation

Operational or long-term emissions occur over the life of the project. Project operations were modeled for the 2025 operational year, immediately following the completion of construction. Sources for operational emissions are summarized below and are described in more detail in Section 4-Modeling Parameters and Assumptions. Sources for operational GHG emissions include:

- **Motor Vehicles:** These emissions refer to GHG emissions contained in the exhaust from the cars and trucks that would travel to and from the project site.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the project.
- **Area Sources:** These emissions refer to those produced during activities such as landscape maintenance.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the GHG emissions produced by decomposing waste generated by the project.

Table 16 presents the estimated annual GHG emissions from the proposed project's operational activities. As shown in Table 16, the proposed project would generate approximately 235.36 MT CO_2e per year after the inclusion of 4.2 MT CO_2e per year from project construction.

Table 16: Operational Greenhouse Gas Emissions

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Area	5
Energy	35
Mobile	180
Waste	9
Water	3
Amortized Construction Emissions	4.2
Total Annual Project Emissions	**235.36**

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Notes: MT CO_2e = metric tons carbon dioxide equivalent Source: Appendix B.	

As previously discussed, the BAAQMD's proposed 2022 GHG significance thresholds represent a method for determining whether the proposed project would be cumulatively considerable or whether the proposed project contributes to solving the cumulative problem of climate change, taking into consideration the State's long-term climate goal of carbon neutrality by 2045. As such, the BAAQMD's proposed 2022 GHG significance thresholds reflect California's current short-term climate goal of reducing Statewide emissions by 40 percent below 1990 levels by 2030 as well as California's long-term climate goal of achieving carbon neutrality by 2045. If the proposed project cannot demonstrate consistency with Criterion A or Criterion B, then the proposed project would result in a potentially significant impact related to GHG emissions. This analysis applies Criterion A in order to evaluate the proposed project's GHG because the City of Campbell does not currently have a qualified GHG Reduction Strategy or CAP.

Consistent with the City's Reach Code, the proposed project would not include natural gas appliances or natural gas plumbing. Additionally, the proposed project would provide 240-volt outlet in each garage, which satisfies the 2022 CalGreen Tier 2 charging requirement. These attributes ensure that the proposed project would not result in any wasteful, inefficient, or unnecessary electrical usage (i.e. energy use) pursuant to the applicable CEQA Guidelines. Lastly, the proposed project screens out of further VMT analysis and it is presumed to have a less than significant impact. Therefore, the proposed project would be consistent with all four design elements of Criterion A of the BAAQMD's 2022 GHG thresholds. As a result, the proposed project would be considered to commit its "fair share" of GHG emission reductions consistent with the State's long-term climate goal of carbon neutrality and the proposed project's GHG emissions would not significantly impact the environment. The proposed project would have a less than significant impact related to GHG emissions.

Level of Significance

Less than significant impact.

6.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: **The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases.**

Impact Analysis

While the above methodology is employed under Impact GHG-1, which focuses on the proposed project's direct and indirect generation of GHG emissions, Impact GHG-2 methodology for determining whether a potentially significant impact would occur focuses on the proposed project's consistency with the applicable plan adopted for the purpose of reducing GHG emissions. Consistent

with the BAAQMD's 2022 CEQA Air Quality Guidelines, projects that are consistent with the applicable threshold would contribute its "fair share" of what is needed to achieve the State's long-term GHG reduction goals, and a lead agency can find that the project is adequately contributing to solving the problem of global climate change and the project's impact is not significant. As such, if a project is consistent with the BAAQMD-identified design elements (and therefore less than significant in regard to its project-level impact to global climate change), then these projects would contribute their portion of what is necessary to achieve California's long-term climate goals and the proposed project would not result in a cumulatively considerable contribution to climate change and would be consistent with the State's plan for reducing GHG emissions.

Additionally, Appendix D of the ARB 2022 Scoping Plan highlights three priority areas for local jurisdictions to focus on when reducing GHGs in Climate Action Plans: 1) Transportation electrification; 2) VMT reduction; and 3) Building decarbonization. As discussed earlier, the proposed project includes attributes that satisfy all three of these priority areas, and the proposed project would be considered to be consistent with the ARB 2022 Scoping Plan.

Level of Significance

Less than significant impact.

Appendix A:
CalEEMod Modeling Results

Appendix B:
Health Risk Assessments

FIRSTCARBONSOLUTIONS™

Biological Resources Assessment
Virginia Avenue Project
City of Campbell, Santa Clara County, California

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Date: August 18, 2023
Updated: May 8, 2024

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SECTION 1: INTRODUCTION

This Biological Resources Assessment (BRA) has been prepared by FirstCarbon Solutions (FCS) for the proposed Virginia Avenue Project (proposed project). The purpose of the BRA is to (1) document existing and potentially occurring biological resources on the project site and adjacent areas; (2) analyze potential project-related impacts on regulated biological resources; (3) summarize relevant local, State, and federal regulations; and (4) recommend appropriate measures to mitigate potential impacts on biological resources to less than significant levels.

1.1 - Project Location

The proposed project is located at 320 Virginia Avenue in the City of Campbell within Santa Clara County, California (Exhibit 1 and Exhibit 2). The project site is located on the *San José West, California* United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map. One Assessor's Parcel Number (APN) comprises the project site: APN 404-07-033. The proposed project is bounded by Virginia Avenue and residential developments to the west, a nursing home and truck rental agency to the north, residential development to the south, and San Tomas Aquinas Creek and residential developments to the east.

1.2 - Project Description

VOP Ref Virginia, LLC (applicant) proposes to construct up to 40 townhome units on approximately 2.08 acres of the 2.18-acre project site. The proposed project would consist of approximately 73,248 net square feet of new residential units with a density of approximately 18.39 dwelling units per acre. The proposed project would also include 94 total parking spaces, including 14 on-site surface parking spaces. When completed, the proposed project is expected to generate housing for an estimated 100 residents. The proposed project would also include a common open space adjacent to Virginia Avenue (Exhibit 3).

1.2.1 - Residential Dwelling Units

Dwelling units would consist of 40 3-story townhomes. The product mix would include 2- and 4-bedroom homes with living areas ranging from 1,410 to 2,093 square feet per unit.

The attached townhomes would include two 6-plexes and four 7-plexes. These townhomes would include five floor plans, ranging from 1,410 to 2,093 square feet, and 2-car garages in each dwelling unit.

1.2.2 - Design and Appearance

The proposed building would be no more than three stories in height at any location, with a maximum height of approximately 36 feet.

1.2.3 - Circulation and Parking

Circulation

The proposed project would allow access from two driveways on Virginia Avenue. An internal network of private streets would provide access to townhome garages and guest parking.

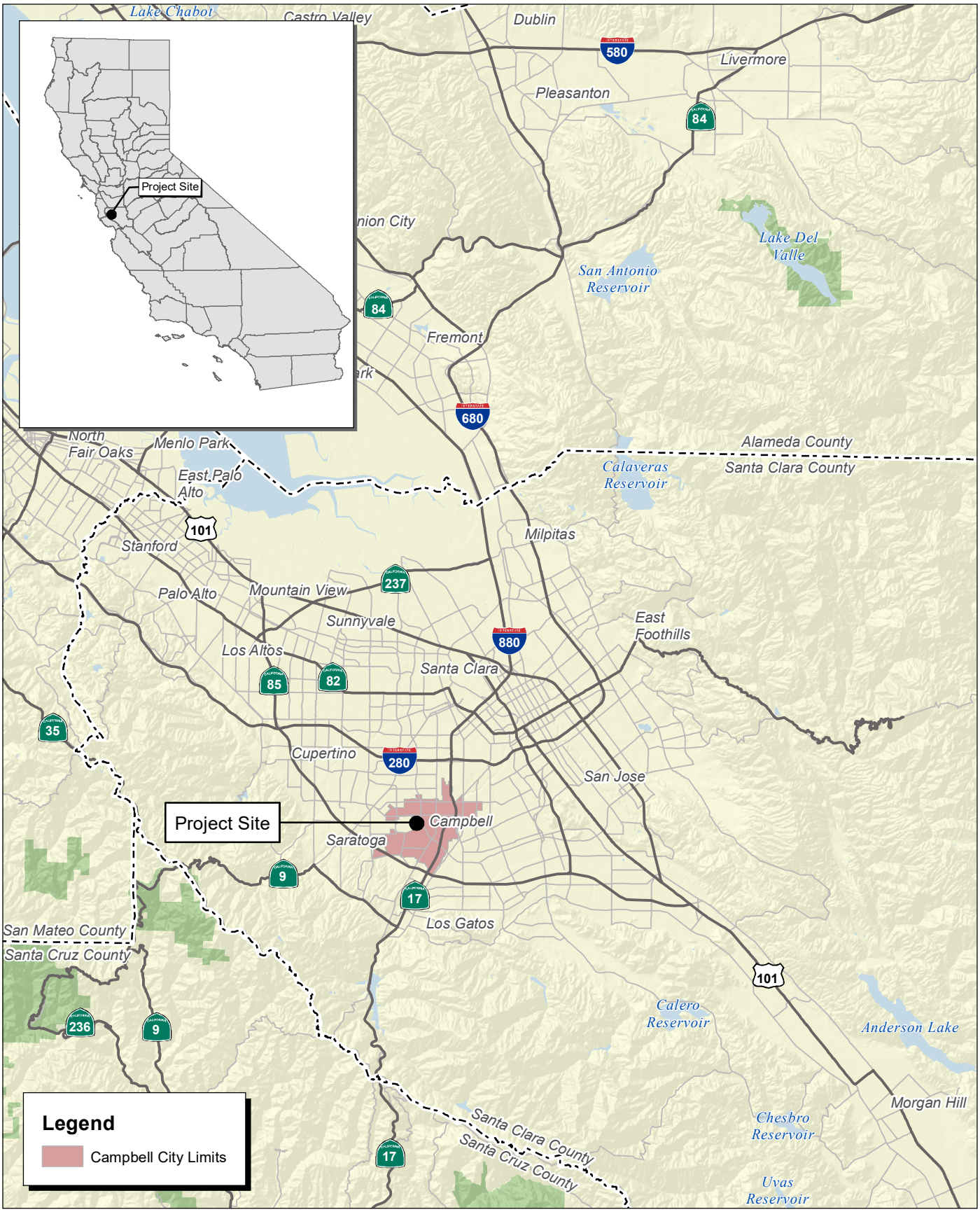
Parking

The proposed project would provide 80 on-site garage parking spaces and 14 surface parking spaces, totaling 94 parking spaces.

1.2.4 - Open Space and Landscaping

The proposed project would include 9,425 square feet of park open space, as well as an additional 21,911 square feet of other landscaped areas throughout the project site. Additionally, the proposed project would include 11,270 total square feet of private open space on the ground level.

The planting design for the proposed project would consist of drought-tolerant plant material, with a balance of evergreen and deciduous plants, as well as native and ornamental planting. The park open space would include a recreational turf area, playground area with a seat wall and bench seating and two picnic tables. Paved pedestrian walkways would be provided throughout the park open space, as well as additional bench seating, five bike racks and various shade trees.



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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VOP REF VIRGINIA, LLC
VIRGINIA AVENUE PROJECT
BIOLOGICAL RESOURCE ASSESSMENT

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Source: Bing Aerial Imagery.

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Feet

Exhibit 2
Local Vicinity Map

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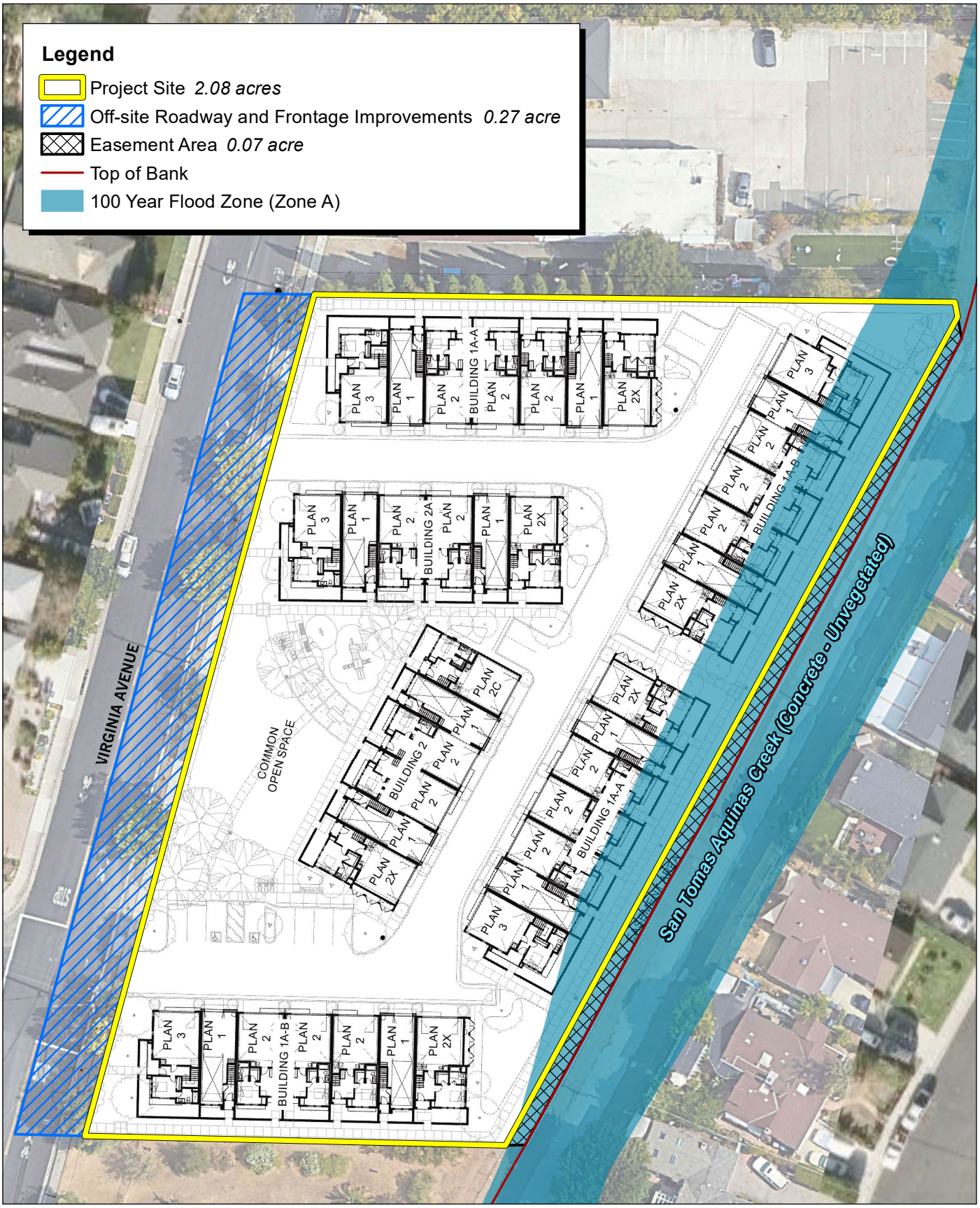

Source: ESRI Aerial Imagery. DAHLIN, June 28, 2023.

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Exhibit 3
Site Plan

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SECTION 2: REGULATORY SETTING

2.1 - Federal

2.1.1 - Endangered Species Act of 1973

The United States Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under the federal Endangered Species Act of 1973. Section 9 of Endangered Species Act protects listed species from "take," which is broadly defined as actions taken to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The Endangered Species Act protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process.

2.1.2 - Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. All migratory birds and their nests are protected from take and other impacts under the MBTA (16 United States Code [USC] § 703, *et seq*.).

2.1.3 - Bald and Golden Eagle Protection Act

The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq*.) and the Bald and Golden Eagle Protection Act (16 USC §§ 668–668d).

2.1.4 - Clean Water Act

Section 404

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States.

As of the preparation of the original version of this report on August 11, 2023, the final "Revised Definition of Waters of the United States" rule was published in the Federal Register on January 18, 2023, and took effect on March 20, 2023. However, the final rule is not currently operative in certain states and for certain parties due to litigation. Moreover, the United States Environmental Protection Agency (EPA) and USACE (hereafter known as the agencies) are in receipt of the U.S. Supreme Court's May 25, 2023 decision in the case of *Sackett v. Environmental Protection Agency* [Sackett]. In light of this decision, the agencies will interpret the phrase "waters of the United States" consistent with the Supreme Court's decision in *Sackett*.

On August 29, 2023, the EPA and the USACE issued a final ruling that amends the "Revised Definition of "Waters of the United States'" to conform key portions of the regulatory text to the U.S. Supreme Court's May 25 decision, defining "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
2. The territorial seas or interstate waters.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    c. Which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under this definition.
5. Waters that are relatively permanent, standing or continuously flowing bodies of water.
6. Tributaries of waters identified in paragraphs(s) (1) or (2) of this section.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs(s) (1) through (5) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 Code of Federal Regulations 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA and/or USACE.

"Wetland" refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

Section 401

As stated in Section 401 of the CWA, "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

2.2 - State

2.2.1 - CEQA Guidelines

The California Environmental Quality Act (CEQA) requires public agencies to evaluate potential impacts to special-status species and their habitat. The following CEQA Guidelines Appendix G checklist questions serve as thresholds of significance when evaluating the potential impacts of a proposed project on biological resources. Impacts are considered significant if a project would:

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

Oak Woodlands Conservation Act

California Senate Bill (SB) 1334, the Oak Woodlands Conservation Act, became law on January 1, 2005, and was added to the CEQA statutes as Section 21083.4. This statute requires that a county must determine whether or not a project will result in a significant impact on oak woodlands and, if

it is determined that a project may result in a significant impact on oak woodlands then the county shall require one or more of the following mitigation measures:

- Conserve oak woodlands through the use of conservation easements;
- Plant an appropriate number of trees, including maintenance of plantings and replacement of failed plantings;
- Contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements;
- Other mitigation measures developed by the county.

2.2.2 - California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

2.2.3 - California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Fish and Game Code Sections 2050 through 2098 outline the protection provided to California's rare, endangered, and threatened species. Fish and Game Code Section 2080 prohibits the taking of plants and animals listed under the CESA. Fish and Game Code Section 2081 established an incidental take permit program for State-listed species. The CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way." Project impacts to these species

are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

In addition to formal listing under the Endangered Species Act and CESA, some species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a "Species of Special Concern." Species with this status may have limited distributions or limited populations, and/or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and specific protection measures may be warranted. In addition to Species of Special Concern, the CDFW Special Animals List identifies animals that are tracked by the California Natural Diversity Database (CNDDB) and may be potentially vulnerable but warrant no federal interest and no legal protection.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society (CNPS) List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Fish and Game Code Sections 3500 to 5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project site and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." "River, stream, or lake" includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water. CDFW jurisdiction typically extends to the edge or "drip line" of the riparian habitat or top of bank.

2.2.4 - California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State" (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code § 13050(e)). In 2019, the California State Water Resources Control Board (State Water Board) published the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures) to guide wetland/waters of the State determinations and the permitting process.[1]

2.2.5 - California Rare Plant Ranking System

CDFW, in collaboration with CNPS and technical experts, maintains a list of plant species that are native to California and that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. The California Rare Plant Rank (CRPR) system includes six rarity and endangerment ranks that are defined as follows:

- **Rank 1A:** Plants presumed extirpated in California and either rare or extinct elsewhere
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere
- **Rank 2A:** Plants presumed extirpated in California but common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California but more common elsewhere
- **Rank 3:** Plants about which more information is needed
- **Rank 4:** Watch List: Plants of limited distribution

Potential impacts to populations of CRPR plants receive consideration under CEQA review. All plants appearing on the CNPS List ranked 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. Rank 3 and 4 plants do not automatically meet this definition. Rank 4 plants do not clearly meet CEQA standards and thresholds for impact considerations. Nevertheless, some level of CEQA review is justified for CRPR 4 taxa, and under some circumstances, a full impact analysis is warranted. Taxa that can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in

[1] California State Water Resources Control Board (State Water Board). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Website: https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html. Accessed July 14, 2023.

CEQA Section 15125(c) must be fully analyzed in a CEQA document. Some circumstances, such as local rarity, having occurrences peripheral to the taxon's distribution, or having occurrences on unusual substrates or rare and declining habitats, provide justification for treating some CRPR 4 taxa occurrences as regionally rare or unique. One limitation to fully analyzing impacts on CRPR 4 taxa, is the difficulty in obtaining current data on the number and condition of the occurrences.[2]

2.3 - Regional and Local

2.3.1 - City of Campbell 2040 General Plan

The Campbell 2040 General Plan establishes the following goals, policies, and actions relevant to biological resources:

Goal COS-7 Protect and maintain animal and plant species, City trees, waterways, and other supporting biological habitats within Campbell.

Policy COS-7.1 Preserve and enhance biological communities that contribute to Campbell's and the region's biodiversity including, but not limited to, wetlands, riparian areas, and aquatic habitat.

Policy COS-7.2 Preserve and enhance the aesthetic and habitat value of riparian corridors including the Los Gatos and San Tomas Aquinas Creeks.

Policy COS-7.3 Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

Policy COS-7.4 Conserve existing native trees and vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

Policy COS-7.5 Work with Valley Water (Santa Clara Water Valley District) to preserve wetlands, riparian corridors, and buffer zones in Campbell by continuing to require that new development follow the "Guidelines and Standards for Land Use Near Streams" to protect streams and riparian habitats. Encourage the use of water quality wetlands, bioretention, watershed scale retrofits, etc., where such measures are likely to be effective and technically and economically feasible.

Policy COS-7.6 Limit the disturbance of natural water bodies and drainage systems in Campbell by conserving natural open space areas, protecting channels, and minimizing the impacts from stormwater runoff.

[2] California Native Plant Society (CNPS). 2020. Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact. Analysis. Website: https://www.cnps.org/wp-content/uploads/2020/02/crpr4_technical_memo.pdf#:~:text=Additional%20reasons%20for%20including%20CRPR%204%20taxa%20in,elevation%2C%20regional%20rarity%20considerations%2C%20and%20local%20conservation%20concerns. Accessed July 26, 2023.

Policy COS-7.7 Build upon existing streetscapes and develop an urban forest along the City's major corridors and in residential neighborhoods to provide avian habitat, sequester carbon emissions, foster pedestrian activity, and provide shade.

Policy COS-7.8 Reduce the use of highly-reflective and/or transparent building materials in order to reduce the potential for bird strikes and other harm to wildlife.

Actions in Support of Goal COS-7

COS-7.a Cooperate with State, federal, and local agencies to ensure that development does not cause significant adverse impacts to existing riparian corridors; this includes continued compliance with the "Guidelines and Standards for Land Use Near Streams" from Valley Water (Santa Clara Valley Water District).

COS-7.b Continue to require new development and infrastructure projects to incorporate the standards and requirements contained in the Santa Clara Valley Urban Runoff Pollution Prevention Program's current C.3 Stormwater Handbook to ensure that Low Impact Development (LID) measures are incorporated into site designs to reduce stormwater pollutants, incorporate Green Stormwater Infrastructure, and encourage greater use of permeable paving surfaces.

COS-7.c Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified Biologist, which may include, but are not limited to the following:

- Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, Migratory Bird Treaty Act, or species identified as special-status by the resource agencies, shall be conducted by a qualified Biologist.
- Provision of temporary or permanent buffers of adequate size (based on the specifics of the protected species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.
- Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection, and to reduce potential soil compaction in sensitive areas.
- Pre-Construction training of contractors and subcontractors shall be conducted by a qualified Biologist to identify and avoid protected species and habitat.

COS-7.d Work with Valley Water (Santa Clara Valley Water District) to restrict future fencing, piping, and channelization of creeks when flood control and public safety can be achieved through measures that preserve the natural environmental and habitat of riparian corridors; in addition, evaluate opportunities to revert some existing concrete-lined channels to more natural alternatives such as levees.

COS-7.e Encourage the Santa Clara Valley Water District, County Parks Department, developers, and private property owners to plant and maintain native trees and plants and replace invasive, non-native species with native ones along creek corridors.

COS-7.f Continue to work collaboratively with the Santa Clara Valley Water District to institute ongoing programs to remove invasive plant species and harmful insects from ecologically sensitive areas, primarily by means other than application of herbicides and pesticides.

COS-7.g Develop and implement a Grading Ordinance that requires the use of erosion and sediment control measures and minimizes grading and vegetation removal near creeks to ensure that the creeks are protected from reduction in bank stability, erosion, downstream sedimentation, and flooding.

COS-7.h Coordinate with the California Department of Fish and Wildlife, Santa Clara County, the Santa Clara Valley Water District, and local watershed protection groups to identify potentially impacted aquatic habitat within Campbell and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams, and other waterways. Efforts should result in standards to reduce impacts between urban development and riparian corridors, including lighting restrictions, pollution controls, noise reduction, and other measures deemed appropriate to preserve and enhance the biological function of habitat.

COS-7.i Adopt an ordinance incorporating the Guidelines and Standards for Land Use Near Streams into the Zoning Code.

COS-7.j Update Section 21.18.110 (Refuse and recycling storage areas) of the Municipal Code to require new and existing (subject to specified thresholds) refuse enclosures to incorporate appropriate stormwater protection measures consistent with the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 Stormwater Handbook.

COS-7.k Consider the preparation of local CEQA thresholds for significant impacts to biological resources.

COS-7.l Consider the preparation and adoption of an ordinance that establishes regulations to reduce bird mortality from windows, other specific glass features, and certain lighting elements that are known to increase the risk of bird collisions.

2.3.2 - City of Campbell Municipal Code

The City of Campbell Municipal Code Chapter 21.23 establishes the City's tree protection guidelines. Trees protected by these guidelines include (1) Heritage trees defined as "any tree so designated by the historic preservation Board based on the finding that the tree has character, significant age

and girth, interest or value as part of the development of, and/or exemplification of the cultural, educational, economic, agricultural, social, indigenous or historical heritage of the City and identified on the historic resources inventory" or (2) any tree shown on an approved landscaping plan or required to be planted or retained as a condition of approval of a development application, a building permit, or a tree removal permit. For example, for trees on all commercial, industrial, multi-family residential, mixed-use, and undeveloped single-family residential properties in all zoning districts, any tree or multi-trunk tree with at least one trunk measuring 12 inches or greater in diameter (38 inches or greater in circumference), measured 4 feet above the adjacent grade are protected. Additionally, for developed single-family residential properties, trees or multi-trunk trees with at least one trunk measuring 12 inches or greater in diameter (38 inches or greater in circumference) of the following species: oak (*Quercus*), redwood (*Sequoia*), cedar (*Cedrus*), or ash (*Fraxinus*) are protected. Permits are required for the removal of any trees subject to the chapter.

SECTION 3: METHODS

3.1 - Literature Review

Literature review was conducted to analyze existing documentation regarding biological resources and habitat conditions within the project site and is summarized below.

3.1.1 - Existing Documentation

As part of the literature review, an FCS Biologist compiled and analyzed existing environmental documentation for the project site and relevant areas in its vicinity. This documentation included literature pertaining to the habitat requirements of special-status species with the potential to occur in the project vicinity; and federal register listings, protocols, and species data provided by the USFWS, CDFW, and CNPS.

3.1.2 - Topographic Maps and Aerial Photographs

An FCS Biologist reviewed current USGS 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity.[3] Information obtained from the topographic maps included elevation, general watershed information, and potential drainage feature locations using Google Earth in conjunction with the EPA Watershed Assessment, Tracking, and Environmental Results System (WATERS).[4] Aerial photographs provided a perspective of the current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors.

3.1.3 - Soil Surveys

The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series (i.e., group of soils with similar profiles) occurring within a particular area.[5] These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These series are further subdivided into soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to inform whether the soil conditions on-site are potentially suitable for any special-status plant species. However, Natural Resources Conservation Service (NRCS) soil maps utilize an approximately 1.4-acre minimum mapping unit, and line placement may not be accurate on a large (i.e., parcel-level) scale.

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[3] United States Geological Survey (USGS). 2023. National Geospatial Program. Website: https://www.usgs.gov/core-science-systems/national-geospatial-program/us-topo-maps-america?qt-science_support_page_related_con=4#qt-science_support_page_related_con. Accessed July 26, 2023.

[4] United States Environmental Protection Agency (EPA). 2023. Watershed Assessment, Tracking and Environmental Results System (WATERS). Website: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system. Accessed July 26, 2023.

[5] Natural Resources Conservation Service (NRCS). 2023. Web Soil Survey (WSS). United States Department of Agriculture (USDA). Website: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed July 26, 2023.

3.1.4 - Special-status Species Database Search

An FCS Biologist compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the project vicinity based on a search of the USFWS Information for Planning and Consultation (IPaC) database,[6] the CNDDB, and the CNPS Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California for the *San José West, California* USGS 7.5-minute Topographic Quadrangle Map, and the eight surrounding quadrangles.[7,8] The CNDDB Biogeographic Information and Observation System (BIOS 6) was used to determine the distance between the known occurrences of special-status species and the project site.[9]

3.1.5 - Trees

Prior to conducting the reconnaissance-level field survey, an FCS Biologist reviewed applicable City ordinances pertaining to tree preservation and protection and ascertained whether tree replacement measures or permits for the removal of protected trees are required.

3.1.6 - Jurisdictional Waters and Wetlands

Prior to conducting the reconnaissance-level survey, an FCS Biologist reviewed EPA WATERS and aerial photography to identify potential natural drainage features and water bodies.[10] In general, all surface drainage features identified as blue-line streams on USGS maps and linear patches of vegetation are expected to exhibit evidence of flows and considered potentially subject to State and federal regulatory authority as waters of the United States and/or State. A preliminary assessment was conducted to determine potential jurisdictional parameters of the drainage swale on-site, including presence and extent of wetland hydrology indicators, hydric soil indicators, and hydrophytic vegetation.

3.1.7 - Santa Clara Valley Habitat Plan

Prior to conducting the reconnaissance-level survey, an FCS Biologist reviewed the Santa Clara Valley Habitat Agency Geobrowser interactive web tool to confirm applicability of the Plan to the proposed project. The proposed project located outside of the boundaries of the Santa Clara Valley Habitat Plan (SCVHP).[11]

[6] United States Fish and Wildlife Service (USFWS). 2023. Information for Planning and Consultation (IPaC). Website: https://ecos.fws.gov/ipac/. Accessed July 26, 2023.

[7] California Department of Fish and Wildlife (CDFW). 2023. California Natural Diversity Database (CNDDB) RareFind 6 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 26, 2023.

[8] California Native Plant Society (CNPS). 2023. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed July 26, 2023.

[9] California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 6). Website: https://map.dfg.ca.gov/bios/. Accessed July 26, 2023.

[10] United States Environmental Protection Agency (EPA). 2023. Watershed Assessment, Tracking and Environmental Results System (WATERS). Website: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system. Accessed July 26, 2023.

[11] Santa Clara Valley Habitat Agency. 2023. Habitat Agency Geobrowser. Website: http://www.hcpmaps.com/habitat/. Accessed July 26, 2023.

3.2 - Field Survey

FCS Biologists familiar with the biological resources of the region conducted general wildlife, habitat, vegetation community and aquatic resource surveys on July 21, 2023. The objective of the field survey was to ascertain general site conditions, wildlife use, and identify whether existing vegetation communities provide suitable habitat for special-status plant or wildlife species. Potentially sensitive areas identified during the literature review were ground-truthed during the field survey for mapping accuracy. Special attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

Wildlife species detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs were recorded. Notations were made regarding suitable habitat for those special-status species determined to have the potential to occur within the project site.[12]

3.2.1 - Vegetation

Common plant species observed during the reconnaissance-level survey were identified by visual characteristics and morphology in the field and recorded. Uncommon plants were identified with the use of taxonomical guides. Taxonomic nomenclature used in this study follows The Jepson Manual: Vascular Plants of California.[13] Vegetation types and boundaries were noted on aerial photos, verified through field observation, and digitized using ESRI ArcGIS software® ArcMap 10.0. By incorporating collected field data and interpreting aerial photography, a map of habitat types, land cover types, and other biological resources within the project site was prepared. Vegetation community and land cover types used to help classify habitat types are based on the Manual of California Vegetation (MCV) where applicable.

3.2.2 - Wildlife

Wildlife species detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs were recorded. Notations were made regarding suitable habitat for those special-status species determined to have the potential to occur within the project site.[14] Appropriate field guides were used to assist in species identification during surveys, such as Peterson, Reid, and Stebbins.[15,16] Online resources such as eBird and California Herps were also consulted, as necessary.[17,18]

3.2.3 - Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by natural and anthropogenic dispersal barriers, including rugged terrain, changes in vegetation,

[12] California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 26, 2023.
[13] Baldwin, B. et al. 2012. The Jepson Manual: Vascular Plants of California. Berkeley: University of California Press. County of San Bernardino (Bernardino). 2007 (amended 2015). Accessed July 26, 2023.
[14] California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 26, 2023.
[15] Peterson, T.R. 2010. A Field Guide to Birds of Western North America, Fourth Edition. Boston: Houghton Mifflin Harcourt.
[16] Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Boston: Houghton Mifflin Harcourt.
[17] eBird. 2021. Online bird occurrence database. Website: http://ebird.org/content/ebird/. Accessed July 26, 2023.
[18] California Herps. 2023. A Guide to the Amphibians and Reptiles of California. Website: http://www.californiaherps.com/. Accessed July 26, 2023.

development, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated "islands" of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The project site was evaluated for evidence of a wildlife movement corridor during the reconnaissance-level survey and review of aerial photographs, and CDFW's BIOS 6 information. The focus of this study was to determine whether a change in land use at the project site could have significant impacts on the regional movement of wildlife. Conclusions are based on the information compiled during the literature review, including the Center for Watershed Protection (CWP), aerial photographs, USGS topographic maps and resource maps for the vicinity; the field survey; and professional experience with the desired topography, habitat, and resource requirements of the special-status species potentially utilizing the project site and vicinity.

SECTION 4: RESULTS

This section summarizes the results of the literature search, database review, and field surveys listed within Section 3 above.

4.1 - Environmental Setting

The project site lies within the City of Campbell in the Santa Clara Valley. The Santa Clara Valley is bounded by the Diablo Range to the northeast and by the Santa Cruz Mountains in the southwest, which separate the valley from the Pacific Ocean. Much of the valley is largely urbanized, although the far southern reaches remain more agrarian. The project site is surrounded by residential developments and roadways to the west, additional residential units to the north and south, and an engineered creek to the east. Significant local landmarks include the San Tomas Aquinas Creek and the San Tomas Expressway located approximately 25 and 200 feet from the project site, respectively. The project site is subject to regular disturbances (e.g., mowing) and historical aerial imagery suggest the site has been previously developed and was last used as a storage yard for mechanical equipment.[19]

4.1.1 - Topography and Hydrology

The project site lies approximately 285 feet above mean sea level. The project site and vicinity are generally flat, which is typical for the developed areas within the City of Campbell. Major waterways in the project vicinity include the San Tomas Aquinas Creek, located approximately 25 feet east of the project site. A cement lined ditch/v-ditch and storm drain are located on the northern perimeter of the project boundary.

4.1.2 - Soils

The NRCS Web Soil Survey (WSS) depicts one soil type within the project site: Urbanland–Landelspark complex (170) as seen in Table 1 and Exhibit 4.

Table 1: Soil Types Present within Project Site

Soil Name	Symbol	Slope	Description	Acreage
Urbanland–Landelspark complex	170	0-2%	Alluvium derived from metamorphic and sedimentary rock and/or alluvium derived from metavolcanics. Well-draining, nonsaline to very slightly saline soil.	2.18

[19] Google Earth. June 19, 2019. 37° 16’56.45’’N 121°57’43.30’’W elevation 204, eye alt 1,890 feet.

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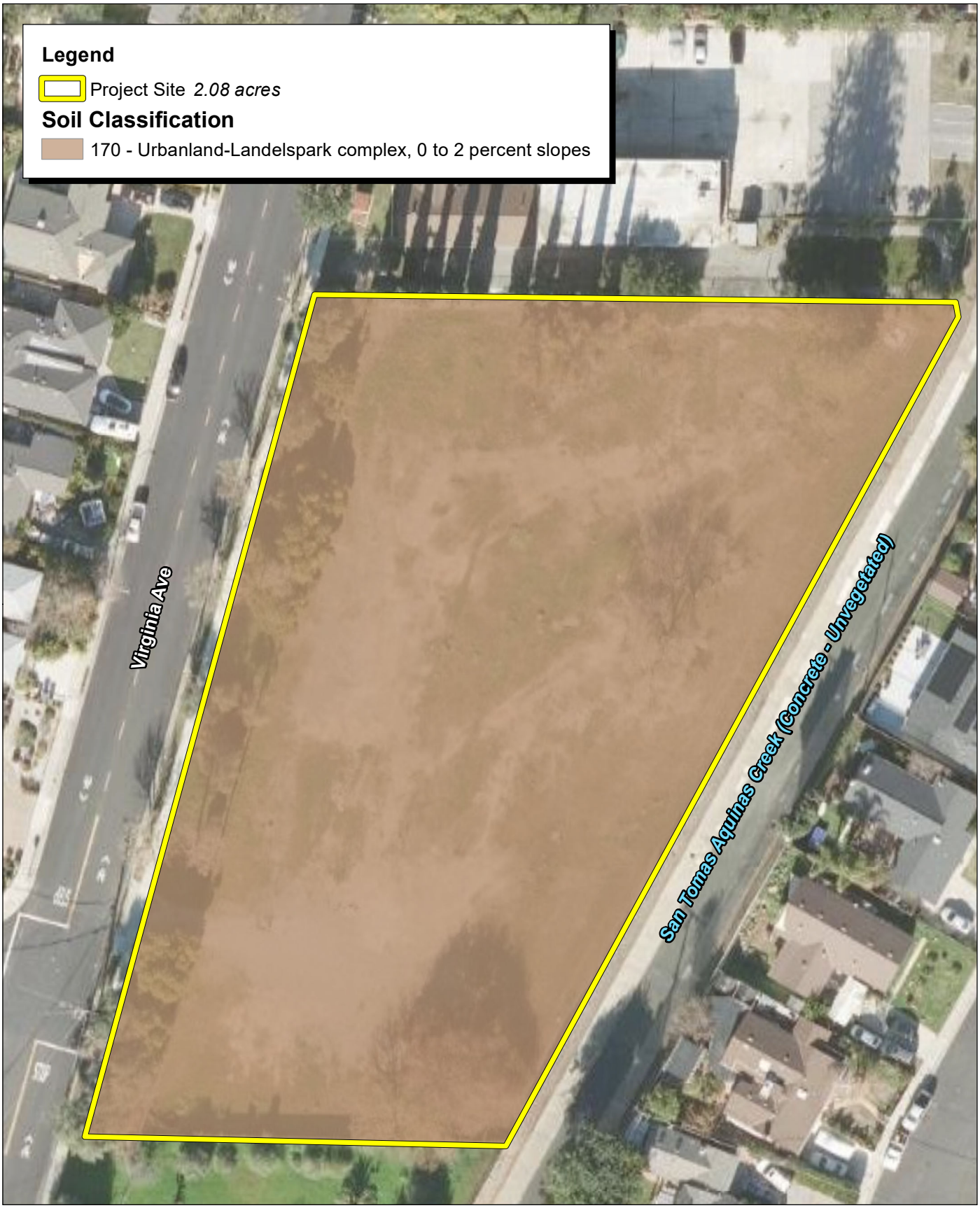

Source: ESRI Aerial Imagery. USDA NRCS Soils Data Santa Clara County Western Area.

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Exhibit 4
Soils Map

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4.2 - Vegetation Communities and Land Cover Types

The following section describes the vegetation communities and land cover types present on the project site. The location and extent of each vegetation community is shown on Exhibit 5.

4.2.1 - Ruderal

The project site contains ruderal habitat within its northern and southern portions. Ruderal habitat is classified as areas that have been physically disturbed by previous legal human activity, and which are no longer recognizable as a native or naturalized vegetation association, but which continue to retain a soil substrate. Vegetation, if present, is typically composed of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance.

A ruderal zone, primarily consisting of mowed non-native vegetation with interspersing gravel patches was identified throughout most of the project site. Vegetation that was observed within the ruderal vegetation type consist of wild lettuce (*Lactuca virosa*), cheeseweed mallow (*Malva parviflora),* smooth hawksbeard (*Crepis capillaris*), *Bromus sp*., smallflower melicgrass (*Melica imperfecta), Avena sp.,* redstem stork's-bill (*Erodium cicutarium*), mustard (*Brassica juncea*), and stinkwort (*Dittrichia graveolens*).

4.2.2 - Gravel Access Lot

A gravel access lot is located within the southwestern portion of the project site. The gravel lot leads from the access gate off Virginia Avenue into the project site and is predominantly dominated by gravel with vegetation on its periphery. Vegetation observed around the lot consists of Canary Island ivy (*Hedera canariensis*), *Convolvulaceae sp*., prostate knotweed (*Polygonum aviculare*), and *Bromus sp*.

4.2.3 - Mixed Ornamental Woodland

Several clusters of ornamental trees occur in the southwestern, central, and northern portion of the project site in association with former developments on-site. These trees and areas of ornamental vegetation are primarily composed of blackwood (*Acacia melanoxylon*), coast redwood (*Sequoia sempervirens*), velvet ash trees (*Fraxinus velutina*), and Japanese zelkova trees (*Zelkova serrata*).

4.2.4 - Ditch

An engineered, cement lined ditch/v-ditch approximately 230 linear feet long by 4 feet wide (on average) is located on the northern periphery of the project site is/was used to carry runoff from the site. At the time of the survey, the ditch was observed to be devoid of vegetation, apart from fallen leaf litter from deciduous adjacent trees. The ditch did not exhibit current evidence of concentrated surface flow or wetland characteristics. However, past evidence of sediment disposal was visible, and ephemeral stormwater flows collecting in the ditch appeared to pass from this feature to a culvert inlet assumed to convey flows from the ditch into San Thomas Aquinas Creek, eventually flowing into the Lower San Francisco Bay via Guadalupe Slough.

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Source: ESRI Aerial Imagery.

FIRSTCARBON SOLUTIONS™

60 30 0 60 Feet

Exhibit 5
Vegetation Communities and Land Cover Types

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4.3 - Wildlife

The vegetation community and land cover types discussed above provide habitat for numerous wildlife species. Wildlife activity was low during the field survey and consisted primarily of avian species adapted to human disturbances. These included California gull (*Larus californicus*), California towhee (*Melozone crissalis*), California scrub-jay *(Aphelocoma californica*), house finch (*Haemorhous mexicanus*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), lesser goldfinch (*Spinus psaltria*), chestnut-backed chickadee (*Poecile rufescens*), black phoebe (*Sayornis nigricans*), northern mockingbird (*Mimus polyglottos)*, American crow (*Corvus brachyrhynchos)*, house sparrow (*Passer domesticus*), and Anna's hummingbird (*Calypte anna*).

4.4 - Wildlife Movement Corridors and Nursery Sites

A wildlife corridor is an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development, or logging). This allows an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations.

The project site is located in a highly disturbed/urbanized area which is surrounded primarily by residential developments. Dense residential developments abut the project site to the north, west, and south. Therefore, non-volant wildlife movement through the site is limited, and the site does not connect habitats suitable for sustainable wildlife populations.

Wildlife may utilize the San Tomas Aquinas Creek for dispersal; however, the proposed project would be required to be set back from the Creek. No direct impacts to the Creek would occur from project construction.

There are no native wildlife nursery sites present within the project site.

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SECTION 5: SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources typically include special-status species and their habitats, sensitive natural communities, riparian areas, protected aquatic resources (i.e., State or federally protected wetlands and other waters), wildlife nursery sites, wildlife movement corridors, and protected trees.

The following section discusses the extent to which sensitive biological resources determined in Section 4 to be present or potentially present on-site qualify as sensitive and would therefore be protected through environmental laws and regulations, including CEQA.

5.1 - Sensitive Natural Communities

The CDFW maintains a list of natural communities which attempts to classify vegetation types found within the State of California and rank them based on rarity. Communities ranked S1-S3 are considered sensitive natural communities. Wetlands and riparian habitats are also typically considered sensitive natural communities and are addressed in the environmental review process. No sensitive natural communities were identified within the project site and are therefore excluded from further discussion.

5.2 - Special-status Plant Species

The Special-status Plant Species Evaluation Table (Appendix A, Table 1) lists 43 special-status plant species that have been recorded on the *San José West, California*, USGS Topographic Quadrangle Map and the eight surrounding quadrangles by the CNDDB, CNPSEI, and IPaC. [20,21,22] This evaluation includes the species' status, required habitat, and potential to occur within the project site. Special-status plant species that were determined to have no potential to occur within the project site are not included in this analysis.

Based upon the field survey, literature review, and professional experience, no special-status plant species occur or are expected to occur within the project site due to the absence of suitable habitat, previous land uses, and the extent and frequency of ground disturbance. Much of the project site has been subjected to past disturbance from mowing, soil compaction, creation of impervious surfaces from past development, and competition from non-native species. For these reasons, the project site does not promote the establishment of, or provide suitable conditions for rare plants, which are typically sensitive to these types of disturbances. Moreover, the project site lacks microhabitats such as vernal pools, chenopod scrub, and alkaline or acidic soils that are typically necessary to support many rare plants. For the reasons outlined above, it is reasonable to

[20] United States Geological Survey (USGS). 2023. National Geospatial Program. Website: https://www.usgs.gov/core-science-systems/national-geospatial-program/us-topo-maps-america?qt-science_support_page_related_con=4#qt-science_support_page_related_con. Accessed July 27, 2023.

[21] California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 27, 2023.

[22] California Native Plant Society (CNPS). 2023. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed July 27, 2023.

conclude that special-status plant species are determined to be absent from the project site. As such, this resource category is not further addressed in the impact analysis and recommendations section of this document.

5.3 - Special-status Wildlife

The Special-status Wildlife Species Evaluation (Appendix A, Table 2) identifies 42 federal and State-listed threatened and/or endangered wildlife species and State Species of Special Concern that have been documented within the *San José West, California*, USGS Topographic Quadrangle Map and eight surrounding quadrangles by CNDDB and IPaC.[23][24] This evaluation includes the species' status, required habitat types and features, and potential to occur within the project site. Appendix A, Table 2, includes all special-status wildlife species that have been determined unlikely to occur within the project site, primarily based on the absence of suitable habitat and the lack of recorded occurrences in the project site and project vicinity, along with the justification for their exclusion from further discussion.

A majority of wildlife species documented in Appendix A, Table 2 were determined to have no potential to occur and are therefore excluded from further analysis. The remaining species such as pallid bat (*Antrozous pallidus)*, Townsend's big-eared bat (*Corynorhinus townsendii),* and functional groups such as nesting birds and roosting bats are discussed in more detail below.

5.3.1 - Protected Nesting Birds (Including All Special-status Bird Species)

The active nests of most resident and migratory (game and non-game) birds (including the nests of additional special-status birds) are protected by the MBTA and/or Fish and Game Code; and are therefore categorized as a "special-status" wildlife functional group in this report. Ornamental trees and ruderal ground cover present within the project site could provide nesting habitat for different taxa of bird species, such as common songbirds (passerine birds). Other protected species with potential to be found nesting on-site include Cooper's hawk (protected by FGC 3503.5) and the white-tailed kite (a fully protected species). Therefore, it is likely that protected bird nests could be present on the project site during the nesting season (typically considered to last from February 1 to August 31 for most species).

5.3.2 - Bats (Including Special-status Bats)

The project site offers marginal but potentially viable roosting habitat for bat species. Bats could potentially use the trees to roost and forage over the ruderal land within the project site.

Roosts are used during the daytime to seek refuge; at night between foraging excursions to rest, digest prey, seek refuge from predators or poor weather conditions, or for social purposes; and in winter for hibernation. Adult females and their young use some particularly secure roosts as maternity roosts. The number of bats occupying a given roost can vary from a solitary individual to a

[23] California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 27, 2023.

[24] United States Fish and Wildlife Service (USFWS). 2023. Information for Planning and Consultation (IPaC). Website: https://ecos.fws.gov/ipac/. Accessed July 27, 2023.

large colony, depending on the species. Roosting sites are very sensitive to human disturbance, especially when bats are hibernating or rearing young.

At dusk, bats leave their roosts to forage for insects in nearby ponds or riparian habitats. Bats generally prey on insect species that are locally abundant near water bodies. Ecotone areas (areas of transition between habitats) are also used as foraging areas.

Therefore, it cannot be ruled out that bat roosts have the potential to occur within the project site.

5.4 - Protected Trees

Municipal Code Chapter 21.23 defines protected trees as (1) Heritage trees defined as "any tree so designated by the historic preservation Board based on the finding that the tree has character, significant age and girth, interest or value as part of the development of, and/or exemplification of the cultural, educational, economic, agricultural, social, indigenous or historical heritage of the City and identified on the historic resources inventory" or (2) any tree shown on an approved landscaping plan or required to be planted or retained as a condition of approval of a development application, a building permit, or a tree removal permit. For example, for trees on all commercial, industrial, multi-family residential, mixed-use, and undeveloped single-family residential properties in all zoning districts, any tree or multi-trunk tree with at least one trunk measuring 12 inches or greater in diameter (38 inches or greater in circumference), measured 4 feet above the adjacent grade are protected. Additionally, for developed single-family residential properties, trees or multi-trunk trees with at least one trunk measuring 12 inches or greater in diameter (38 inches or greater in circumference) of the following species: oak, redwood, cedar, or ash are protected. Permits are required for the removal of any trees subject to the chapter. Trees within the project site may meet the protected tree definition above.

5.5 - State or Federally Protected Waters and Wetlands

5.5.1 - San Tomas Aquinas Creek

San Tomas Aquinas Creek is an engineered creek adjacent to but outside of the project boundary of the site. The Creek appears to be straightened and modified to function as a managed flood control channel. The reach of the Creek adjacent to the project site is devoid of emergent or riparian vegetation. The project site is separated from the San Tomas Aquinas Creek through a chain-link fence at the project's eastern boundary. No direct impacts to the Creek are anticipated from project construction.

5.5.2 - Ditch

As described in Section 4.2.4 above, a maintained concrete ditch/v-ditch that collects stormwater runoff off-site is present within the northern boundary of the project site. It is FCS's understanding that this man-made feature would most likely not be subject to USACE jurisdiction under Section 404 of the CWA because the ditch was excavated in and drains wholly upland habitats/non-jurisdictional features to convey treat, infiltrate, or store stormwater runoff, and is an ephemeral in nature to the

extent that the feature does not support a relatively permanent flow of water and therefore would not meet the definition of a "tributary" to be considered a CWA jurisdictional feature.

On May 26, 2023, the Supreme Court issued a ruling in *Sackett vs. Environmental Protection Agency* that substantially revised the areas which may be jurisdictional under Section 404 of the CWA. This decision determined that areas of federal jurisdiction under the CWA must have a "continuous surface connection" with navigable waters of the United States, or relatively permanent tributaries to navigable waters. This report proposes preliminary conclusions regarding the jurisdictional status of other waters, based on the Sackett decision and prior to completion of the revised rule. The EPA currently anticipates the revised rule will be published in September 2023, and the contents of that rule may change the regulatory status of some areas that could be determined to be jurisdictional or non-jurisdictional in this report. Note that a determination regarding CWA Section 404 jurisdiction is made by the USACE.

The State Water Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials into Waters of the State on April 2, 2019 (the Procedures). The Procedures went into effect on May 28, 2020. The man-made ditch located within the northern border of the project site does not meet the definition of a wetland under the State Wetland Definition since the ditch is artificial (e.g., is not a wetland created by modification of surface waters of the State) and appears to be subject to ongoing operation. As outlined in the Procedures, stormwater ditches are not waters of the State since they are artificial wetlands that were constructed, and are currently used and maintained, primarily for one or more of the following purposes:

- Settling of sediment,
- Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
- Treatment of surface waters.

Note that a determination regarding CWA Section 401 jurisdiction is made by the RWQCB.

SECTION 6: IMPACT ANALYSIS AND RECOMMENDATIONS

The following discussion addresses potential project impacts on sensitive biological resources, including special-status species, and recommends measures to avoid and/or mitigate impacts to a less than significant level under CEQA Guidelines (Exhibit 6).

6.1 - Impacts to Special-status Wildlife

The following section analyzes potential project-related impacts on special-status species potentially occurring on or within disturbance distance of the proposed project (Exhibit 7).

6.1.1 - Protected Nesting Birds (Including Cooper's Hawk and White-tailed Kite)

The vegetated habitats and trees within the project site provide suitable nesting habitat for a variety of species of nesting birds including Cooper's hawk, white-tailed kite, and other songbirds. Rural land and trees within the site and within disturbance distance provide potential nesting opportunities for avian species. Construction activities that occur during the avian nesting season (generally February 1 to August 31) could disturb protected nesting sites within the construction footprint and within disturbance distance. Grading, building demolition, and the removal of vegetation during the nesting season could result in direct harm to nesting birds, while noise, light, and other construction-related disturbances may cause nesting birds within or adjacent to the site to abandon their nests.

With implementation of Mitigation Measure (MM) BIO-1, requiring pre-construction nesting bird surveys and avoidance of direct and indirect impacts on nests, potential project-related impacts on protected bird nests can be reduced to a less than significant level under CEQA.

MM BIO-1 Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found).

1. Removal of trees shall be limited to only those necessary to construct the proposed project as reflected in the relevant project approval documents.
2. If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present.
3. If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist shall delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).

4. The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance, until the young have fledged.

6.1.2 - Roosting Bats

The project site contains trees that could provide marginal bat roosting habitat. Potential direct and indirect impacts could occur to roosting bats due to removal of potential roosting habitat during project construction. These activities could potentially subject bats to risk of death or injury, and they are likely to avoid using the area until such construction activities have dissipated or ceased. Relocation, in turn, could cause hunger or stress among individual bats by displacing them into adjacent territories belonging to other individuals.

With implementation of MM BIO-2, requiring pre-construction roosting bat surveys and avoidance of direct and indirect impacts on active bat roosts, potential project-related impacts on protected roosting bats can be reduced to a less than significant level under CEQA.

MM BIO-2 Roosting Bat Pre-construction Survey and Avoidance

A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.).

If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Grading shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from May 1 through October 1. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

Source: ESRI Aerial Imagery.

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Exhibit 6
Impacts Map

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CNDDB version 08/2023. Please Note:
The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

Legend

- Project Site

CNDDB

Symbology

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Source: Bing Street Imagery. California Natural Diversity Database (CNDDB), August 2023.

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Exhibit 7
CNDDB Special-Status Species Occurrences

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6.2 - Impact Analysis for State and Federally Protected Waters and Wetlands

As shown in Exhibit 5, the project site is adjacent to San Tomas Aquinas Creek. While the project site would maintain a setback from the Creek, construction of the proposed project has the potential for indirect (temporary) adverse impacts to the aquatic habitat of the Creek. Potential temporary indirect impacts (during construction) include pollutant loading, increased erosion and sedimentation, and debris dispersal into the Creek. Implementation of MM BIO-3 would reduce potential indirect adverse impacts to the aquatic habitat of the Creek to less than significant levels through avoidance and minimization measures.

MM BIO-3 Avoidance and Minimization of San Tomas Aquinas Creek

No substances toxic to fish and wildlife shall be discharged or allowed to leach into the Creek. Reasonable precautions to protect aquatic habitats of the Creek from pollution with harmful materials (e.g., fuels, oils, lubricants, and solvents) shall be implemented. Specifically, all potentially hazardous materials shall be controlled, cleaned up, and properly disposed of in accordance with the proposed project's water quality control permits and plans. Materials deleterious or toxic to fish and wildlife including, but not limited to, asphalt, tires, concrete, construction materials, treated wood, and creosote containing materials shall not be stockpiled within 100 feet of the Creek. Refueling and maintenance areas for equipment shall be limited to areas 100 feet from the Creek.

At no time shall silt-laden runoff be allowed to enter the Creek. Erosion control measures shall be utilized throughout all phases of construction where sediment runoff from the project may enter the Creek. Best Management Practices (BMPs) to avoid erosion and uncontrolled stormwater runoff shall be implemented. BMPs typically include silt fencing, coir rolls, and/or straw bale dikes.

6.3 - Impact Analysis for Wildlife Movement and Nursery Sites

The project site is not within a designated wildlife corridor based on the Essential Connectivity Areas geospatial data set, which uses habitat modeling to identify areas of land with value as wildlife corridors. [25] As noted in Section 4.4 of this BRA, the project site consists of vacant land that has been subject to varying degrees of human-caused disturbances. The project site is directly bounded by urban development to the north, west, and south which serves as significant barriers to movement of terrestrial species. The project site does not provide corridor functions beyond connecting developed land parcels in the local surrounding areas. The adjacent creek that flanks the project site to the east could function as a wildlife corridor for aquatic and terrestrial species; however, the proposed project would not directly impact the creek. Implementation of MM BIO-3 would ensure that no indirect temporary adverse impacts to the adjacent creek would result from project construction. Therefore, the project site is not likely to function as a wildlife movement corridor.

[25] California Department of Fish and Wildlife (CDFW) and California Department of Transportation (Caltrans). 2023. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. California Department of Fish and Wildlife, Sacramento, CA. Website: https://www.wildlife.ca.gov/Conservation/Planning/Connectivity/CEHC. Accessed August 2023.

The project site does not contain native wildlife nursery sites. No significant breeding/nesting colonies were observed during the field surveys. However, individual nesting birds and roosting bats have the potential of being present on-site seasonally. Potential impacts to individual nesting birds and roosting bats are addressed through the implementation of MM BIO-1 and MM BIO-2. As such, impacts to nursery sites would be less than significant.

6.4 - Conflict with Local Policies or Ordinances

Local policies or ordinances applicable to the proposed project include the City of Campbell 2040 General Plan Goal COS-7, Municipal Code 21.23, and the Santa Clara Valley Water District creek setback guidelines. The proposed project would adhere to the City of Campbell 2040 General Plan Goal COS-7 through the implementation of MM BIO-1 through MM BIO-3, which would protect and preserve sensitive habitat and special-status species with the potential to occur within the project site. Municipal Code 21.23 establishes the City's tree protection guidelines, which may be applicable to trees within the project site. If trees within the site are protected under Municipal Code 21.23, the applicant would be required to adhere to this ordinance and obtain tree removal permits for any trees subject to this chapter. With adherence to the local policies and ordinances outlined in this report, the proposed project would not conflict with the City of Campbell's local policies or ordinances.

6.5 - Conflict with Habitat Conservation Plan

The proposed project is directly outside of the boundaries of the SCVHP, so SCVHP constraints do not apply to the proposed project.[26]

[26] Santa Clara Valley Habitat Agency (SCVHA). 2023. Habitat Agency Geobrowser. Website: http://www.hcpmaps.com/habitat/. Accessed July 26, 2023.

Appendix A:
Special-status Species Occurrence Evaluation

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Table 1: Special-status Plant Species Habitat Value Evaluation

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Amsinckia lunaris bent-flowered fiddleneck	—	—	1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation: 3-795 m. Blooming Period: March-June	**None:** The project site does not contain suitable coastal bluff scrub, cismontane, or grassland habitat to support this species.
Arctostaphylos silvicola Bonny Doon manzanita	—	—	1B.2	Endemic to Santa Cruz, California, it is only known to have about 20 occurrences in the Santa Cruz mountains. It grows in coniferous forests and chaparral on the sandy coastal slopes. Elevation: 267"-3234" Blooming Period: January-March	**None:** The project site does not contain suitable coniferous forests and chaparral on sandy coastal slopes to support this species.
Astragalus tener var. tener alkali milk-vetch	—	—	1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. Elevation: 0-170 m. Blooming Period: April -May	**None:** The project site does not contain suitable alkali playa, valley or foothill grassland, or vernal pool habitat to support this species.
Atriplex depressa brittlescale	—	—	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools. On Alkaline, Clay. Elevation: 14"-1309" Blooming period: April-October	**None:** The project site does not contain suitable chenopod scrub, meadows, or seeps, playas, valley or foothill grasslands to support this species.
Atriplex minuscula lesser saltscale	—	—	1B.1	Chenopod scrub, Playas, Valley and foothill grassland. On Alkaline, sandy soils. Elevation: May-October Blooming period: May-October	**None:** The project site does not contain suitable chenopod scrub, playas, valley or foothill grasslands to support this species.
Balsamorhiza macrolepis big-scale balsamroot	—	—	1B.2	Chaparral, cismontane woodland and valley and foothill grassland. Sometimes occurs in serpentinite soils. Elevation: 45-1555 m. Blooming period: March-June	**None:** The project site does not contain suitable chaparral/cismontane or grassland habitat or serpentine soils to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	—	—	1B.1	Found in Chaparral and Cismontane woodlands, and micro habitats are in gravelly (sometimes), openings, and sandy (sometimes). Elevation: 1647"-5052" Blooming Period: May-August	**None:** The project site does not contain suitable chaparral and cismontane woodlands to support this species.
Centromadia parryi ssp. congdonii Congdon's tarplant	—	—	1B.1	Valley and foothill grassland. Alkaline soils are sometimes described as heavy white clay. Elevation: 0-230 m. Blooming Period: May-October	**None**: Project site does not contain suitable valley and foothill grassland to support this species.
Chlorogalum pomeridianum var. minus dwarf soaproot	—	—	1B.2	Chaparral with serpentinite soils. Elevation: 3455"-4752" Blooming period: May-August	**None:** The project site does not contain suitable chaparral and serpentinite habitat to support this species.
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	—	—	1B.2	Coastal salt marsh. Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. Elevation: 0-115 m Blooming Period: July-October	**None:** The project site does not contain suitable coastal or marsh habitat to support this species.
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	FE	—	1B.1	Found in coastal sands, northern coastal scrubs, coastal sage scrub, closed-cone pine forests, yellow pine forests. Foothill woodlands, and chaparral. Elevation: 15"-1442" Blooming Period: April-July	**None:** The project site does not contain suitable coastal sands, northern coastal scrubs, coastal sage scrub, closed-cone pine forests, or yellow pine forests to support this species.
Chorizanthe robusta var. robusta robust spineflower	FE	—	1B.1	Cismontane woodland, coastal dunes, coastal scrub, chaparral. Sandy terraces and bluffs or in loose sand. Elevation: 5-245 m. Blooming Period: April-September	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of woodland, dune, or chaparral habitat on-site.
Cirsium fontinale var. campylon Mt. Hamilton thistle	—	—	1B.2	Cismontane woodland, chaparral, valley and foothill grassland. Often grows in seasonal and perennial drainages on serpentine soils. Elevation: 257"-3568" Blooming period: April-October	**None:** The project site does not contain suitable cismontane woodland, valley and foothill grassland, or chaparral habitat to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Clarkia concinna ssp. automixa Santa Clara red ribbons	—	—	4.3	Foothill woodland Elevation: 90-1500 m. Blooming period: April-July	**None:** The project site does not contain any foothill woodland to support this species.
Collinsia multicolor San Francisco collinsia	—	—	1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. Elevation: 10-275 m. Blooming Period: March-May	**None:** The project site does not contain suitable coniferous forest or coastal scrub habitat to support this species.
Dirca occidentalis western leatherwood	—	—	1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. Elevation: 20-640 m. Blooming Period: November-March	**None:** The project site does not contain mixed evergreen or foothill woodland habitat to support this species.
Dudleya abramsii ssp. setchellii Santa Clara Valley dudleya	FE	—	1B.1	Valley and foothill grassland, cismontane woodland. On rocky serpentine outcrops and on rocks within grassland or woodland. Elevation: 172"-3520" Blooming period: April-October	**None:** The project site does not contain valley or foothill grasslands or cismontane woodland to support this species.
Eryngium aristulatum var. hooveri Hoover's button-celery	—	—	1B.1	Vernal pools. Elevation: 3-45 m. Blooming period: June-August	**None**: Lack of vernal pools on-site to offer habitat value.
Extriplex joaquinana San Joaquin spearscale	—	—	1B.2	Chenopod scrub, meadows and seeps, Playas, Valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. Elevation: 0-800 m. Blooming Period: April -September	**None**: The project site does not contain Chenopod scrub, meadows, or foothill grassland habitat to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Fritillaria liliacea fragrant fritillary	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, and cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. Elevation: 3-385 m. Blooming Period: February-April	**None**: Project site is entirely developed and offers no habitat value. Necessary habitats such as coastal scrub, valley, and foothill grasslands to support this species is not present on-site.
Hoita strobilina Loma Prieta hoita	—	—	1B.1	Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. Elevation: 60-975 m. Blooming Period: May-July	**None**: Although riparian woodland is located near the project site, high levels of development at site preclude presence of this species. Lack of chaparral or cismontane woodland habitat on-site.
Lasthenia conjugens Contra Costa goldfields	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland, swales, low depressions, in open grassy areas. Elevation: 1-450 m. Blooming Period: March-June	**None**: Lack of suitable habitat and high level of development at site preclude presence. Lack of vernal pools and cismontane woodlands on-site.
Lessingia micradenia var. glabrata smooth lessingia	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Often found growing on serpentine soils and on roadsides. Elevation: 201"-3749" Blooming period: July-November	**None**: Lack of suitable habitat and high level of development at site preclude presence. Lack of chaparral, valley or foothill grassland, and cismontane woodlands on-site.
Malacothamnus arcuatus arcuate bush-mallow	—	—	1B.2	Chaparral, cismontane woodland. Often found growing on gravelly alluvium substrates. Elevation: 0-735 m. Blooming period: April-September	**None.** The project site is entirely developed and does not contain suitable habitat such as chaparral or cismontane woodland to support this species.
Malacothamnus hallii Hall's bush-mallow	—	—	1B.2	Chaparral, coastal scrub. Some populations on serpentine soils. Elevation: 10-735 m. Blooming Period: May-September	**None:** The project site does not contain suitable chaparral, coastal scrub or serpentine soils to support this species.
Monolopia gracilens woodland woollythreads	—	—	1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, North Coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often	**None:** The project site does not contain suitable forest, chaparral, valley or grassland habitat to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
				seen on serpentine after burns, but may have only weak affinity to serpentine. Elevation: 120-975 m. Blooming Period: March-July	
Navarretia prostrata prostrate vernal pool navarretia	—	—	1B.2	Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools Elevation: 13"-4182" Blooming period: April-July	**None:** The project site does not contain suitable coastal scrub, meadows, seeps, valley or foothill grasslands, or vernal pools to support this species.
Pedicularis dudleyi Dudley's lousewort	—	CR	1B.2	Found in Chaparral (maritime), cismontane woodland, north coast coniferous forest, and valley and foothill grassland. Elevation: 26"-1716" Blooming Period: April-June	**None:** The project site does not contain chaparral, cismontane woodland, north coast coniferous forest, or valley or foothill grasslands to support this species.
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	—	—	1B.2	Found in Chaparral, Lower montane coniferous forest, and North Coast coniferous forest. Elevation: 33"-2644" Blooming Period: May-June	**None:** The project site does not contain lower montane coniferous forest, or north coast coniferous forests to support this species.
Pentachaeta bellidiflora white-rayed pentachaeta	FE	CE	1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. Elevation: 35-610 m. Blooming Period: March-May	**None:** The project site does not contain woodland or valley/foothill grassland habitat to support this species.
Piperia candida white-flowered rein orchid	—	—	1B.2	Found in broadleaf upland forest, lower montane coniferous forest, and north coast coniferous forest. Elevation: 178"-3383" Blooming Period: (Mar) May-September	**None:** The project site does not contain suitable broadleaf upland forest, lower montane coniferous forest, or north coast coniferous forest to support this species.
Plagiobothrys glaber hairless popcornflower	—	—	1A	Meadows and seeps in alkaline soils and marshes and swamps. Elevation: 15-180 m. Blooming Period: March-May	**None:** The project site does not contain meadows, seeps in alkaline soils or swamps to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Puccinellia simplex California alkali grass	—	—	1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools Elevation: -1"-1456" Blooming period: March-May	**None:** The project site does not contain meadows, seeps, valleys or foothill grasslands vernal pools, or chenopod scrub habitat to support this species.
Ravenella exigua chaparral harebell	—	—	1B.2	Chaparral on rocky areas, usually serpentinite. Elevation: 275-1250 m. Blooming period: May-June	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. The project site lacks chaparral or rocky area habitat.
Sagittaria sanfordii Sanford's arrowhead	—	—	1B.2	Found in marshes and swamps (shallow freshwater). Elevation: 11"-2002" Blooming Period: May-October (November)	**None:** The project site does not contain marshes or swamps to support this species.
Sanicula saxatilis rock sanicle	—	CR	1B.2	Broad-leafed upland forest, Chaparral, Valley and foothill grassland Elevation: 1075"-4105" Blooming Period: April-May	**None:** The project site does not contain broad-leafed upland forest, chaparral, valley or foothill grassland habitat to support this species.
Senecio aphanactis chaparral ragwort	—	—	1B.2	Dicot annual herb found in chaparral, cismontane woodland, and coastal scrub habitat. Prefers drying alkaline flats. Elevation: 15-800 m. Blooming period: January-April	**None:** The project site does not contain chaparral/cismontane or coastal scrub habitat to support this species.
Sidalcea malachroides maple-leaved checkerbloom	—	—	4.2	Found in broad-leafed upland forests, coastal prairie, coastal scrub, north coast coniferous forests, and riparian woodlands. Elevation: -65"-4943" Blooming Period: (March) April-August	**None:** The project site does not contain broad-leafed upland forests, coastal prairies, coastal scrub, or north coast coniferous forest to support this species.
Streptanthus albidus ssp. albidus Metcalf Canyon jewelflower	FE	—	1B.1	Valley and foothill grassland. Grows in relatively open areas in dry grassy meadows on serpentine soils and serpentine balds. Elevation: 17"-5815" Blooming period: April-July	**None:** The project site does not contain valley and foothill grassland to support this species.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	—	—	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland. Grows on serpentinite. Elevation: 95-1000 m. Blooming period: April-September	**None:** The project site does not contain chaparral/cismontane woodland or grassland habitat to support this species.
Suaeda californica California seablite	FE	—	1B.1	Margins of coastal salt marshes. Elevation: 0-5 m. Blooming period: July-October	**None:** The project site does not contain marsh habitat to support this species.
Trifolium buckwestiorum Santa Cruz clover	—	—	1B.1	Found in broad-leafed upland forests, cismontane woodlands, and coastal prairies. Elevation: 51"-2356" Blooming Period: April-October	**None:** The project site does not contain broad-leafed upland forests, cismontane woodlands, or coastal prairies to support this species.
Trifolium hydrophilum saline clover	—	—	1B.2	Marshes and swamps, valley and foothill grassland in mesic or alkaline soils, and vernal pools. Elevation: 0-300 m. Blooming period: April-June	**None**: Lack of marshes and swamps and necessary soil composition on-site to offer habitat value.

Code Designations

[1] Federal Status: 2023 Endangered Species Act (ESA) Listing	[2] State Status: 2023 California Endangered Species Act (CESA) Listing	[3] California Rare Plant Rank (CRPR): 2023 CRPR Listing
ESU = Evolutionary Significant Unit is a distinctive population. **FE** = Listed as endangered under the Endangered Species Act. **FT** = Listed as threatened under the Endangered Species Act. **FC** = Candidate for listing (threatened or endangered) under the Endangered Species Act. **FD** = Delisted in accordance with the Endangered Species Act. **FPD** = Federally Proposed to be Delisted. **MBTA** = Protected by the Migratory Bird Treaty Act **—** = Not federally listed	**SE** = Listed as endangered under the California Endangered Species Act. **ST** = Listed as threatened under CESA. **SSC** = Species of Special Concern as identified by the CDFW. **FP** = Listed as fully protected under the Fish and Game Code. **CFG** = FGC =protected by Fish and Game Code 3503.5 **CR** = Rare in California. **—** = Not State-listed	**Rank 1A** = Plants species that presumed extinct in California. **Rank 1B** = Plant species that are rare, threatened, or endangered in California and elsewhere. **Rank 2** = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. **Rank 3** = Plants about which we need more information–A Review List **Rank 4** = Plants of limited distribution–A Watch List **Blooming period:** Months in parentheses are uncommon.

Scientific Name Common Name	Status			Habitat Description[4]	Habitat Value and Rationale
	ESA[1]	CESA[2]	CRPR[3]		

Notes:

[4] **Habitat Description**: Habitat description adapted from CNDDB and CNPS online inventory or other specified source.

[5] **Potential to Occur and Rationale**: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source.

Sources:

California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 18, 2023.

California Native Plant Society (CNPS). 2023. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed July 18, 2023.

California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed July 18, 2023.

Table 2: Special-status Wildlife Species Habitat Value Evaluation

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FG C2		
Amphibians				
Ambystoma californiense pop. 1 California tiger salamander	FT	ST	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds, or other standing water bodies for breeding.	**None**: The project site does not contain suitable breeding habitat. The site lacks underground refuges, vernal pools, ponds, or other standing water bodies for breeding. The nearest recorded occurrence of this species is located approximately 5 miles east of the project site associated with a vernal pool. Dense developments are located between this occurrence and the project site. Therefore, the project site has no habitat value.
Aneides niger Santa Cruz black salamander	—	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	**None:** The site does not contain suitable deciduous, coniferous woodlands, or coastal grassland to support this species.
Dicamptodon ensatus California giant salamander	—	SSC	Temperate forests, rivers, freshwater lakes, and freshwater marshes in northern California.	**None:** The site does not contain suitable temperate forests, rivers, freshwater lakes or freshwater marshes to support this species.
Rana boylii pop. 4 foothill yellow-legged frog-central coast DPS	FP	SE	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**None:** The reach of creek adjacent to the project site does not contain suitable habitat to support this species. The adjacent reach of creek is cement lined and devoid of natural stream habitat such as rocky substrate or riparian vegetation.
Rana draytonii California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	**None**: The reach of creek adjacent to the project site does not contain suitable habitat to support this species. The adjacent reach of creek is cement lined and is devoid of emergent or riparian vegetation.
Birds				
Accipiter cooperii Cooper's hawk	—	WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	**Low:** The site does not contain woodland foraging habitat large enough to have value but is adjacent to San Tomas Aquinas Creek and contains several trees. Additionally, the nearest CNDDB occurrence was located less than 2 miles

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FGC2		
				from the project site. This occurrence was associated with a parking lot containing a mixed ornamental woodland, surrounded by a mix of commercial and industrial developments. The site may provide marginal nesting habitat.
Agelaius tricolor Tricolored blackbird	—	ST SSC	Breeds near fresh water in dense emergent vegetation.	**None:** The site does not contain aquatic resources or emergent vegetation useful for breeding but is adjacent to San Tomas Aquinas Creek. However, the reach adjacent to the project site does not provide suitable breeding habitat in the form of dense emergent vegetation.
Aquila chrysaetos Golden eagle	—	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert	**None:** The site does not contain suitable foraging habitat such as rolling foothills, mountain areas, or juniper flats or deserts.
Athene cunicularia Burrowing owl	—	SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None**: The site does not contain suitable habitat such as perennial grassland or adequate mammal burrows. The site is not large enough to have value and is surrounded by dense urban developments. The nearest recorded occurrence of this species is 5.25 miles to the north.
Buteo swainsoni Swainson's hawk	—	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**None:** The site does not contain foraging habitat large enough to have habitat value. The nearest recorded occurrence is located approximately 4 miles to the north. This occurrence is from 1889 and is now considered extirpated.
Charadrius nivosus nivosus western snowy plover	FT	SSC	Breeds on sandy coasts and brackish inland lakes and is uncommon on fresh water.	**None**: The site lacks suitable habitat to support this species. Specifically, the site does not contain sandy coasts or brackish inland lakes.
Circus hudsonius northern harrier	—	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**None**: The site lacks meadows, wetlands, or marsh habitat to support this species.

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FGC2		
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT	SE	Occurs and nests in riparian forest along the broad lower flood-bottoms of larger river systems. Found in riparian jungles of willow, often mixed with cottonwoods; understory consists of blackberry, nettles, and wild grape. Long-distance migrant.	**None:** Although the project site is adjacent to a San Tomas Aquinas Creek, the reach of creek adjacent to the project site is devoid of riparian vegetation.
Coturnicops noveboracensis yellow rail	—	SSC	Shallow marshes, and wet meadows; in winter, drier fresh-water and brackish marshes, as well as dense, deep grass, and rice fields.	**None:** The site does not contain suitable aquatic habitat for this species in the form of marshes, wet meadows, or rice fields.
Cypseloides niger black swift	—	SSC	In western North America, breeding black swifts are restricted to two main habitat features – sea caves and cliffs along the Pacific coast, and adjacent to or near wet cliff sites in montane canyons.	**None:** The project site does not contain sea caves or cliffs. Additionally, the project site is not located within a coastal environment.
Elanus leucurus white-tailed kite	—	FP	Grasslands and open coastal scrub in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous, open stages of most habitats mostly in cismontane California.	**Low:** The site does not contain foraging habitat large enough to have value. The nearest recorded occurrence of this species is located 6 miles to the north along Stevens Creek associated with Blackberry Farm Golf Course. However, the site contains several trees that may provide marginal nesting habitat.
Falco peregrinus anatum American peregrine falcon	FD	SD FP	Because of their hunting behavior, peregrine falcons are most adapted to open or partially wooded habitats. Associated habitats from sea level to 13,000 feet (4,000 m) include coastal areas, plains, grasslands, shrublands, heaths, steppes, forests, and deserts. Peregrine falcons rarely occur in alpine habitats or dense, closed forests. No preference was shown between tundra, taiga, maritime, and interior regions in Alaska.	**None**: There is record of species occurrence within 2 miles of the project area. This species occurrence is associated with a nest built by the Santa Cruz predatory bird research group on a high rise office building. The site is heavily disturbed and although contains several trees, the site lacks additional habitat needed to support this species such as coastal plains, grasslands, shrublands, heaths, steppes, forests, or deserts.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	—	SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**None**: The project site does not contain suitable habitat to support this species. Lack of marsh habitat precludes this species.

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FGC2		
Laterallus jamaicensis coturniculus California black rail	—	FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None:** The project site does not contain marsh habitat to support this species.
Melospiza melodia pusillula Alameda song sparrow	—	SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	**None:** The project site does not contain Salicornia marsh habitat.
Progne subis purple martin	—	SSC	Found in open areas near water sources, such as marshes, swamps, and wet meadows. Purple martins avoid high heights, such as the Appalachian Mountains, but may be found from 100 m to 4,000 m. Purple martins are now acclimated to human interaction due to colonization and human interactions in their native habitats. Martins live in urban areas, frequently in specially designed birdhouses called “martin homes.”	**None:** The project site does not contain marshes, swamps or wet meadows to support this species.
Rallus obsoletus obsoletus California Ridgway's rail	FE	FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs	**None:** The project site does not contain salt water/brackish marsh habitat with pickleweed.
Rynchops niger black skimmer	—	SSC	Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies usually less than 200 pairs.	**None.** The project site does not contain beaches or waterways to support this species.
Sternula antillarum browni California least tern	FE	FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**None:** The project site does not contain coastal habit including sand beaches, or alkali flats to support this species.

Scientific Name Common Name	Status ESA1	Status CESA/FGC2	Habitat Description3	Habitat Value and Rationale
Fish				
Oncorhynchus kisutch pop. 4 coho salmon-central California coast ESU	FE	SE	Found in freshwater during first year and while spawning. Also, in freshwater streams of the North Pacific, ranging from Baja, California to Alaska.	**None:** Although the project site is adjacent to San Tomas Aquinas Creek, the site does not contain suitable aquatic habitat to support this species. The nearest recorded occurrence of this species is located 10 miles southwest of the project site. Moreover, there have been no recorded occurrences of this species within San Tomas Aquinas Creek.
Oncorhynchus mykiss irideus pop. 8 steelhead-Central Valley DPS	FT	—	Populations in the Sacramento and San Joaquin rivers and their tributaries.	**None:** Although the project site is adjacent to San Tomas Aquinas Creek, the site does not contain suitable aquatic habitat to support this species. This species has been documented within the greater project vicinity within Alamitos Creek but has not been documented within San Tomas Aquinas Creek.
Spirinchus thaleichthys longfin smelt	FC	—	Longfin smelt spend their adult life in bays, estuaries, and nearshore coastal areas, and migrate into freshwater rivers to spawn. Spawning occurs primarily from January through March, after which most adults die.	**None:** Although the project site is adjacent to San Tomas Aquinas Creek, the site does not contain suitable aquatic habitat to support this species. This species has not been documented within San Tomas Aquinas Creek.
Invertebrates				
Bombus crotchii Crotch bumble bee	—	SC	This species occurs primarily in California, including coastal habitats, western Mojave Desert, San Joaquin Valley, and adjacent foothills through most of southwestern California. It inhabits arid grasslands and shrublands, and its food sources including milkweeds, pincushions, lupines, clovers, phacelias, sages, clarkias, poppies, and buckwheats.	**None.** The project site does not contain suitable arid grasslands, shrublands, or floral resources to support this species.
Bombus occidentalis western bumble bee	—	SC	Formerly found in large parts of California but has been reduced in abundance and is now mostly restricted to high meadows or coastal environments. Species requires floral resources, and undisturbed nest and overwintering sites.	**None.** The project site does not contain suitable high meadows or coastal environments, floral resources and undisturbed nest sites to support this species.

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FGC2		
Euphydryas editha bayensis Bay checkerspot butterfly	FT	—	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of native grasslands, serpentine soil, or prime host plants on-site.
Lepidurus packardi vernal pool tadpole shrimp	FE	—	Found in where vernal pool habitats occur. And has a patchy distribution across the Central Valley of California, from Shasta County southward to northwestern Tulare County, with isolated occurrences in Alameda and Contra Costa counties.	**None:** The site does not contain suitable aquatic habitat to support this species. The project site does not contain vernal pools.
Trimerotropis infantilis Zayante band-winged grasshopper	FE	—	Found in only in a small area of the Santa Cruz Mountains in California known as the Zayante sand hills.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of Zayante sand hills.
Mammals				
Antrozous pallidus Pallid bat	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures and include trees and buildings. Species is very sensitive to disturbance of roosting sites.	**Low**: Trees within the project site may provide marginal roosting habitat. Additionally, an occurrence of the species was recorded 4.3 miles from the project site.
Corynorhinus townsendii Townsend's big-eared bat	—	SSC	Throughout California in a wide variety of habitats. Most common in areas associated with mixed conifer forest, desert scrub, or pine forest habitat. Roosts in caves, mines, and buildings. Extremely sensitive to human disturbance.	**Low**: Trees within the project site may provide marginal roosting habitat. Additionally, an occurrence of the species was recorded 4.3 miles from the project site.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	—	SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves and other material. May be limited by availability of nest-building materials.	**None**: The project site does not contain suitable habitat to support this species. The site lacks forest, chaparral, or redwood habitats.

Scientific Name Common Name	Status		Habitat Description3	Habitat Value and Rationale
	ESA1	CESA/FGC2		
Reithrodontomys raviventris salt-marsh harvest mouse	—	FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	**None:** The project site does not contain suitable habitat to support this species. The project site does not contain pickleweed or marsh habitat.
Sorex vagrans halicoetes salt-marsh wandering shrew	—	SSC	Salt marsh wandering shrews inhabit a narrow band of Salicornia marsh which is inundated daily by tidal waters. Salt marsh wandering shrews are most frequent in salt marshes that provide dense cover, an abundant source of invertebrates for food, suitable nesting and resting sites, and continuous ground moisture.	**None**: Lack of suitable habitat to support this species such as salt marshes and tidal waters.
Taxidea taxus American badger	—	SSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	**None**: The project site does not contain suitable habitat to support this species. The site does not contain shrub, forest, or herbaceous habitat large enough to disperse and roam.
Reptiles				
Anniella pulchra Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**None**: Lack of suitable habitat with high soil moisture, as well as high level of development on-site.
Emys marmorata western pond turtle	—	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	**None.** The reach of San Tomas Aquinas Creek adjacent to the project does not provide suitable habitat to support this species. The reach of the creek adjacent to the project site is devoid of any vegetation that would provide cover from predation.
Masticophis lateralis euryxanthus Alameda whipsnake	FT	—	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and scrub habitat on-site.

Scientific Name Common Name	Status ESA1	Status CESA/FGC2	Habitat Description3	Habitat Value and Rationale
Phrynosoma blainvillii coast horned lizard	—	SSC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads. Often found near ant hills feeding on ants.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of sandy soil and low vegetation within valleys foothills, or semiarid mountains on-site.

Code Designations

[1] Federal Status: 2023 Endangered Species Act (ESA) Listing		[2] State Status: 2023 California Endangered Species Act (CESA) Listing	
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FE	= Listed as endangered under the Endangered Species Act.	**ST**	= Listed as threatened under CESA.
FT	= Listed as threatened under the Endangered Species Act.	**SSC**	= Species of Special Concern as identified by the CDFW.
FC	= Candidate for listing (threatened or endangered) under the Endangered Species Act.	**FP**	= Listed as fully protected under the Fish and Game Code.
FD	= Delisted in accordance with the Endangered Species Act.	**CFG**	= FGC = protected by Fish and Game Code 3503.5
FPD	= Federally Proposed to be Delisted.	**CR**	= Rare in California.
MBTA	= protected by the Migratory Bird Treaty Act	**—**	= Not State-listed
—	= Not federally listed		

Notes:
[3] **Habitat Description**: Habitat description adapted from CNDDB or other specified source.
[4] **Potential to Occur and Rationale**: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source.
Sources:
California Department of Fish and Wildlife (CDFW). 2023. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed July 18, 2023.
California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed July 18, 2023

Appendix B:
Database Searches

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Los Gatos (3712128) OR Santa Teresa Hills (3712127) OR San Jose East (3712137) OR San Jose West (3712138) OR Calaveras Reservoir (3712147) OR Mountain View (3712241) OR Castle Rock Ridge (3712221) OR Cupertino (3712231) OR Milpitas (3712148))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Aneides niger Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
Anodonta californiensis California floater	IMBIV04220	None	None	G3Q	S2?	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos silvicola Bonny Doon manzanita	PDERI041F0	None	None	G1	S1	1B.2
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calasellus californicus An isopod	ICMAL34010	None	None	G2	S3	
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Chlorogalum pomeridianum var. minus dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cirsium fontinale var. campylon Mt. Hamilton thistle	PDAST2E163	None	None	G2T2	S2	1B.2
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S3	SSC
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
Dipodomys venustus venustus Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Dudleya abramsii ssp. setchellii Santa Clara Valley dudleya	PDCRA040Z0	Endangered	None	G4T2	S2	1B.1
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S3	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Lessingia micradenia var. glabrata smooth lessingia	PDAST5S062	None	None	G2T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2T3	S2	SSC
Microcina homi Hom's micro-blind harvestman	ILARA47020	None	None	G1	S2	
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
North Central Coast Drainage Sacramento Sucker/Roach River North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T3Q	S3	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Pedicularis dudleyi Dudley's lousewort	PDSCR1K180	None	Rare	G2	S2	1B.2
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Piperia candida white-flowered rein orchid	PMORC1X050	None	None	G3?	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GX	SX	1A
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Proposed Threatened	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Ravenella exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
Rynchops niger black skimmer	ABNNM14010	None	None	G5	S2	SSC
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Sanicula saxatilis rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea malachroides maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Streptanthus albidus ssp. albidus Metcalf Canyon jewelflower	PDBRA2G011	Endangered	None	G2T1	S1	1B.1
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Trifolium buckwestiorum Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Trimerotropis infantilis Zayante band-winged grasshopper	IIORT36030	Endangered	None	G1	S1	
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	

Record Count: 106

Search Results

9 matches found. Click on scientific name for details

Search Criteria: Fed List is one of [**FE:FT:FC:FD**] **or** State List is one of [**CE:CT:CR:CC:CD**] , 9-Quad include [**3712128:3712127:3712137:3712138:3712147:3712241:3712221:3712231:3712148**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Chorizanthe pungens var. *hartwegiana*	Ben Lomond spineflower	Polygonaceae	annual herb	Apr-Jul	FE	None	G2T1	S1	1B.1	Yes	1994-01-01	No Photo Available
Chorizanthe robusta var. *robusta*	robust spineflower	Polygonaceae	annual herb	Apr-Sep	FE	None	G2T1	S1	1B.1	Yes	1980-01-01	No Photo Available
Dudleya abramsii ssp. *setchellii*	Santa Clara Valley dudleya	Crassulaceae	perennial herb	Apr-Oct	FE	None	G4T2	S2	1B.1	Yes	1988-01-01	No Photo Available
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	FE	None	G1	S1	1B.1	Yes	1974-01-01	© 2013 Neal Kramer
Pedicularis dudleyi	Dudley's lousewort	Orobanchaceae	perennial herb	Apr-Jun	None	CR	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Sanicula saxatilis	rock sanicle	Apiaceae	perennial herb	Apr-May	None	CR	G2	S2	1B.2	Yes	1974-01-01	© 1998 John Game
Streptanthus albidus ssp. *albidus*	Metcalf Canyon jewelflower	Brassicaceae	annual herb	Apr-Jul	FE	None	G2T1	S1	1B.1	Yes	1974-01-01	Photo of Streptanthus albidus ssp. albidus © 2015 Aaron Schusteff
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	FE	None	G1	S1	1B.1	Yes	1988-01-01	No Photo Available

Showing 1 to 9 of 9 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 13 July 2023].

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Santa Clara County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

NOT FOR CONSULTATION

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Clapper Rail Rallus longirostris obsoletus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern Sterna antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog Rana boylii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5133	Proposed Threatened

Insects

NOT FOR CONSULTATION

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Robust Spineflower Chorizanthe robusta var. robusta Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9287	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

NOT FOR CONSULTATION

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-

migratory-birds

- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

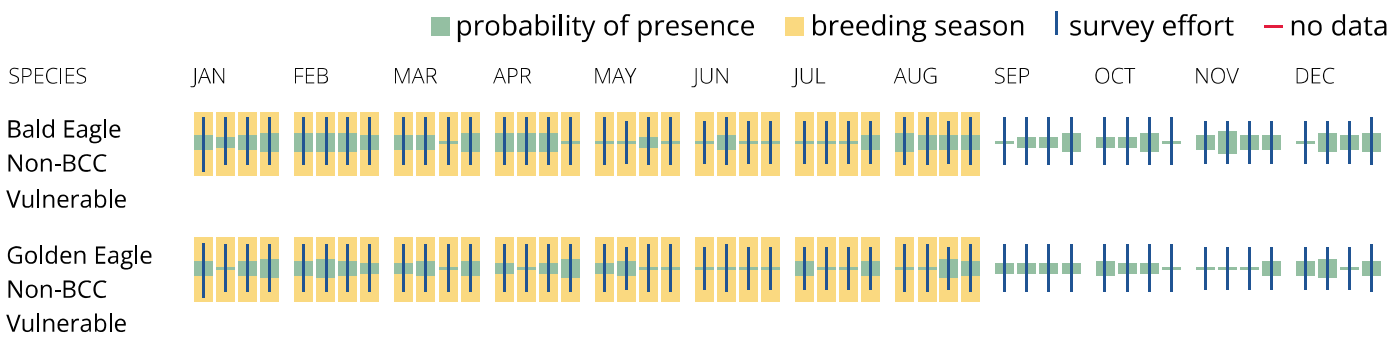
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

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Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Willet Tringa semipalmata — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and

understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

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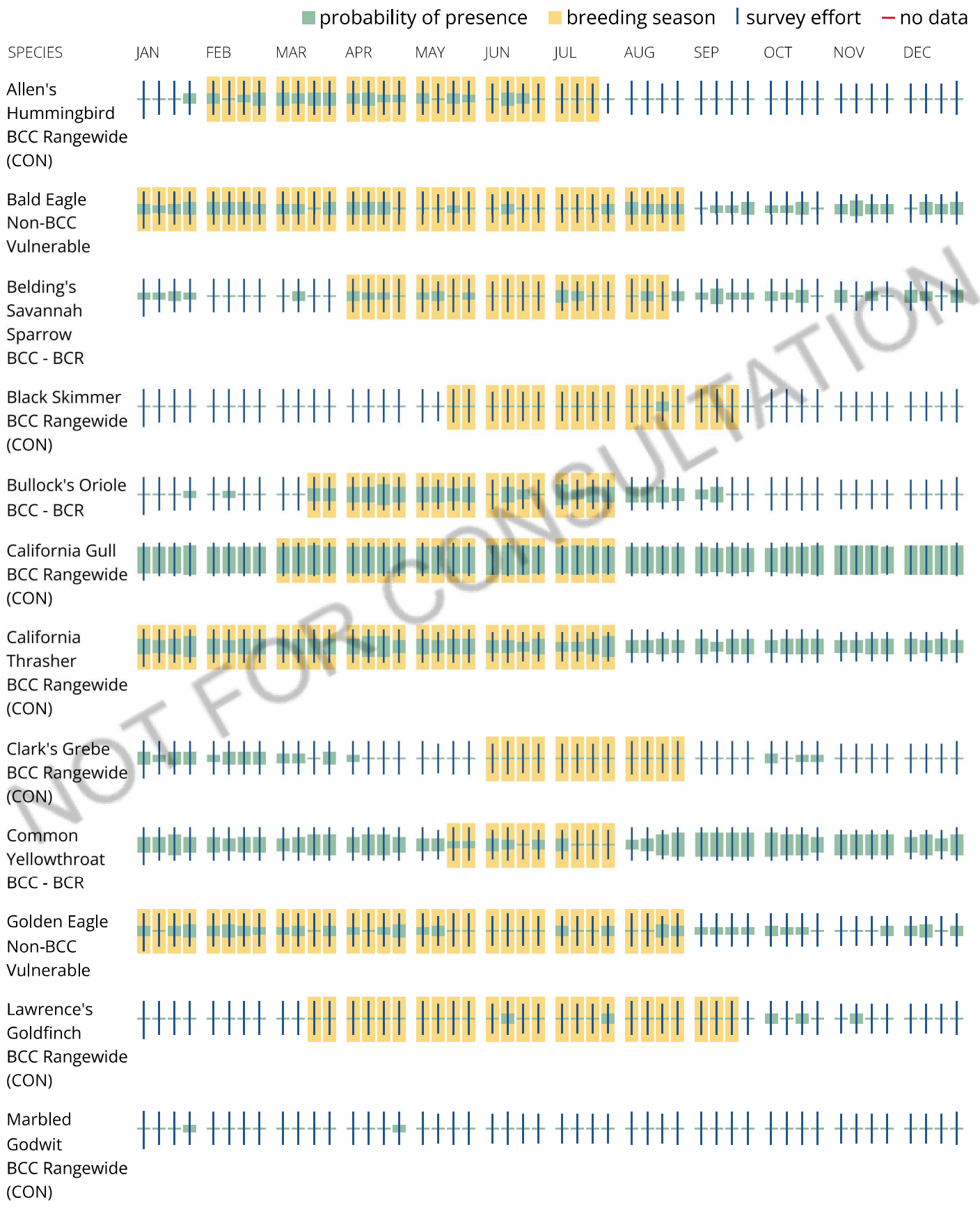
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to

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you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R4SBAx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix C:
Site Photographs

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Photograph 1: Ruderal field facing the southern side of the Study Area.

Photograph 2: Gravel access lot surrounded by ruderal land coverage facing east.

Photograph 3: Mixed ornamental woodland in southeastern portion of Study Area.

Photograph 4: San Tomas Aquinas Creek adjacent to the eastern boundary of the Study Area.

Photograph 5: Storm drain on northeastern side of Study Area.

Photograph 6: Cement drainage swale on north boundary of Study Area.

Photograph 7: Mixed ornamental woodland on northeastern side of Study Area.

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Noise Impact Analysis Report
Virginia Avenue Project
City of Campbell, Santa Clara County, California

Prepared for:
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Date: April 2, 2024
Revised: May 1, 2024

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ACRONYMS AND ABBREVIATIONS

ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
DNL	Day-Night Level
EPA	United States Environmental Protection Agency
FCS	FirstCarbon Solutions
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
L_{dn}	day/night average sound level
L_{eq}	equivalent sound level
L_{max}	maximum noise level
L_{min}	minimum noise level
MM	Mitigation Measure
PPV	peak particle velocity
rms	root mean square
USGS	United States Geological Survey
VdB	vibration in decibels

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SECTION 1: INTRODUCTION

1.1 - Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared by FirstCarbon Solutions (FCS) to determine the off-site and on-site noise impacts associated with the proposed Virginia Avenue Project (proposed project). The following is provided in this report:

- A description of the study area, project site, and proposed project.
- Information regarding the fundamentals of noise and vibration.
- A description of the local noise and vibration guidelines and standards.
- A description of the existing noise environment.
- An analysis of the potential short-term, construction-related noise and vibration impacts from the proposed project.
- An analysis of long-term, operations-related noise and vibration impacts from the proposed project.

1.2 - Project Summary

1.2.1 - Site Location

The project site is located at 320 Virginia Avenue in the City of Campbell in Santa Clara County, California (Exhibit 1). The approximately 2.08 net acre site is located on Assessor's Parcel Number (APN) 404-07-033 on the United States Geological Survey (USGS) *San José West, California* 7.5-minute Topographic Quadrangle Maps in the northwestern portion of Santa Clara County (Exhibit 2). Santa Clara County is bounded by Alameda County to the north, San Mateo County to the northwest, Santa Cruz County to the west, Stanislaus County to the east, and San Benito County to the south. Regional access is provided by San Tomas Expressway, by Interstate 280 (I-280), by California State Route (SR) 85, and by SR-17.

1.2.2 - Project Description

VOP Ref Virginia, LLC (Applicant) proposes to develop the proposed Virginia Avenue Project (proposed project) on approximately 2.08 acres of the 2.18-acre project site (Exhibit 3). The housing project would include the construction of up to 40 townhome units. The proposed project would consist of approximately 73,248 net square feet of new residential units with an approximately 18.39 dwelling units per acre density. The proposed project would also include 94 total parking spaces, including 14 on-site surface parking spaces. When completed, the proposed project is expected to generate housing for an estimated 100 residents. The proposed project would also include a common open space adjacent to Virginia Avenue.

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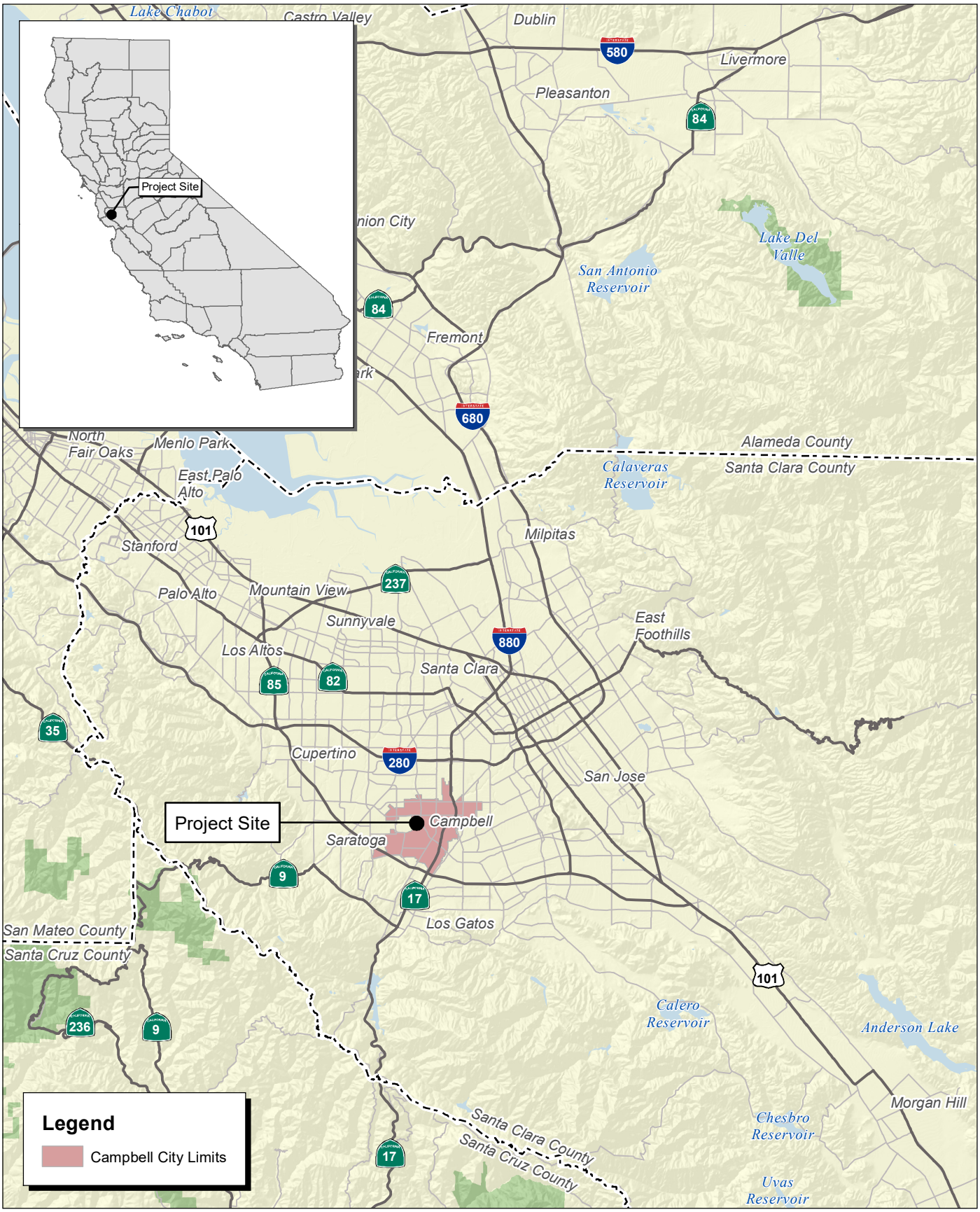

Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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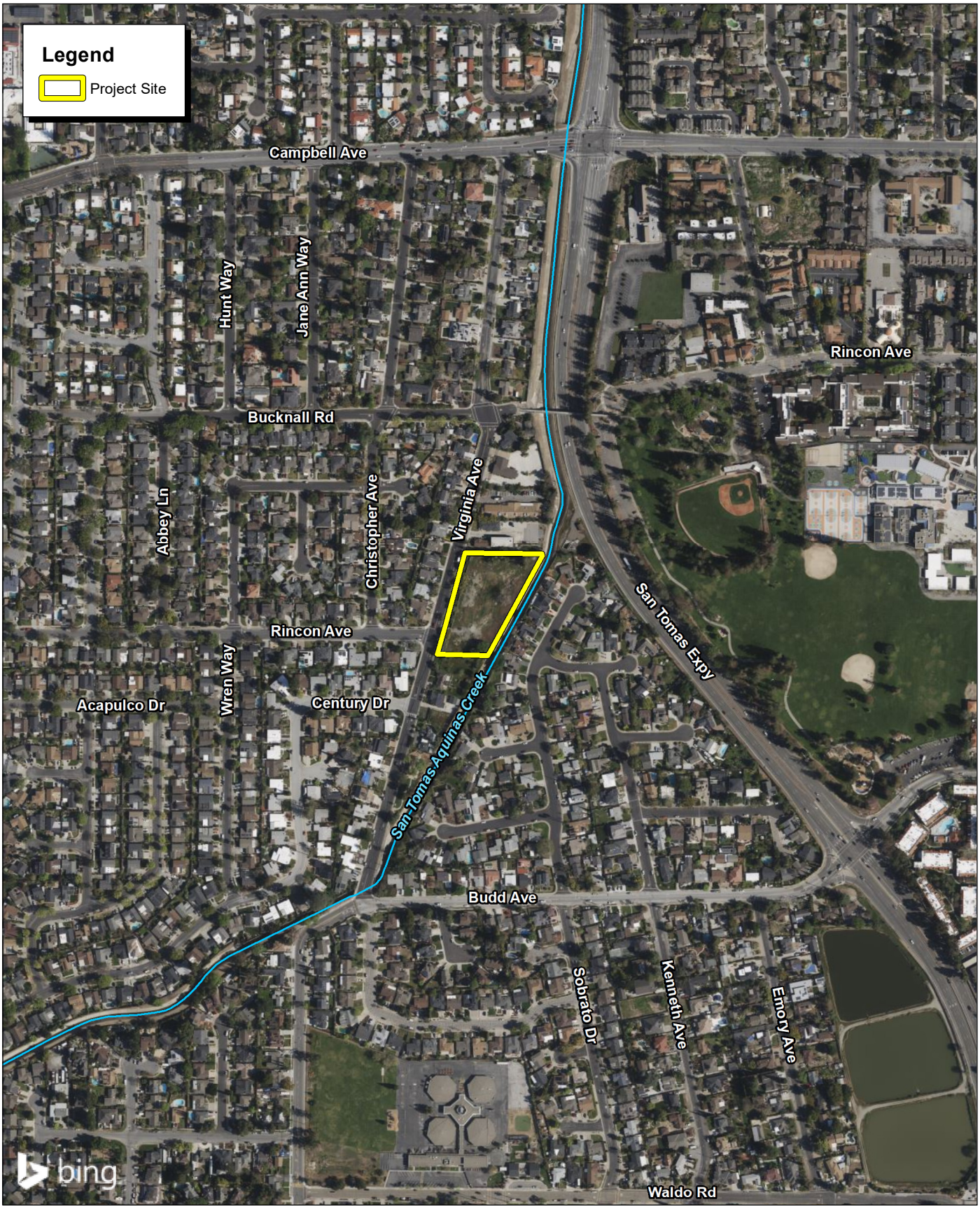

Source: Bing Aerial Imagery.

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500 250 0 500 Feet

Exhibit 2
Local Vicinity Map

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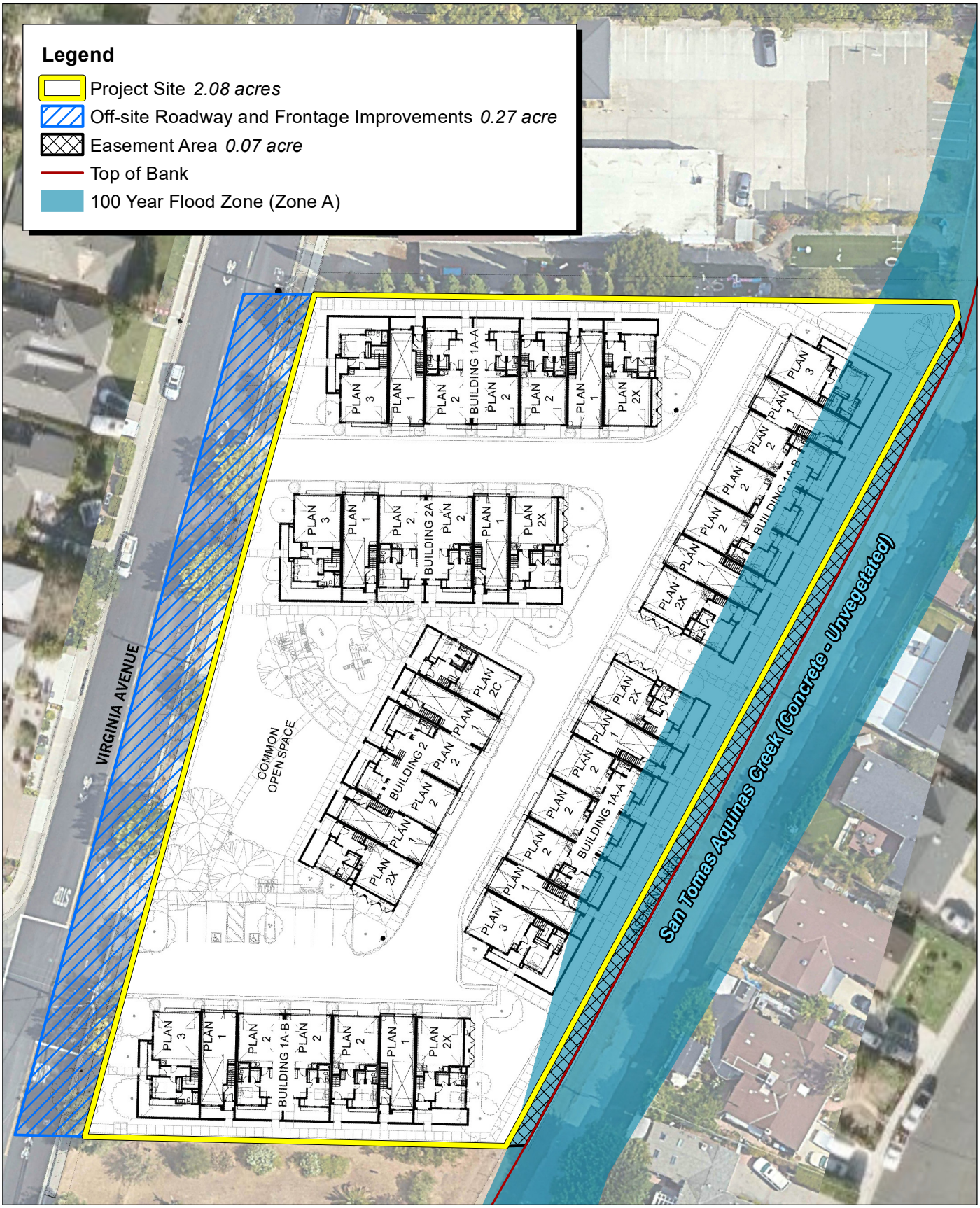

Source: ESRI Aerial Imagery. DAHLIN, June 28, 2023.

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60 30 0 60 Feet

Exhibit 3
Site Plan

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SECTION 2: NOISE AND VIBRATION FUNDAMENTALS

2.1 - Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. Noise effects can be caused by pitch or loudness. *Pitch* is the number of complete vibrations or cycles per second of a wave that result in the range of tone from high to low; higher-pitched sounds are louder to humans than lower-pitched sounds. *Loudness* is the intensity or amplitude of sound.

Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Only audible changes in existing ambient or background noise levels are considered potentially significant.

The human ear is not equally sensitive to all frequencies within the audible sound spectrum, so sound pressure level measurements can be weighted to better represent frequency-based sensitivity of average healthy human hearing. One such specific “filtering” of sound is called “A-weighting.” A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear. Because decibels are logarithmic units, they cannot be added or subtracted by ordinary arithmetic means. For example, if one noise source produces a noise level of 70 dB, the addition of another noise source with the same noise level would not produce 140 dB; rather, they would combine to produce a noise level of 73 dB.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level. Noise levels diminish or attenuate as distance from the source increases based on an inverse square rule, depending on how the noise source is physically configured. Noise levels from a single-point source, such as a single piece of construction equipment at ground level, attenuate at a rate of 6 dB for each doubling of distance (between the single-point source of noise and the noise-sensitive receptor of concern). Heavily traveled roads with few gaps in traffic behave as continuous line sources and attenuate roughly at a rate of 3 dB per doubling of distance.

2.1.1 - Noise Descriptors

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day/night average sound level (L_{dn}) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

2.1.2 - Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source, as well as ground absorption, atmospheric conditions (wind, temperature gradients, and humidity) and refraction, and shielding by natural and manmade features. Sound from point sources, such as an air conditioning condenser, a piece of construction equipment, or an idling truck, radiates uniformly outward as it travels away from the source in a spherical pattern.

The attenuation or sound drop-off rate is dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in noise models: soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA per each doubling of the distance (dBA/DD) is typically observed over soft ground with landscaping, as compared with a 6 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone, and very hard packed earth. For line sources, such as traffic noise on a roadway, a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3 dBA/DD drop-off rate for hard-site conditions. Table 1 briefly defines these measurement descriptors and other sound terminology used in this section.

Table 1: Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
Day-Night Level (DNL or L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m. (nighttime).
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.
Source: Data compiled by FirstCarbon Solutions (FCS) 2024.	

2.1.3 - Traffic Noise

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and

truck mix do not change) results in a noise level increase of 3 dBA. Based on the Federal Highway Administration (FHWA) community noise assessment criteria, this change is "barely perceptible." For reference, a doubling of perceived noise levels would require an increase of approximately 10 dBA. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

2.1.4 - Stationary Noise

A stationary noise producer is any entity in a fixed location that emits noise. Examples of stationary noise sources include machinery, engines, energy production, and other mechanical or powered equipment and activities such as loading and unloading or public assembly that may occur at commercial, industrial, manufacturing, or institutional facilities. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation, the use of these vehicles is considered a stationary noise source when operated on private property such as at a construction site, a truck terminal, or warehousing facility.

The effects of stationary noise depend on factors such as characteristics of the equipment and operations, distance and pathway between the generator and receptor, and weather. Stationary noise sources may be regulated at the point of manufacture (e.g., equipment or engines), with limitations on the hours of operation, or with provision of intervening structures, barriers, or topography.

Construction activities are a common source of stationary noise. Construction-period noise levels are higher than background ambient noise levels but eventually cease once construction is complete. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on each construction site and, therefore, would change the noise levels as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 2: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Impact Pile Driver	Yes	95
Auger Drill Rig	No	85
Vibratory Pile Driver	No	95
Jackhammers	Yes	85
Pneumatic Tools	No	85
Pumps	No	77
Scrapers	No	85

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Cranes	No	85
Portable Generators	No	82
Rollers	No	85
Bulldozers	No	85
Tractors	No	84
Front-end Loaders	No	80
Backhoe	No	80
Excavators	No	85
Graders	No	85
Air Compressors	No	80
Dump Truck	No	84
Concrete Mixer Truck	No	85
Pickup Truck	No	55

Notes:
dBA = A-weighted decibel
Source: Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook.

2.1.5 - Noise from Multiple Sources

Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Therefore, sound pressure levels in decibels are logarithmically added on an energy summation basis. In other words, adding a new noise source to an existing noise source, both producing noise at the same level, will not double the noise level. Instead, if the difference between two noise sources is 10 dBA or more, the louder noise source will dominate, and the resultant noise level will be equal to the noise level of the louder source. In general, if the difference between two noise sources is 0–1 dBA, the resultant noise level will be 3 dBA higher than the louder noise source, or both sources if they are equal. If the difference between two noise sources is 2–3 dBA, the resultant noise level will be 2 dBA above the louder noise source. If the difference between two noise sources is 4–10 dBA, the resultant noise level will be 1 dBA higher than the louder noise source.

2.2 - Characteristics of Groundborne Vibration and Noise

Groundborne vibration consists of rapidly fluctuating motion through a solid medium, specifically the ground, which has an average motion of zero and in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The effects of groundborne vibration typically only cause a nuisance to people, but in extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the

shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Because of the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels—denoted as LV—and is based on the reference quantity of 1 microinch per second. To distinguish these vibration levels referenced in decibels from noise levels referenced in decibels, the unit is written as "VdB."

Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. When assessing annoyance from groundborne vibration, vibration is typically expressed as rms velocity in units of decibels of 1 microinch per second, with the unit written in VdB. Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. Human perception of vibration starts at levels as low as 67 VdB. Annoyance due to vibration in residential settings starts at approximately 70 VdB.

Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration. Construction activities, such as blasting, pile driving and operating heavy earthmoving equipment, are common sources of groundborne vibration. Construction vibration impacts on building structures are generally assessed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 3.

Table 3: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 feet (inches/second)	rms Velocity in Decibels (VdB) at 25 feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer—small	0.003	58
Jackhammer	0.035	79
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82

Construction Equipment	PPV at 25 feet (inches/second)	rms Velocity in Decibels (VdB) at 25 feet
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer—large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller–small	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller–large	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112

Notes:
PPV = peak particle velocity
Source: Compilation of scientific and academic literature, generated by the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA).

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform medium, while groundborne vibrations travel through the earth, which may contain significant geological differences. Factors that influence groundborne vibration include:

- **Vibration source:** Type of activity or equipment, such as impact or mobile, and depth of vibration source.
- **Vibration path:** Soil type, rock layers, soil layering, depth to water table, and frost depth.
- **Vibration receiver:** Foundation type, building construction, and acoustical absorption.

Among these factors that influence groundborne vibration, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth of bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-

waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil type, but it has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests. The vibration level (calculated below as "PPV") at a distance from a point source can generally be calculated using the vibration reference equation:

$$PPV = PPV_{ref} * (25/D)^n \text{ (in/sec)}$$

Where:

PPV_{ref} = reference measurement at 25 feet from vibration source
D = distance from equipment to property line
n = vibration attenuation rate through ground

According to Section 7 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, an "n" value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.[1]

[1] Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed March 26, 2024.

SECTION 3: REGULATORY SETTING

3.1 - Federal Regulations

3.1.1 - United States Environmental Protection Agency

In 1972, Congress enacted the Noise Control Act.[2] This act authorized the United States Environmental Protection Agency (EPA) to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels) categories, as shown in Table 4. The EPA cautions that these identified levels are not standards because they do not take into account the cost or feasibility of the levels.

For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to an $L_{eq(24)}$ of 70 dBA. The EPA activity and interference guidelines are designed to ensure reliable speech communication at about 5 feet in the outdoor environment. For outdoor and indoor environments, interference with activity and annoyance should not occur if levels are below 55 dBA and 45 dBA, respectively.

Table 4: Summary of EPA Recommended Noise Levels to Protect Public Welfare

Effect	Level	Area
Hearing loss	$L_{eq}(24) \leq 70$ dB	All areas
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas, farms, and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	$L_{eq}(24) \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{eq} \leq 45$ dB	Indoor residential areas.
	$L_{eq}(24) \leq 45$ dB	Other indoor areas with human activities such as schools, etc.

Notes:
dB = decibel
L_{eq} = equivalent sound level
L_{dn} = day/night average sound level
(24) signifies an L_{eq} duration of 24 hours.
Source: United States Environmental Protection Agency (EPA). 1978. Protective Noise Levels, EPA 550/9-79-100.

[2] GovInfo. 2024. Noise Control Act Of 1972. Website: https://www.govinfo.gov/content/pkg/COMPS-888/pdf/COMPS-888.pdf. Accessed March 26, 2024.

3.1.2 - Federal Transit Administration

The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment Manual.[3] The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 5.

Table 5: Federal Transit Administration Construction Vibration Impact Criteria

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

Notes:
PPV = peak particle velocity
rms = root mean square
VdB = vibration measured as rms velocity in decibels of 1 microinch per second
Source: Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.

In addition, FTA has identified construction noise thresholds in the Transit Noise and Vibration Impact Assessment Manual, which limit daytime construction noise to 80 dBA L_{eq} at residential land uses, 85 dBA L_{eq} at commercial uses and to 90 dBA L_{eq} at industrial land uses.

3.2 - State Regulations

3.2.1 - California General Plan Guidelines

Established in 1973, the California Department of Health Services Office of Noise Control was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix," which allows the local jurisdiction to delineate compatibility of sensitive uses with various incremental levels of noise.[4]

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise/land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The project is also subject to review under the State of California Environmental Quality Act (CEQA). Appendix G of the

[3] Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed March 26, 2024.
[4] California Department of Health Services Office of Noise Control. Land Use Compatibility for Community Noise Environments Matrix. 1976.

CEQA Guidelines provides impact thresholds for potential noise and vibration impacts. The City of Campbell had developed its own CEQA thresholds, which are listed in the Thresholds of Significance section below.

3.2.2 - California Building Standards Code

The State of California has established noise insulation standards for new hotels, motels, apartment houses, and dwellings (other than single-family detached housing). These requirements are provided in the 2022 California Building Standards Code (CBC) (California Code of Regulations [CCR] Title 24). As provided in the CBC, the noise insulation standards set forth an interior standard of 45 dBA CNEL as measured from within the structure's interior. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

3.2.3 - Assembly Bill 1307

Assembly Bill (AB) 1307 went into effect January 1, 2024. This bill clarifies that "for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment." Therefore, this analysis does not address potential noise impacts from future occupants and their guests on sensitive receptors in the project vicinity.

3.3 - Local Regulations

The project site is located in the City of Campbell. The City addresses noise in the City of Campbell's *Envision Campbell General Plan 2040*, and in the Code of Ordinances.[5]

3.3.1 - Envision Campbell General Plan 2040 Noise Element

The Noise Element provides goals and policies to guide compatible land uses and the incorporation of noise attenuation measures for new uses to protect people living and working in the City from an excessive noise environment:

Goal N-1 **Preserve and enhance the quality of existing and future land uses by minimizing exposure to harmful and excessive noise.**

N-1.1 Consider the noise compatibility of existing and future development when making land use planning decisions with an emphasis on protecting neighborhoods and people from excessive noise levels, while still accommodating new development and uses.

N-1.2 Require development projects and changes to existing uses to be consistent with the standards indicated in Table N-1 to ensure acceptable noise levels for existing and future development.

N-1.3 Require new development to reduce excessive noise to the standards indicated in Tables N-1 (Table 6) and N-2 (Table 7) through best practices, including building

[5] Envision Campbell General Plan Update. 2023. General Plan 2040 Noise Section. Website: https://www.campbellca.gov/ArchiveCenter/ViewFile/Item/2951. Accessed March 13, 2024.

location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials.

N-1.4 Ensure that new development does not result in indoor noise levels exceeding 45 dBA L_{dn} for residential uses by requiring the implementation of construction techniques and noise reduction measures for all new residential development.

N-1.5 Encourage the use of open spaces, trees, and landscaping to buffer new and existing development from noise sources. Use fences and sound walls for sound attenuation only when other measures are not practical or when recommended by an acoustical expert as part of a mitigation measure. When sound walls are required for compliance with noise standards, ensure sounds walls are built to be visually compatible with the surrounding area, at the minimum height necessary to achieve the required sound attenuation. As feasible, sound walls should incorporate treatments to resist graffiti.

N-1.6 Require acoustical studies for new noise-generating and developments, and transportation improvements that would increase roadway capacity, move traffic closer to sensitive receptors, or add traffic to areas that do not currently have notable exposure to roadway noise.

N-1.7 Continue to recognize that "late night activities" (land use activities operating from 11:00 p.m. to 6:00 a.m., not including the lawful, reasonable, and customary use of residential uses or professional offices that does not interfere with the reasonable use and enjoyment of other properties) may present a potential noise impact, and should be carefully reviewed to ensure compatibility with adjacent residences.

N-1.8 For projects that are required to prepare an acoustical study, the following stationary and transportation noise source criteria shall be used to determine the significance of those impacts:

Stationary and Non-transportation Noise Sources

- A significant impact will occur if the project results in an exceedance of the noise level standards contained in this element, or for instances where the ambient noise level is already above the standards contained in this element, the project will result in an increase in ambient noise levels by more than 3 dB.
- This does not apply to construction activities which are conducted according to the best practices contained in Chapter 18.04 of the Campbell Municipal Code, and outlined in Action N-1f [Action N-1.h below]. Compliance with these requirements shall be sufficient to reduce construction-related noise impacts to a less than significant level.

Transportation Noise Sources

- Where existing traffic noise levels are 60 dB L_{dn} or less at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in roadway noise levels will be considered significant;
- Where existing traffic noise levels are greater than 60 dB L_{dn} and up to 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in roadway noise levels will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in roadway noise levels will be considered significant.

N-1.9 Support noise-compatible land uses along Highways 17 and 85 and San Tomas Expressway.

N-1.10 Regional and pass-thru truck traffic shall be limited to specific routes as described in Chapter 10.40 of the Campbell Municipal Code (Restricted-Unrestricted Streets).

N-1.11 Require developers to prepare a construction management plan that defines best management practices to reduce construction noise, and includes proposed truck routes as part of the entitlement process.

N-1.12 Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State transportation projects.

N-1.13 Continue to ensure that existing development is protected, to the greatest extent feasible, from noise impacts due to construction on adjacent or nearby properties.

N-1.16 Require non-transportation related noise from site specific noise sources to comply with the standards shown in Table N-2 [Table 7 below].

N-1.17 Require construction activities to comply with standard best practices (see Action N-1h and Chapter 18.04 of the Municipal Code). Construction activities outside of the permitted construction hours identified in the Campbell Municipal Code (Chapter 18.04-Building Code) may be approved on a case-by-case basis by the building official.

Actions in Support of Goal N-1

N-1.h Update the Campbell Municipal Code (Chapter 18.04 -Building Code) to include the following construction noise best practices and requirements:

- Establish standards for when a construction staging and phasing plan shall be required for new development projects and significant remodels.
- The construction contractor shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.

- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.
- The required construction-related noise mitigation plan shall also specify that haul truck deliveries are to occur within the same range of hours specified for construction equipment.
- The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

Table 6: Land Use Compatibility for Community Noise Environment

Land Use Category	Exterior Noise Exposure Ldn					
	55	60	65	70	75	80
Single-Family Residential						
Multi-Family Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Public Assembly						
Office Buildings, Business Commercial, and Professional						
Industrial						

Notes: Residential components of Mixed-Use developments are subject to the Multi-Family Residential Noise Standards unless otherwise allowed in conjunction with Policy N-2.2.

Normally Acceptable. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

Conditionally Acceptable. Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

Unacceptable. New construction or development should generally not be undertaken because mitigation was found to be infeasible to comply with noise element policies.

Table 7: Stationary (Non-transportation) Noise Source Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard (dBA)	
		Daytime (6:00 a.m.–11:00 p.m.)	Nighttime (11:00 p.m.–6:00 a.m.)
Residential	L_{eq}	55	45
	L_{max}	70	65

Notes:

a) The residential standards apply to all properties that are zoned for residential use. The exterior noise level standard is to be applied at the property line for the receiving land use or at a designated outdoor activity area. For mixed-use projects, the exterior noise level standard may be waived (at the discretion of the decision-making body) if the residential portion of the project does not include a designated activity area and mitigation of property line noise is not practical.

b) Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises. In no case shall mitigation be required to a level that is less than existing ambient noise levels, as determined through measurements conducted during the same operational period as the subject noise source.

c) In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level plus 3dB.

Tonal Noises are characterized by a whine, screech, beep, or hum, consisting primarily of speech or music, or recurring impulsive noises. Tonal noises can cause unpleasant experiences in spaces adjacent to areas that produce tonal noises, which annoys occupants and, in turn, lead to increased complaints from nearby sensitive receptors.

3.3.2 - City of Campbell Noise Ordinances

The City establishes noise standards for hours of construction in Municipal Code Section 18.04.052. These standards are described below.

Construction activity shall be limited to the hours of 8:00 a.m. and 5:00 p.m. daily, Monday through Friday. Saturday hours of construction shall be 9:00 a.m. and 4:00 p.m. There shall be no construction activity on Sundays or public holidays.

Exception

(a) Construction activity is permitted for homeowner permits, when the work is being performed by only the owner of the property, provided no construction activity or loud noises are conducted prior to 6:00 a.m. or after 7:00 p.m., Monday through Saturday, and prior to 8:00 a.m. or after 6:00 p.m. on Sundays or National Holidays.

(b) Where emergency conditions exist, as determined by the building official, construction activity or construction noise may be permitted at any hour or day of the week. Such emergencies shall be completed as rapidly as possible to prevent any disruption to the residential neighborhood.

(c) When the building official determines that construction activity and/or construction noises will not be detrimental to the adjacent neighbors, an exception to the time of work activity may be granted to the general contractor who shall be responsible for controlling the site for loud disruptive noises as described above. Hours of operation shall be determined by the building official on a case-by-case basis.

If the building official determines that construction activity and/or construction noises, as described herein above, allowed by exception, are unreasonably interfering in the reasonable use and enjoyment of adjacent properties, the building official shall notify the general contractor or owner in writing that the exception has been voided and canceled and the construction time and noise conditions as described in Section 18.04.052 shall apply immediately and the general contractor or owner shall be subject to the penalty(ies) as provided for in this code.

(d) (1) Construction activity, under contracts awarded by the City for public improvements, shall be allowed during the working hours specified by the City Engineer, as described in the construction project contract documents. Such working hours shall be designed to prevent unnecessary hazard or inconvenience to members of the public. In establishing such working hours, the City Engineer may consider:

(A) The impact of the work on vehicular and pedestrian traffic;

(B) The proximity of the work to residential neighborhoods, schools, hospitals and libraries; and

(C) Other factors relating to the public safety, health and welfare.

(2) Deviation from the working hours specified in the contract documents shall be deemed a violation of a mandatory provision of the code.

SECTION 4: EXISTING NOISE CONDITIONS

The project site is located within the City of Campbell in Santa Clara County, California. Surrounding the project site are residential homes, a place of worship directly to the north, and San Tomas Aquinas Creek runs alongside the eastern boundary. The dominant noise source in the project vicinity is traffic noise from Virgina Avenue, which runs along the western boundary of the project site, Rincon Avenue which runs off Virginia Avenue, west of the project site, and San Tomas Expressway located to the northeast.

The existing noise environment in the project vicinity was documented through ambient noise monitoring. Three short-term noise measurements (15 minutes each) were taken on Thursday, March 14, 2024, and the noise measurement data sheets are included in Appendix A. The short-term noise measurements were taken between approximately 2:47 p.m. and 3:45 p.m. The noise measurement data sheets are provided in Appendix A of this report.

The short-term noise measurements taken at the project site are summarized in Table 8. The noise measurements indicate that daytime ambient noise levels range from 57.6 dBA to 59.7 dBA L_{eq} at nearby residential land uses and roadways in the project vicinity. The noise technician observed that the dominant noise sources in the project vicinity are traffic noise on San Tomas Expressway in the distance, though noises from nearby residential land uses Virginia Avenue and Rincon Avenue traffic, and pedestrian traffic were also observed.

Table 8: Existing Ambient Noise Levels in the Project Vicinity

Site Location	Location Description	dBA	Primary Noise Sources
ST-1	At project site entrance, 10 feet from edge of Virginia Avenue. Adjacent to Virginia Avenue and Rincon Avenue intersection.	59.7 L_{eq}	Virginia Avenue and Rincon Avenue traffic, pedestrian traffic, and distant San Tomas Expressway traffic.
ST-2	Near the northwest corner of the project site, 10 feet from edge of Virginia Avenue.	57.6 L_{eq}	Virginia Avenue traffic, and San Tomas Expressway traffic in the distance.
ST-3	At the northeast corner of the project site, 10 feet west of San Tomas Aquinas Creek.	59.2 L_{eq}	San Tomas Expressway traffic in the distance, and residential noise.

Notes:
dBA = A-weighted decibel
L_{eq} = equivalent sound level
Source: FirstCarbon Solutions (FCS). 2024.

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SECTION 5: THRESHOLDS OF SIGNIFICANCE AND IMPACT ANALYSIS

5.1 - Thresholds of Significance

According to CEQA Guidelines Appendix G, to determine whether impacts related to noise and vibration are significant environmental effects, the following questions are analyzed and evaluated.

Would the proposed plan:

a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Generate excessive groundborne vibration or groundborne noise levels?

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

5.2 - Substantial Noise Increase in Excess of Standards

5.2.1 - Construction Noise Impacts

For the purposes of this analysis, a significant impact would occur if construction activities would result in a substantial temporary increase in ambient noise levels in excess of the City's applicable noise standards. A significant impact would occur if construction activities do not comply with Section 18.04.052 of the Municipal Code, limiting general construction activities to 8:00 a.m. to 5:00 p.m. daily, Monday through Friday; to 9:00 a.m. to 4:00 p.m. on Saturday; and no construction activity on Sundays or public holidays.

According to the City of Campbell's General Plan, A significant impact will occur if the project results in an exceedance of the noise level standards contained in this element, or for instances where the ambient noise level is already above the standards contained in this element, the project will result in an increase in ambient noise levels by more than 3 dB. This does not apply to construction activities which are conducted according to the best practices contained in Chapter 18.04 of the Campbell Municipal Code, and outlined in Action N-1.h of the Noise Element. Compliance with these requirements shall be sufficient to reduce construction-related noise impacts to a less than significant level.

Construction-related Traffic Noise

Noise impacts from construction activities associated with the project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. One type of short-term noise impact that could occur during project construction would result from the increase in traffic flow on local streets,

associated with the transport of workers, equipment, and materials to and from the project site. The transport of workers and construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. Typically, a doubling of the Average Daily Traffic (ADT) hourly volumes on a roadway segment is required in order to result in an increase of 3 dBA in traffic noise levels; which, as discussed in the characteristics of nose discussion above, is the lowest change that can be perceptible to the human ear in outdoor environments. Because the proposed project's average daily trips would represent a small fraction of daily traffic on access roadways, they would not be capable of doubling traffic volumes along surrounding roadways and causing 3 dBA noise increases. For this reason, short-term intermittent noise from construction trips would not be expected to result in a perceptible increase in hourly or daily average traffic noise levels in the project vicinity. Therefore, short-term construction-related noise impacts associated with the transportation of workers and equipment to the project site would be less than significant.

Construction Equipment Operational Noise

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Impact equipment, such as impact pile drivers, are not expected to be used during construction of this project. This noise impact analysis focuses on analyzing the loudest phase of construction and demonstrates that, with implementation of the City's Standard Permit Conditions, impacts would be reduced to less than significant.

The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery and compacting equipment, such as bulldozers, draglines, backhoes, front loaders, roller compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the project is expected to require the use of a variety of equipment, the loudest being a grader, excavator, and bulldozer, all of which generate maximum reference noise levels of 85 dBA L_{max} at 50 feet.

The closest noise-sensitive receptor to the project site is the Campbell Community Church of God of Prophet building located north of the project site located approximately 30 feet north of the project site boundary, east of Virginia Avenue, and 75 feet away from the nearest acoustic center of construction activity. At this distance, relative worst-case maximum construction noise levels would

attenuate to below 81 dBA L_{max} and relative worst-case hourly average construction noise levels would attenuate to below 77 L_{eq}. If construction activity is not restricted to daytime hours, these noise levels could result in a substantial temporary increase in nighttime noise levels that could result in annoyance or sleep disturbance of nearby receptors.

Therefore, mitigation restricting the permissible hours of construction activities to daytime hours and enforcing best management noise reduction measures would be required to reduce this impact to less than significant. Mitigation Measure (MM) NOI-1 listed below would satisfy this requirement.

As a result, implementation of MM NOI-1 would ensure the project would not result in substantial temporary increases at the off-site sensitive receptors above standards established in the General Plan, and construction noise impacts on sensitive receptors in the project vicinity would be reduced to less than significant with mitigation incorporated.

5.2.2 - Mobile Source Operational Noise Impacts

- A significant impact would occur if project-generated traffic would result in a substantial increase in ambient noise levels compared with those that would exist without the project. Where existing traffic noise levels are 60 dBA L_{dn} or less at the outdoor activity areas of noise-sensitive uses, a +5 dBA L_{dn} increase in roadway noise levels will be considered significant.
- Where existing traffic noise levels are greater than 60 dBA L_{dn} and up to 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dBA L_{dn} increase in roadway noise levels will be considered significant.
- Where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels will be considered significant.

Documented existing noise levels on the project site range from 57.6 dBA to 59.7 dBA L_{eq}, which included all transportation and non-transportation noise sources in the project vicinity. Therefore, based on the existing noise environment, a greater than 5 dBA increase in traffic noise levels would be considered a significant impact.

The existing midday peak-hour traffic volumes on Virginia Avenue adjacent to the project site were documented by the noise technician to be 216 cars per hour. The traffic count data sheets and midday peak-hour calculations are included on the noise measurement data sheets provided in Appendix B. The proposed project's projected peak-hour trips are 19 AM and 23 PM peak-hour trips. These project trips would not double existing hourly or daily trips on Virginia Avenue adjacent to the project site. Typically, a doubling of ADT volumes on a roadway segment is required in order to result in an increase of 3 dBA in traffic noise levels. Therefore, the project would not result in even a 3 dBA increase in traffic noise levels.

Therefore, project-related traffic noise increases are below the 5 dBA increase that would be considered a substantial permanent increase in noise levels compared with noise levels that would exist without the project. Therefore, project-related traffic noise levels would not result in a

substantial permanent increase in traffic noise levels in excess of applicable standards and would represent a less than significant impact.

5.2.3 - Stationary Source Operational Noise Impacts

A significant impact would occur if operational noise levels generated by stationary noise sources at the project site would result in a substantial permanent increase in ambient noise levels in excess of any of the noise performance thresholds established in the City's Noise Ordinance.

The City has identified that an increase of more than 3 dBA above existing ambient noise levels would be considered a substantial permanent increase.

The proposed project would include new stationary noise sources, including mechanical ventilation equipment and parking lot activities.

Mechanical Ventilation Equipment

Implementation of the project would include operation of new mechanical ventilation equipment. Noise levels for residential-grade mechanical ventilation equipment systems range up to approximately 70 dBA L_{eq} at a distance of 3 feet.

The proposed project would have residential-grade mechanical ventilation equipment for each unit. The nearest residential receptor is a residential building located south of the project site, approximately 80 feet from the nearest location where new mechanical ventilation equipment would be located. The combined reasonable worst-case operational noise level of multiple mechanical ventilation systems operating simultaneously would be 49 dBA L_{eq}, as measured at the nearest off-site residential receptor. The noise calculation sheet is provided in Appendix B of this report.

Documented existing ambient noise levels are shown to range up to approximately 59.7 dBA L_{eq}. The noise levels generated by the mechanical equipment operations would not exceed these noise levels as measured at the nearest residential receptor. Therefore, the mechanical ventilation equipment operation noise levels would not result in a substantial permanent increase in ambient noise levels in excess of any of the City's noise performance thresholds and would represent a less than significant impact.

Parking Lot Activities

The proposed project would provide 14 on-site surface parking spaces. The nearest noise-sensitive receptor to the proposed parking areas would be the existing residence located across Virginia Avenue, approximately 110 feet from the nearest proposed parking space. Assuming a minimum of one parking movement per stall per hour, reasonable worst-case hourly average noise levels associated with daily parking lot activities would be approximately 33 dBA L_{eq} at the exterior of the nearest residential receptor. The noise calculation sheet is provided in Appendix B of this report.

Documented existing ambient noise levels are shown in Table 8 to range up to approximately 59.7 dBA L_{eq}. The noise levels generated by parking lot activity would not exceed these noise levels as

measured at the nearest residential receptor. Therefore, operational parking lot noise levels would not result in a substantial permanent increase in ambient noise levels in excess of any of the City's noise performance thresholds and would represent a less than significant impact.

Mitigation Measures

Project construction activity noise impacts, which could result in a temporary increase in ambient noise levels in the project vicinity that could result in annoyance or sleep disturbance of nearby sensitive receptors and exceed the established nighttime noise standard, would be reduced to less than significant with implementation of the following multi-part mitigation measure.

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

Prior to issuance of construction permits, the following language shall be included, verbatim, in the general notes section of all the civil plan construction documents.

- Construction activities at the project site shall be limited to the hours of 8:00 a.m. and 5:00 p.m. daily, Monday through Friday. Saturday hours of construction shall be nine a.m. and four p.m. There shall be no construction activity on Sundays or public holidays (as defined by Title 5 United States Code [USC] § 6103(a)).
- Establish standards for when a construction staging and phasing plan shall be required for new development projects and significant remodels.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.
- The required construction-related noise mitigation plan shall also specify that haul truck deliveries are to occur within the same range of hours specified for construction equipment.
- The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

5.3 - Groundborne Vibration/Noise Levels

This section analyzes both construction and operational groundborne vibration and noise impacts. Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. Groundborne noise is generated when vibrating building components radiate sound, or noise generated by groundborne vibration. In general, if groundborne vibration levels do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

The City has not adopted criteria for groundborne vibration impacts. Therefore, for the purposes of this analysis, the FTA's guidelines for vibration impacts are used to determine potential significant construction and operational-related vibration impacts.

5.3.1 - Short-term Construction Vibration Impacts

A significant impact would occur if existing structures at the project site or in the project vicinity would be exposed to groundborne vibration levels in excess of the FTA's vibration impact criteria.

Of the variety of equipment used during construction, the small vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Small vibratory rollers produce groundborne vibration levels ranging up to 0.101 in/sec PPV at 25 feet from the operating equipment.

The nearest off-site receptor to the project site is the Campbell Community Church of God of Prophet building located north of the project site. The façade of this building would be located approximately 40 feet from the nearest construction footprint where the heaviest construction equipment would potentially operate. At this distance, groundborne vibration levels would range up to 0.05 PPV from operation of the types of equipment that would produce the highest vibration levels. This is well below the FTA's construction vibration damage criteria of 0.2 PPV for this type of structure, a building of non-engineered timber and masonry construction. Therefore, the impact to off-site receptors of short-term groundborne vibration associated with construction would be less than significant.

5.3.2 - Operational Vibration Impacts

Implementation of the project would not include any permanent sources that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments at any existing sensitive land use in the project vicinity. In addition, there are no existing significant permanent sources of groundborne vibration in the project vicinity to which the proposed project would be exposed. Therefore, project operational groundborne vibration level impacts would be considered less than significant.

5.4 - Noise Levels from Airport Activity

A significant impact would occur if the project would expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

The project site is not located within the vicinity of a private airstrip. The nearest public airport to the project site is San José Mineta International Airport, located approximately 5.3 miles northeast of the project site. Because of the distance to the airport and the orientation of the runways, the project site lies outside of the 60 dBA CNEL noise contours of the airport. Although aircraft noise is occasionally audible on the project site, nearby airport activity would not expose people residing or working near the project site to excessive noise levels. Therefore, implementation of the project would not expose persons residing or working in the project vicinity to noise levels from airport activity that would be in excess of normally acceptable standards for the proposed land use development, and no impact would occur.

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Appendix A:
Noise Measurement Data

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FIRSTCARBON SOLUTIONS
FCS INTERNATIONAL, INC.

Project Number: 4645.0006 Sheet ___of ___
Project Name: Virginia Avenue
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST1 Date: 03/14/24 Time: From 14:47 To 15:02

Site Location: At project site entrance, 10 ft off of Virginia Avenue. Adjacent to Virginia Avenue and Rincon Avenue intersection.

Primary Noise Sources: Virginia Avenue and Rincon Avenue traffic, pedestrian traffic. Distant San Tomas Expressway traffic.

Measurement Results

	dBA
L_{eq}	59.7
L_{max}	80.2
L_{min}	48.5
L_{peak}	104.5
L_5	62.4
L_{10}	59.4
L_{50}	55.2
L_{90}	52.2
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments:

Equipment: LxT 2 Measured Difference: -0.03 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light breeze, 63 F			

Photos Taken:

Photo Number	Location/Description
1	Facing North
2	Facing East
3	Facing South
4	Facing West

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts
Virginia Avenue	2	25	10-25	29	25
Rincon Avenue	2	25	10-25	11	13

Diagram/Further Comments:

FIRSTCARBON SOLUTIONS
FCS INTERNATIONAL, INC.

Project Number: 4645.0006 Sheet ___of ___
Project Name: Virginia Avenue
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST2 Date: 03/14/24 Time: From 15:06 To 15:21

Site Location: By the NW corner of the project site, 10 feet off Virginia Avenue.

Primary Noise Sources: Virginia Avenue traffic, San Tomas Expressway traffic (distant).

Measurement Results

	dBA
L_{eq}	57.6
L_{max}	72.2
L_{min}	47.2
L_{peak}	104.3
L_5	63.3
L_{10}	60.3
L_{50}	54.4
L_{90}	49.8
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments:

Equipment: LxT 2 Measured Difference: -0.03 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light Breeze, 63 F			

Photos Taken:

Photo Number	Location/Description

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts
Virginia Avenue	2	25	25	See ST1 for similar	See ST1 for similar

Diagram/Further Comments:

FIRSTCARBON SOLUTIONS
FCS INTERNATIONAL, INC.

Project Number: 4645.0006 Sheet ___of ___
Project Name: Virginia Avenue
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST3 Date: 03/14/24 Time: From 15:29 To 15:45

Site Location: In NE corner of project site, 10 ft west of San Tomas Aquinas Creek.

Primary Noise Sources: San Tomas Expressway traffic, residential noise.

Measurement Results

	dBA
L_{eq}	59.2
L_{max}	76.8
L_{min}	48.1
L_{peak}	107.3
L_5	61.2
L_{10}	60.6
L_{50}	57.5
L_{90}	52.4
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments: Closest point on project site to San Tomas Expressway. Also closest noise measurement to expressway. However, project site is not adjacent to the expressway.

Equipment: LxT 2 Measured Difference: -0.03 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light Breeze, 63 F			

Photos Taken:

Photo Number	Location/Description
1	Facing North
2	Facing East
3	Facing South
4	Facing West

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts

Diagram/Further Comments:

Appendix B:
Noise Modeling Data

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Parking Lot Activity Noise Calculation

	A.M.	P.M.
Maximum Vehicle Activity per Hour:	5	5
Noise Level at Nearest Receptor (dBA Leq):	33	33

No.	Receptor	Distance from Center of Activity in (ft)	Shielding (dBA)[1]	Calculated Maximum Hourly Noise Level	
				A.M.	P.M.
1	A	110	0	27	27
2					
3					
4					
5					
6					
7					
8					
9					
10					

Notes:
[1] Shielding due to terrain or structures

Source:
Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual.

Mechanical Equipment Noise Calculation

Receptor:	Receiving residential property line	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
		Reference (dBA) 3 ft		Usage	Distance to	Ground	Shielding	Calculated (dBA)		
No.	Equipment Description	Lmax	Quantity	factor[1]	Receptor	Effect[2]	(dBA)[3]	Lmax	Leq	Energy
1	Commercial grade mechanical ventilation equipment	70	1	100	30	0.5	0	50.0	45.0	31622.7766
2										
3										
4										
5										
6										
7										
8										
9										
10										
							Lmax[4]	50	Leq	45

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor

[3] Shielding due to rooftop parapet and soundwall shielding

[4] Calculated Lmax is the Loudest value.

Mobile Construction Activity Noise Calculation

Receptor:	Receiving residential property line	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements							
		Reference (dBA) 50 ft		Usage	Distance to	Ground	Shielding	Calculated (dBA)		
No.	Equipment Description	Lmax	Quantity	factor[1]	Receptor	Effect[2]	(dBA)[3]	Lmax	Leq	Energy
1	Grader	85	1	40	40	1	0	86.9	83.9	247052942.2
2	Excavator	85	1	40	90	1	0	79.9	73.4	21689147.19
3	Dozer	85	1	40	90	1	0	79.9	73.4	21689147.19
4	Front End Loader	80	1	40	90	1	0	74.9	68.4	6858710.562
5	Backhoe	80	1	40	90	1	0	74.9	68.4	6858710.562
6										
7										
8										
9										
10										
							Lmax[4]	87	Leq	85

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor.

[3] Shielding due to terrain or structures

[4] Calculated Lmax is the Loudest value.

Please see below for the project trip generation.

Land Use	Size	Daily Rate[1]	Daily Trips	AM Peak Hour Rate	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Rate	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Proposed											
Townhomes [1]	40 d.u.	7.20	288	0.48	6	13	19	0.57	13	10	23

Notes
d.u. = dwelling units
[1] Trip generation rate for the proposed townhomes are based on the ITE's *Trip Generation Manual, 11th Edition* rates for Land Use Code 215 "Single-Family Attached Housing in a General Urban/Suburban area."

Shu hao (Ollie) Zhou, T.E.
VP & Principal Associate

Hexagon Transportation Consultants, Inc.
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phone 408.971.6100 | direct 669.207.4468

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Hexagon Transportation Consultants, Inc.

Memorandum

Date: May 8, 2024

To: Mr. Scott Connelly, Valley Oak Partners, LLC

From: Ollie Zhou
Ling Jin

Subject: Transportation Analysis for the Proposed Residential Development at 320 Virginia Avenue in Campbell, California

Hexagon Transportation Consultants, Inc. has completed a vehicle-miles-traveled (VMT) analysis for the proposed residential development at 320 Virginia Avenue in City of Campbell, California (see Figure 1). The project site comprises 2.2 acres and is currently vacant. The project involves the construction of 40 townhome units. Vehicle access to the site would be provided via driveways on Virginia Avenue.

The California Environmental Quality Act (CEQA) requires all California cities to evaluate and disclose potential transportation environmental impacts of any proposed "Project". In accordance with SB 743, the City of Campbell adopted a Transportation Analysis Policy that requires all projects to evaluate and disclose transportation environmental impacts by measuring Vehicle Miles Traveled (VMT) per CEQA. This policy also establishes the requirement of a transportation operational analysis to address transportation deficiencies related to intersection Level of Service (LOS) resulting from a Project. The proposed project would generate less than 50 peak hour trips. Based on the City's traffic impact analysis guidelines, only a trip generation analysis is required. This memorandum presents an estimate of the project's trip generation and an analysis of potential impacts on vehicle miles traveled (VMT).

Project Trip Generation

Through empirical research, data have been collected that show trip generation rates for many types of land uses. The research is compiled in the ITE *Trip Generation Manual, 11th Edition*. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. Trip generation estimates for the project (see Table 1) are based on standard trip generation rates published in the ITE *Trip Generation Manual* for "Single-Family Attached Housing in a General Urban/Suburban area" (Land use 215). The "Single-Family Attached Housing" ITE land use category includes townhomes.

The site is currently vacant. Therefore, no trip credits are applied. Based on the ITE trip generation rates, it is estimated that the proposed project would generate 288 daily trips, with 19 trips (6 inbound and 13 outbound) occurring during the AM peak hour and 23 trips (10 inbound and 10 outbound) occurring during the PM peak hour (see Table 1).

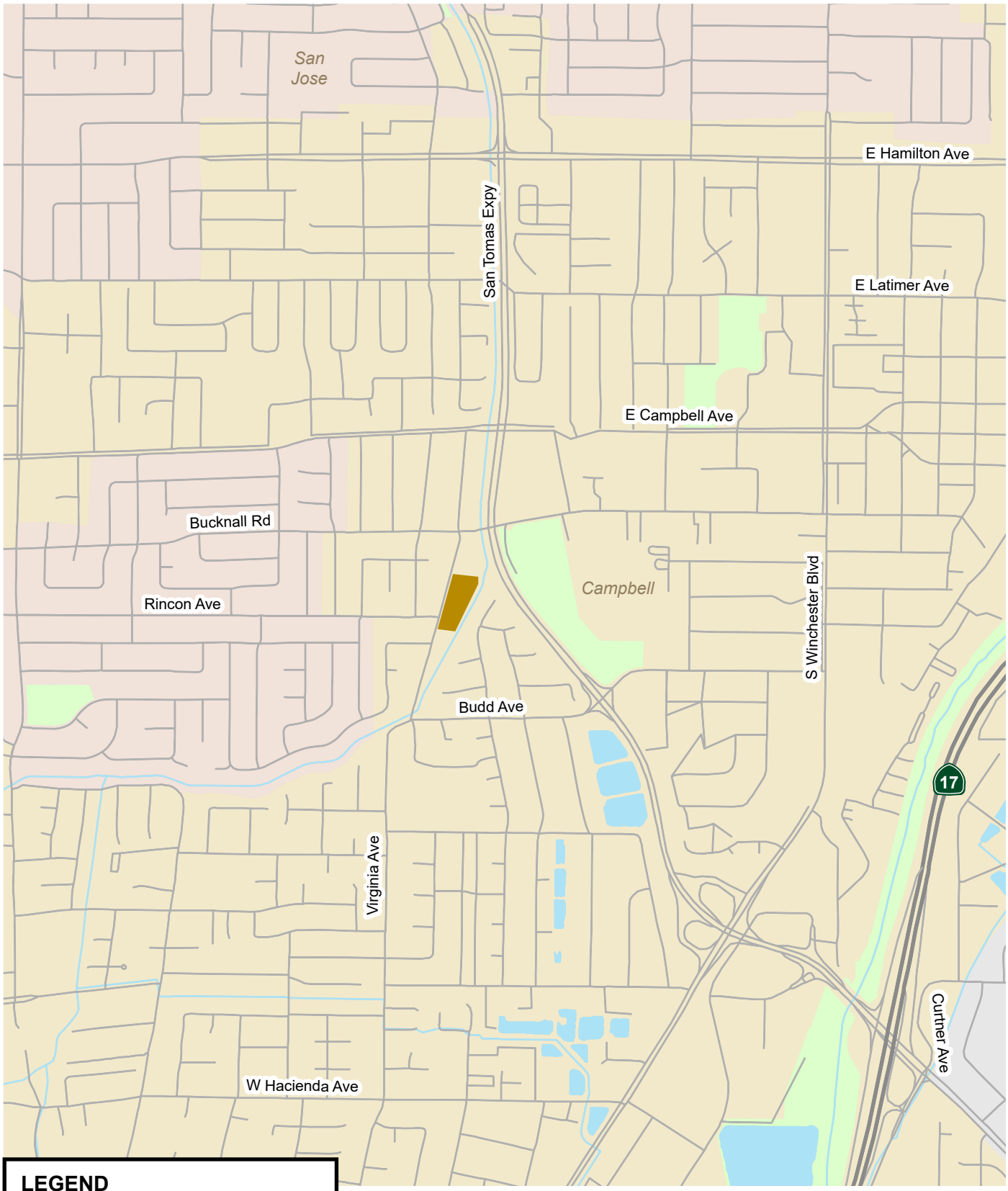

Figure 1
Project Location

Table 1
Project Trip Generation Estimates

Land Use	Size	Daily Rate[1]	Daily Trips	AM Peak Hour Rate	AM In	AM Out	AM Total	PM Peak Hour Rate	PM In	PM Out	PM Total
Proposed											
Townhomes [1]	40 d.u.	7.20	288	0.48	6	13	19	0.57	13	10	23

Notes
d.u. = dwelling units
[1] Trip generation rate for the proposed townhomes are based on the ITE's *Trip Generation Manual, 11th Edition* rates for Land Use Code 215 "Single-Family Attached Housing in a General Urban/Suburban area."

Vehicle Miles Traveled

The City of Campbell's adopted VMT policy sets forth various screening criteria allowing certain projects to be screened out of a VMT analysis. Per the April 2024 update of the City's VMT policy, projects that are consistent with the General Plan can be presumed to have a less-than-significant VMT impact if:

1. the proposed project land use is consistent with the General Plan;
2. the proposed project land use is within the increment of land use change evaluated in the General Plan EIR by Transportation Analysis Zone; and
3. the proposed project is consistent with General Plan VMT policies.

The approved General Plan zoning for the project parcel is 18 to 25 dwelling units per acre. The project's proposed residential density is approximately 19 dwelling units per acre and is consistent with the General Plan.

City staff has indicated that the VMT analysis conducted for the General Plan EIR assumed more housing growth (43 additional units) in the project site's Traffic Analysis Zone (TAZ) than proposed by the project (40 units). Therefore, the project's proposed housing units are assumed to be part of the General Plan VMT analysis.

The General Plan EIR also outlined potential policies and actions in the General Plan's Transportation Element Goal T-3 (page T-6, also see Appendix) "Manage Traffic Demand and Reduce Vehicle Miles Traveled". The Policies and Action Items outlined in Goal T-3 provide general policy-level directions and actions for the City to reduce its overall VMT and vehicular trip making. Action Item T-3.h discusses an update to Chapter 10.42 of the Campbell Municipal Code to specify when Transportation Demand Management (TDM) measures are required. Per Chapter 10.42 of the Campbell Municipal Code (accessed on April 4, 2024), TDM measures are required for work sites generating more than 100 employees. It does not apply to residential projects. As there are no specific actions relevant to residential developments, the proposed project is considered consistent with the General Plan's Goal T-3. The project site is located along Virginia Avenue, which currently has Class III bike routes. The project would not conflict with the existing bicycle facilities. The City adopted VTA's Countywide Bicycle Plan 2018, which does not identify any bicycle improvements along the project frontage. The project is thus considered consistent with this plan.

Since the project is 1) consistent with the General Plan, 2) covered under the General Plan EIR VMT analysis, and 3) consistent with the City's VMT Policies, the proposed project is presumed to have a less-than-significant VMT impact per the City's VMT policy.

Traffic Safety Analysis

A traffic safety analysis is conducted for the proposed project. This included a site access and circulation review, a sight distance review, a review of intersection/driveway spacing, and a driveway queuing review.

Vehicular Site Access and Circulation

A review of the project site plan was performed to determine if adequate vehicle site access and on-site circulation would be provided and to identify any access or circulation issues that should be improved. This review is based on the conceptual site plan prepared by Civil Engineering Associates, dated April 4, 2024, presented on Figure 2 and in accordance with commonly accepted transportation engineering principles as well as any applicable standards.

Site Access

The project site is currently vacant. There is one driveway located on-site along Virginia Avenue and is slightly offset from the intersection at Virgina Avenue and Rincon Avenue. The proposed project would relocate this driveway by aligning it with Rincon Avenue, creating a four-legged intersection at Virginia Avenue and Rincon Avenue. This realignment would simplify traffic operations around this intersection. The project proposes a second driveway approximately 240 feet north of the proposed driveway at Rincon Avenue.

Both project driveways would be 20 feet wide, which meets the City's standard (City's Zoning Code 21.28.090. Based on the City's zoning code (Section 21.28.080.B.4), no garage or carport shall be closer than twenty-five feet to a public right-of-way. The current site plan shows the garage of the buildings next to each of the driveways is approximately 18 feet from the sidewalk, and approximately 30 feet from the edge of the street. It is unclear how the twenty-five feet distance is measured.

Based on the trip generation estimates, the proposed project would only generate 19 trips during the AM peak hour and 23 trips during the PM peak hour. This small number of trips can be adequately served by only one driveway. However, the site as designed would require two driveways to ensure proper on-site circulation for vehicles, trucks, and emergency vehicles. Theoretically, adding a second driveway would increase conflict points with pedestrians on the sidewalks and bike traffic along Virginia Avenue, but there would be very few vehicles turning out of the driveways (one vehicle every 5 or 6 minutes exiting the driveways). As discussed under "Sight Distance" section, both driveways should be free and clear of any obstructions to ensure that exiting vehicles can see pedestrians on the sidewalks.

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with the City of Campbell Zoning Code and commonly accepted transportation engineering principles. The width of the internal roads through the project site would be 20-24 feet, which is adequate for two-way traffic and to allow maneuvering in and out of the parking garages. There are fourteen 90-degree guest parking spaces located along the internal roads through the project site. The total width of the driving aisles along these perpendicular spaces was measured at 25 feet, which would meet the City's standard. Generally, the site plan shows good circulation through the project site.

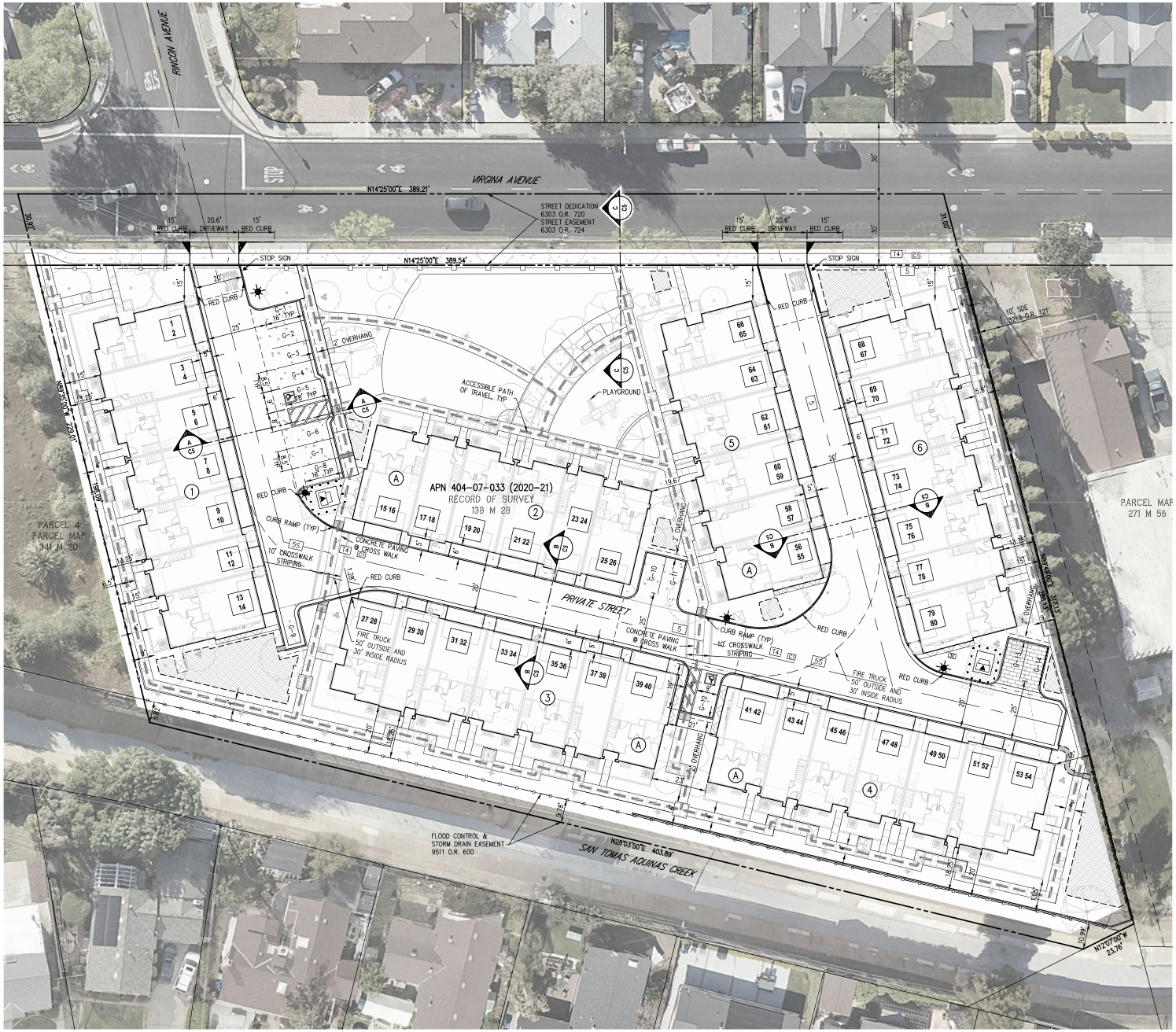

Figure 2
Proposed Site Plan

NORTH
Not to Scale

Driveway Operations

Based on the trip generation estimates, there would be about one vehicle every three minutes split between the two driveways. Given the small number of project trips and low traffic volume on Virginia Avenue, the delay at both project driveways would be minimal and would not cause any operational issues on the project site. Queuing at the project driveways is also expected to be minimal.

Sight Distance

The proposed driveway locations were evaluated to determine if the sight distance at the driveways would be adequate. The project driveways should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. Any landscaping and signage should be located in such a way as to ensure an unobstructed view for drivers entering and exiting the site. Adequate sight distance reduces the likelihood of a collision at driveways and provides drivers with the ability to locate sufficient gaps in traffic to exit a driveway. Sight distance of a driveway is evaluated based on the stopping sight distance recommended by Caltrans for a given design speed.

The southern driveway would be located at a stop-controlled intersection. The project driveway should be free and clear of any obstructions to ensuring that exiting vehicles can see pedestrians on the sidewalk.

The northern driveway is located along a straight segment of Virginia Avenue and is approximately 240 feet north of the intersection of Virginia Avenue and Rincon Avenue and approximately 550 feet south of the intersection at Virginia Avenue and Bucknall Road. The speed limit along Virginia Avenue is 25 mph. The Caltrans recommended stopping sight distance on Virginia Avenue is 200 feet, using 30 mph to be conservative. Outbound vehicles at the driveway would need be able to see vehicles approaching from the south and north directions. Currently, there are no roadway curves or tall structures that obstruct a driver's ability to see down the road on Virginia Avenue. Per City direction, the project proposes to install red curbs for 15 feet on either direction of the driveways as shown on Figure 2. This would provide adequate sight distance for vehicles exiting the project site.

Appendix

VMT

Goal T-3

Manage Traffic Demand and Reduce Vehicle Miles Traveled (VMT)

Policies

T-3.1 Continue to use established vehicle miles traveled (VMT) metric(s), evaluation method(s), and significance threshold(s) that comply with state law such as SB 743.

T-3.2 Implement VMT reduction measures, such as Transportation Demand Management (TDM) measures, and other strategies to reduce VMT in Campbell.

T-3.3 Provide infrastructure improvements to manage regional traffic and to reduce congestion on area roadways.

T-3.4 Support programmatic Transportation Demand Management (TDM) measures to reduce traffic demand in Campbell. Examples include but are not limited to measures such as alternative work schedules, subsidized transit passes, and future measures as programs and technologies evolve.

T-3.5 To the extent feasible, strive to maintain weekday AM and PM level of service (LOS) D or better for local signalized intersections. Strive to achieve LOS standards identified in the Santa Clara County Congestion Management Plan (CMP) on intersections in Campbell identified in the CMP.

T-3.6 Consider exempting key intersections in the City from the LOS standard to facilitate below-market rate housing development.

T-3.7 At the discretion of the City Council or Planning Commission, certain local signalized intersections may be allowed to fall below the City's LOS standard established by T-3.5 under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS D is found to be unreasonably expensive.

b. Where conditions are worse than LOS D and caused primarily by traffic from adjacent jurisdictions.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) uses incentives, information, and encouragement programs to reduce reliance on single occupant vehicles and decrease traffic congestion. These programs help people walk, bike, ride transit, and telecommute and encourage shifting driving trips from peak hours. Transportation Demand Management measures may be implemented by local governments or employers.

c. Where maintaining LOS D will be a disincentive to use transit and active transportation modes (i.e., walking and bicycling) or to the implementation of new transportation modes that would reduce vehicle travel. Examples include roadway or intersection widening in areas with substantial pedestrian activity or near major transit centers.

d. Where conditions are worse than LOS D and caused primarily by a residential project as defined by State law.

Actions in Support of Goal T-3

T-3.a *Maintain and implement vehicle miles traveled (VMT) metrics, evaluation methods, and significance thresholds consistent with the requirements of state law, such as SB 743. Apply these VMT standards during the CEQA review of future development projects in Campbell.*

T-3.b *Incentivize high-density transit-oriented developments, consistent with the Land Use Map, near light rail stations.*

T-3.c *Work with neighboring communities to coordinate traffic signals on arterials to maintain the movement of people, goods, and services and discourage cut-through traffic in residential neighborhoods.*

T-3.d *Identify and properly sign truck routes on arterials to regulate truck movements.*

T-3.e *Consider implementation of traffic calming measures, including traffic calming design elements and devices, to ensure safe and reasonable speeds in residential neighborhoods, consistent with the City's adopted Neighborhood Traffic Management Program (NTCP), as long as the measures do not impede emergency response, bicycle travel, or hinder the complete streets functionality of the roadway. Methods such as radar speed signs may be used to alert drivers on streets where speeding is prevalent. Further, consider how traffic calming measures may be used to decrease excessive noise on non-arterial streets to achieve the goals of the city Noise Element.*

Level of Service (LOS)

Level of Service (LOS) is a qualitative measure used to describe roadway operations for different user types, including vehicles, transit riders, bicyclists, and pedestrians. LOS is assigned letter grades ranging from "A" (free flow conditions) to "F" (severe congestion). Providing free-flow conditions (LOS A) at all hours of the day requires wide streets, large intersections, substantial right-of-way, and considerable funding for maintenance. LOS A or B for vehicles also tends to lead to poor LOS for pedestrians and bicyclists because the wider streets, higher speeds, and longer waiting times to cross makes bicycling and walking less safe and less appealing. Vehicle LOS should be balanced against mobility needs for pedestrians, bicyclists, and transit users, impacts on existing development, and the cost to construct and maintain the facilities.

CA Senate Bill 743 is an evolutionary change to transportation impact analysis. SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change is being made by replacing Level of Service (LOS) with vehicle miles of travel (VMT) and providing streamlined review of land use and transportation projects that will help reduce future VMT growth. This shift in transportation impact focus is expected to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation.

T-3.f *Facilitate between and within neighborhoods the construction of connected pedestrian and bicycle facilities (e.g. bridges, pathways, sidewalks, and bike lanes) that enhance community livability especially within one-half mile of major activity centers, schools, and parks.*

T-3.g *Support and encourage effective programmatic Transportation Demand Management (TDM) measures for private developments consistent with proposed uses. These could include, but are not limited to, measures such as alternative work schedules, subsidized transit passes, and future measures as programs and technologies evolve. Encourage major employers (employers with over 100 employees) to develop shuttle services to transport employees to and from the worksite. Entities may form transportation management associations (TMAs) to pool resources to fund TDM measures.*

T-3.h *Update Chapter 10.42 of the Campbell Municipal Code (TDM Ordinance) to include specific thresholds and trigger points for when traffic analyses and TDM measures are required for development projects.*

T-3.i *Advertise ways to travel to and within Campbell via transit, biking, walking, and other modes that reduce traffic. Potential methods of advertisement may include, but are not limited to:*

- *Information and links on the City's website;*
- *Wayfinding signs indicating routes and travel times by mode of transit;*
- *Postings and flyers at public buildings, parks facilities, and transit stops; and*
- *Other methods and strategies that the City determines will be successful and cost effective.*

T-3.j *Create and adopt a VMT reduction program and consider adoption of a VMT mitigation fee program to provide funding for the improvements identified in the VMT reduction program. The VMT reduction program should include strategies targeting VMT reductions at the site level, community level, and regional level; should be based on emerging best practices; and should leverage and compliment ongoing regional efforts to reduce VMT.*