APPENDIX A

Air Quality/Global Climate Change
Energy Impact Analysis

ISKCON OF ESCONDIDO AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Escondido

October 17, 2023 (Rev 1)

ganddini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

ISKCON OF ESCONDIDO
AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Escondido

October 17, 2023 (Rev 1)

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Project No. 19648

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EXECUTIVE SUMMARY

The purpose of this air quality, global climate change, and energy impact analysis is to provide an assessment of the impacts resulting from development of the proposed ISKCON of Escondido project and to identify measures that may be necessary to reduce potentially significant impacts.

Standard Air Quality, Energy, and GHG Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the San Diego County Air Pollution Control District (SDAPCD) and State of California (State).

San Diego County Air Pollution Control District Rules

The following lists the SDAPCD rules that are applicable, but not limited to, the proposed project.

- Rule 20.2 Non-Major Stationary Sources – Controls the emissions of air contaminants;
- Sources – Controls the emissions of air contaminants;
- Rule 50 Visible Emissions – Controls visible emissions from all sources, including fugitive dust;
- Rule 51 Nuisance – Controls the emissions of odors and other air contaminants;
- Rule 55 Fugitive Dust Control – Controls the emissions of fugitive dust; and
- Rule 67.0.1 Architectural Coating – Establishes VOC content limits;

State of California Rules

The following lists the State of California Code of Regulations (CCR) air quality emission rules that are applicable, but not limited to, the proposed project.

- CCR Title 13, Article 4.8, Chapter 9, Section 2449 – In use Off-Road Diesel Vehicles;
- CCR Title 13, Section 2025 – On-Road Diesel Truck Fleets;
- CCR Title 24 Part 6 – California Building Energy Standards; and
- CCR Title 24 Part 11 – California Green Building Standards

Construction-Source Emissions

Project construction-source emissions would not exceed applicable screening thresholds of significance established by the SDAPCD.

Project construction-source emissions would not conflict with the San Diego Regional Air Quality Strategy (RAQS) or the California State Implementation Plan (SIP). As discussed herein, the project will comply with all applicable SDAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

Operational-Source Emissions

Project operational-sourced emissions would not exceed applicable screening thresholds of significance established by the SDPACD. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the SDAPCD's Regional Air Quality Strategy (RAQS) or the California State Implementation Plan (SIP). The project's emissions meet SDAPCD screening thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

Greenhouse Gases

Project-related greenhouse gas (GHG) emissions would not exceed screening criteria of the City of Escondido Climate Action Plan (CAP).

Furthermore, the project would not conflict with the goals of CARB Scoping Plan, AB-32, SB-32 and the City of Escondido CAP. Therefore, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant.

Energy

For new development such as that proposed by the ISKCON of Escondido project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CALGreen), are considered demonstrable evidence of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other residential and temple uses of similar scale and intensity that are constructed and operating in California. Additionally, the project will comply with the City's Energy Climate Action Element (ECAE). On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Impacts are considered to be less than significant.

1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- discussion of the air quality and greenhouse gases thresholds of significance
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- analysis of the conformity of the proposed project with the San Diego County Air Pollution Control District's (SDAPCD) air quality strategies
- analysis of the project's energy use impacts during construction and operation
- recommendations for mitigation/emissions reduction measures

The City of Escondido is the lead agency for this air quality and greenhouse gas analysis, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality and global climate change, a definition of terms has been provided in Appendix A.

PROJECT LOCATION

The approximately 24.5 gross acre project site is located at 1315 and 1356 Rincon Avenue in the City of Escondido, California. The project site is currently vacant.. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves a subdivision of two existing parcels into 11 parcels, with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple. Figure 2 illustrates the proposed site plan.

PHASING AND TIMING

The proposed project is anticipated to be operational in 2026. The project is anticipated to be built in one phase with project construction anticipated to start no sooner than July 2025, with completion estimated July 2026. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario even if construction was to occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[1]

[1] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3.2 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SDAPCD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities. Schools and day-care facilities are also considered to be sensitive receptors. Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the disturbed portion of the project site are the existing single-family residential uses located adjacent to the west, approximately 236 feet (~72 meters) to the northwest, and 31 feet (~9 meters) to the north of the project site boundaries. In addition, two existing single-family residences with associated agricultural uses are located within the southern portion of the project boundaries but are not a part of the project. Other air quality sensitive land uses are located further from the project site and would experience lower impacts.

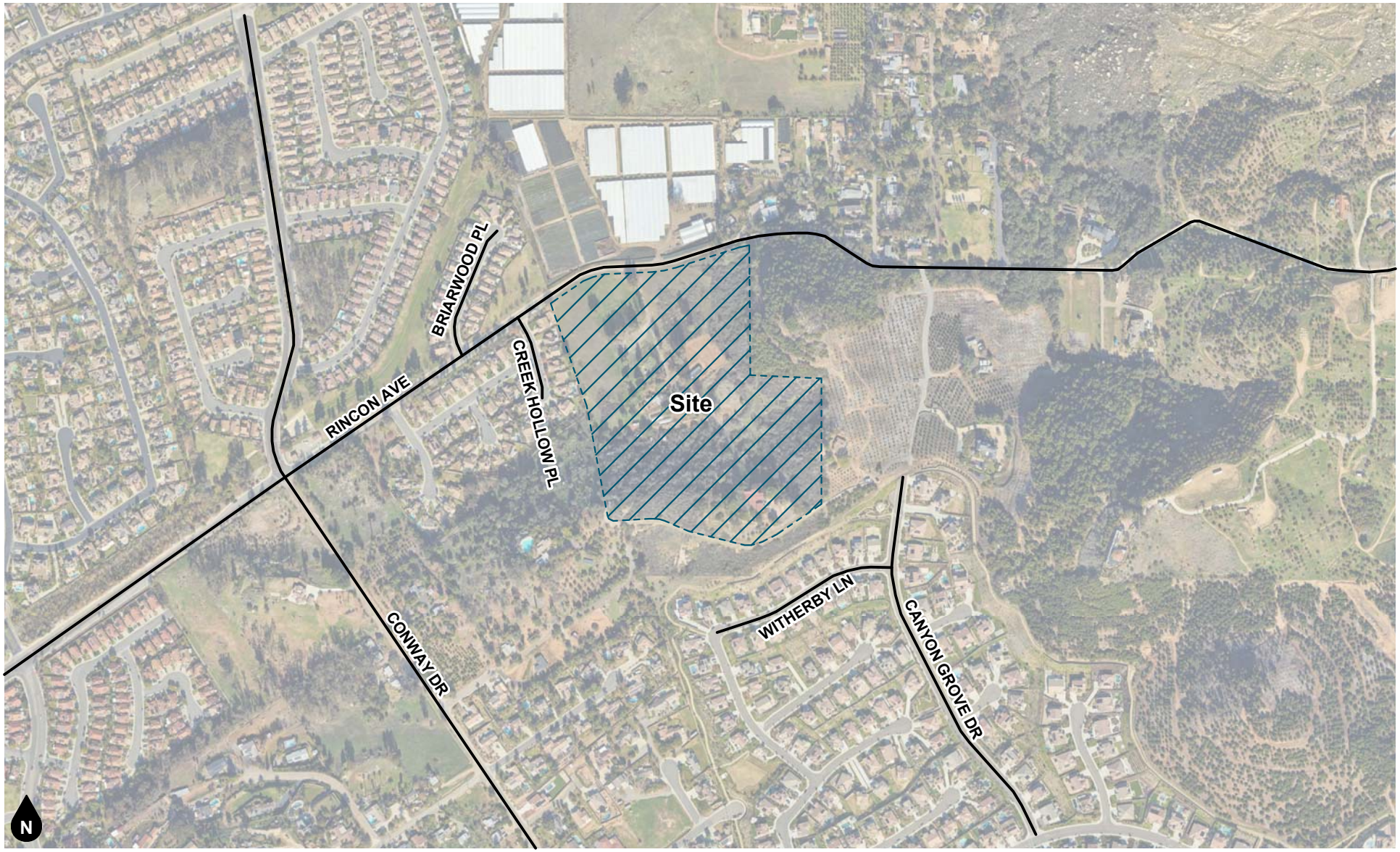

Figure 1
Project Location Map

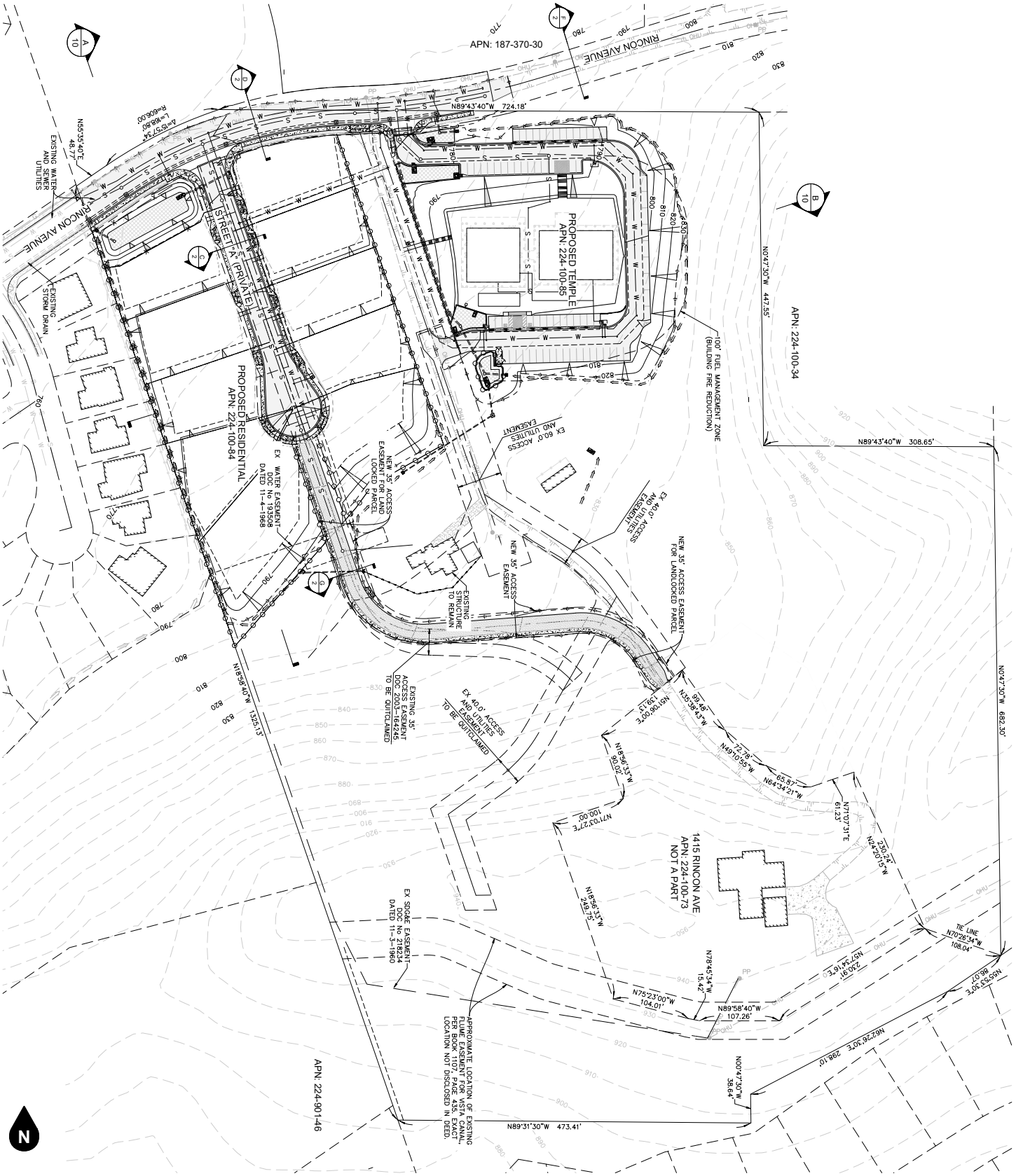

Figure 2
Site Plan

2. AIR QUALITY ANALYSIS

EXISTING AIR QUALITY CONDITIONS

Local Air Quality

The project site is located the western portion of San Diego County in the City of Escondido, which is part of the San Diego Air Basin (Air Basin) that is contiguous with the political boundary of San Diego County. The Air Basin is divided by the Laguna Mountain Range with peaks that exceed 6,000 feet and runs approximately parallel to the coast about 45 miles inland and separates the coastal area from the desert. To the north of the Air Basin are the Santa Ana Mountains, which run along the Orange County coast, turning east to join with the Laguna Mountains near the San Diego-Orange County border.

The same atmospheric conditions that create a desirable living climate combine to limit the ability of the atmosphere to disperse the air pollution generated by the large population attracted to the pleasant climate. In the summer, subsidence inversions occur as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. In the winter, radiation inversion occurs when air near the ground cools through radiation and the air aloft remains warm. This creates a shallow inversion layer between these two air masses that can also trap pollutants. Limited rainfall occurs in the western San Diego County during the winter, as the oceanic high-pressure center is the weakest and farthest south as the fringes of mid-latitude storms occasionally move through the area.

The temperature and precipitation levels for the City of Escondido are shown below in Table 1. Table 1 shows that August is typically the warmest month and January and December are typically the coolest months. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 1
Local Monthly Climate Data

Descriptor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	68.8	69	70.8	74.7	77.4	82	87.3	88.6	86.2	80	71.2	68.9
Avg. Min. Temperature	42.6	44.5	47.2	50.5	54.8	58.4	62.1	63.4	61	55.1	45.6	42.3
Avg. Total Precipitation (in.)	2.83	3.27	2.58	1.16	0.32	0.15	0.06	0.09	0.24	0.74	1.25	2.18

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2863
Data from the Escondido 2, CA station (042863).

Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Dioxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone (O_3) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high

traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Dioxide

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO_2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolve easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Reactive Organic Gases (ROG)

Although not a criteria pollutant, reactive organic gases (ROGs), or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide, 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 ROGs 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 PM10 and lower visibility.

Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by CARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. Naturally occurring asbestos is not present in San Diego County. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located at Asbestos Mountain in the San Jacinto Valley; approximately 48 miles northeast of the site. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

REGULATORY SETTING

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through

legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and CARB 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 PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone (O_3 8-hour). and suspended particulates (PM10 and PM2.5). Currently, the Basin is in attainment with the national ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO_2), and nitrogen dioxide (NO_2).

State – California Air Resources Board

The CARB, which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The California Ambient Air Quality Standards (CAAQS) for criteria pollutants are shown in Table 2. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. Furthermore, the motor vehicle emission standards established by CARB include compliance with the Safer Affordable Fuel-Efficient Vehicles (SAFE) Rule, issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020). The SAFE Rule sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026 and apply to both passenger cars and light trucks. CARB. It also sets fuel specifications to further reduce vehicular emissions. The SAFE Rule was repealed on December 21, 2021.

The San Diego Air Basin has been designated by the CARB as a nonattainment area for ozone, PM10 and PM2.5. Currently, the San Diego Air Basin is in attainment with the ambient air quality standards for CO, lead, SO_2, NO , and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective.

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a once-per-year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the San Diego Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While these regulations primarily target reductions in criteria air pollutant emission, they also have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants

This bill requires the state board to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and toxic air contaminants, as specified. This bill required the state board, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the state board to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the state board, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air

quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the state board to publish the data on its Internet Web site.

Regional

San Diego Air Pollution Control District

The SDAPCD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SDAPCD works directly with the San Diego Association of Governments (SANDAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

Air Quality Management Plan

The SDAPCD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SDAPCD is directly responsible for reducing emissions from stationary, mobile, and indirect sources.

The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by the CARB or the EPA. In addition, the SDAPCD along with the CARB maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County, including one at Camp Pendleton. These stations are used to measure and monitor criteria pollutant levels in order to determine the attainment status of the pollutants within the Air Basin.

The SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status for state ozone standards with control measures focused on Volatile Organic Compounds (VOCs) and oxides of nitrogen (NO_X). Currently, the County is in "nonattainment" status for federal and state O_3 and State PM10 and PM2.5. An attainment plan is available for only O_3. The RAQS was adopted in 1992 and has been updated as recently as 2016 which was the latest update incorporating minor changes to the prior 2009 update.

The 2016 update mostly summarizes how the 2009 update has lowered NO_X and VOCs emissions which reduces ozone and clarifies and enhances emission reductions by introducing three new VOC and four new NO_X reduction measures. NO_X and VOCs are precursors to the formation of O_3 in the atmosphere. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years.

The 2022 RAQS update was approved by SCAPCD on March 9, 2023. The primary requirement associated with the 2022 RAQS is to ensure that a revised emission control strategy contained in each RAQS be at least as effective in improving air quality as the control strategy being replaced. The proposed and scheduled measures included will provide additional direct emission reductions of ozone precursors (volatile organic compounds (VOC) and oxides of nitrogen (NOx)), as well as indirect reductions of GHG and PM emissions. The RAQS is largely based on population predictions by SANDAG. Projects that produce the same or less growth than predicted by SANDAG would generally conform to the RAQS. Projects that create more growth than projected by SANDAG may create a significant impact if the project produces unmitigable air quality emissions or if the project produces cumulative impacts.

The following lists the SDAPCD rules that are applicable, but not limited to, projects in the Air Basin.

Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources. The County's Guidelines for Determining Significance and Report Format and Content Requirements incorporate screening

level thresholds from Rule 20.2 for use in all County related Air Quality Impact Assessments (AQIA) and for determining CEQA air quality impacts (County of San Diego, 2007). These screening criteria can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Also, since SDAPCD does not have AQIA threshold for VOCs, it is acceptable to use the Coachella Valley VOC threshold from South Coast Air Quality Management District. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards.

These screening thresholds for construction and daily operations are shown in Table 4. Non criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the incremental cancer risk to over 10 in one million or a health hazard index (chronic and acute) greater than one since risks above. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

The U.S. EPA uses the term VOC and the CARB's Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) to essentially define the same thing. There are minor deviations between compounds that define each term however for purposes of this study we will assume they are essentially the same due to the fact SCAQMD interchanges these words and because air quality models directly calculate ROG in place of VOC.

Rule 20.3 – Major Stationary Sources and Prevention of Significant Deterioration (PSD) Stationary Sources

Rule 20.3 requires a new or modified emissions units, relocated emission units, replacement emission units, and emergency equipment emission units with a post-project potential to emit 10 pounds per day or more of PM10, NOx, VOC, or Sox shall be equipped with best available control technology (BACT) for each air contaminant.

Rule 51 - Nuisance

Rule 51 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Compliance with Rule 51 will reduce local air quality and odor impacts to nearby sensitive receptors.

Rule 52 – Particulate Matter

Rule 52 prohibits a person from discharging into the atmosphere from any source particulate matter in excess of 0.10 grain per dry standard cubic foot (0.23 grams per dry standard cubic meter) of gas.

Rule 55 – Fugitive Dust Control

Rule 55 governs emissions of fugitive dust during construction activities and requires the following:

1. No person shall engage in construction or demolition activities in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosions, or track-out/carry-out shall be minimized by the use of any of the equally effective track-out/carryout and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include: track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks.

Rule 67.0.1 - Architectural Coatings

Rule 67.01 requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

San Diego Association of Governments

SANDAG is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. With respect to air quality planning and other regional issues, SANDAG has prepared San Diego Forward: The 2021 Regional Plan (2021 Regional Plan) for the San Diego region (SANDAG 2021). The 2021 Regional Plan combines the Regional Transportation Plan, Sustainable Communities Strategy (SCS), and Regional Comprehensive Plan and provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. In regard to air quality, the 2021 Regional Plan reduces per capita GHG emissions from cars and light duty trucks to 20 percent below 2005 levels by 2035, exceeding the region's state mandated target of 19 percent. The 2021 Regional Plan also meets federal air quality conformity requirements (SANDAG 2021). On September 23, 2022, SANDAG's Board of Directors adopted the 2023 Regional Transportation Improvement Program (RTIP). The 2023 RTIP is a multibillion-dollar, five-year program of major transportation projects funded by federal, state, local, and private funding, including the TransNet local sales tax, covering fiscal years 2023 to 2027. The 2023 RTIP development process, which includes the air quality emissions analysis for all regionally significant projects, requires approval by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The Federal Highway Administration and Federal Transit Administration approved the 2023 RTIP and its federal conformity determination in December 2022.

Local – City of Escondido

Local jurisdictions, such as the City of Escondido, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the District is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the AQMPs. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with CEQA requirements, the City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the region will meet federal and state standards. Instead, the City relies on the expertise of the SDAPCD for guidance with the environmental review of plans within its jurisdiction.

City of Escondido General Plan

The City of Escondido's General Plan contains goals and policies regarding air quality in the Resources Conservation Element. The goals and policies applicable to the proposed project from the Resource conservation Element of the Escondido General Plan are stated below.

Goal 7 Improved air quality in the city and the region to maintain the community's health and reduce greenhouse gas emissions that contribute to climate change.

Policy 7.1 Participate in regional planning efforts and coordinate with the San Diego Air Pollution Control District and San Diego Association of Governments in their efforts to reduce air quality impacts and attain state and federal air quality standards.

Policy 7.3 Require that new development projects incorporate feasible measures that reduce construction and operational emissions.

Policy 7.4 Locate uses and facilities/operations that may produce toxic or hazardous air pollutants an adequate distance from each other and from sensitive uses such as housing and schools as consistent with California Air Resources Board recommendations.

Policy 7.6 Restrict the number and location of drive-through facilities in the city and require site layouts that reduce the amount of time vehicles wait for service.

Policy 7.7 Encourage businesses to alter local truck delivery schedules to occur during non-peak hours, when feasible.

Policy 7.8 Require that government contractors minimize greenhouse gas emissions in building construction and operations, which can be accomplished through the use of low or zero-emission vehicles and equipment.

Policy 7.11 Educate the public about air quality, its effect on health, and efforts the public can make to improve air quality and reduce greenhouse gas emissions.

Table 2
State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm/1-hour 0.07 ppm/8-hour	0.070 ppm/8-hour	(a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm/1-hour 9.0 ppm/8-hour	35.0 ppm/1-hour 9.0 ppm/8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm/1-hour 0.03 ppm/annual	100 ppb/1-hour 0.053 ppm/annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm/1-hour 0.04 ppm/24-hour	75 ppb/1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 µg/m^3/24-hour 20 µg/m^3/annual	150 µg/m^3/24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3/24-hour 9 µg/m^3/annual	
Sulfates	25 µg/m^3/24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	1.5 µg/m^3/30-day	0.15 µg/m^3/3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Table 3
San Diego County Air Basin Attainment Status

Pollutant	Federal Designation	State Designation
Ozone (8-hour)	Nonattainment	Nonattainment
Ozone (1-hour)	Attainment[1]	Nonattainment
CO	Attainment	Attainment
PM10	Unclassifiable[2]	Nonattainment
PM2.5	Attainment	Nonattainment[3]
NO2	Attainment	Attainment
SO2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source (Federal and State Status): https://www.sdapcd.org/content/sdapcd/planning/attainment-status.html

(1) The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

(2) At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

(3) The California Air Resources Board (CARB) has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers (CAS). While data collected does meet the requirements for designation of attainment with federal PM2.5 standards, the data completeness requirements for state PM2.5 standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. APCD has begun replacing most regional filter-based PM2.5 monitors as they reach the end of their useful life with continuous PM2.5 air monitors to ensure collected data meets stringent completeness requirements in the future. APCD anticipates these new monitors will be approved as "CAS" monitors once CARB review the list of approved monitors, which has not been updated since 2013.

Table 4
SDAPCD Air Quality Significance Thresholds

Pollutant	Total Emissions		
	Pounds Per Hour	Pounds Per Day	Tons Per Year
PM10	-	100	15
PM2.5	-	55 [1]	10 [1]
NOx	25	250	40
SOx	25	250	40
CO	100	550	100
Lead	-	3.2	0.6
VOC	-	75 [2]	13.7 [3]

Source: San Diego County. March 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality. http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.

Notes:

(1) EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.

(2) Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.

(3) 13.7 Tons Per Year threshold based on 75 lbs/day multiplied by 365 days/year and divided by 2000 lbs/ton.

MONITORED AIR QUALITY

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by the CARB or the EPA. In addition, the SDAPCD along with the CARB maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County, including one at Camp Pendleton. These stations are used to measure and monitor criteria pollutant levels in order to determine the attainment status of the pollutants within the Air Basin.

The Air Basin was designated nonattainment for the 1997 8-hour ozone NAAQS, effective June, 2004 based on ozone air quality measurements over the 2001-2003 three-year period. The Air Basin was designated as a "basic" (unclassified) nonattainment area, which allowed more flexibility to the SDAPCD than the more stringent nonattainment classifications. In June 2007, the SDAPCD submitted a SIP revision fulfilling the requirements EPA had established for a basic nonattainment area. However, due to a court ruling the EPA did not accept the SIP revision and instead reclassified the Air Basin as a "Moderate" ozone nonattainment area. On December 5, 2012 the SDAPCD applied for redesignation of the 1997 8-hour ozone based on air quality measurements over the 2009-2011 three-year period, which showed the Air Basin is currently in attainment for the 1997 standard.

In 2008, a more protective 8-hour ozone NAAQS was established by the EPA at a level of 0.075 ppm. In order to address the requirements of the California Clean Air Act (CCAA) of a 5 percent annual reduction in countywide emissions of ozone precursors or if that is not achievable an expeditious schedule for adopting every feasible control measure, the SDAPCD has developed the San Diego Regional Air Quality Strategy (RAQS) that identifies feasible emission control measure and provides expeditious progress toward attaining the State's ozone standards. The RAQS control measures focus on emissions sources under the SDAPCD's authority, specifically stationary emissions sources and some area-wide sources that include residential water heaters, furnaces, architectural coatings, and consumer products. The RAQS was initially adopted by the SDAPCD on June 1992 and amended on March 1993 based on CARB comments. The SDAPCD further updated the RAQS on December 1995, June 1998, August 2001, July 2004, April 2009, December 2016, and March 2023.

Data was taken from the Camp Pendleton monitoring station (Camp Pendleton Station). The Camp Pendleton Station is located approximately 17.5 miles northwest of the project site at 21441-W B Street, Oceanside. Table 5 presents the monitored pollutant levels from the Camp Pendleton Station. However, it should be noted that due to the air monitoring stations distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

Table 5 summarizes 2021 through 2023 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone standards.

Ozone

During the 2021 to 2023 monitoring period, the State 1-hour concentration standard for ozone was not exceeded at the Camp Pendleton Station. The State 8-hour ozone standard has been exceeded for only one day in 2023 over the past three years at the Camp Pendleton Station. The Federal 8-hour ozone standard was exceeded for only one day in 2023 over the past three years at the Camp Pendleton Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Camp Pendleton Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

Nitrogen Dioxide

The Camp Pendleton Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

There was no information for the State 24-hour concentration standards for PM10 and Federal 24-hour standards for PM10 over the past three years.

The Federal 24-hour standard for PM2.5 was not exceeded in 2022 and 2023 and there was insufficient data for 2021 over the past three years at the Camp Pendleton Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

Table 5
Air Quality Monitoring Summary

Pollutant (Standard)[1]		Year		
		2021	2022	2023
Ozone:	Maximum 1-Hour Concentration (ppm)	0.074	0.076	0.090
	Days > CAAQS (0.09 ppm)	0	0	0
	Maximum 8-Hour Concentration (ppm)	0.059	0.067	0.077
	Days > NAAQS (0.070 ppm)	0	0	1
	Days > CAAQS (0.070 ppm)	0	0	1
Carbon Monoxide:	Maximum 8-Hour Concentration (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:	Maximum 1-Hour Concentration (ppm)	0.059	0.050	0.063
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM10):	Maximum 24-Hour Concentration (µg/m^3)	*	*	*
	Days > NAAQS (150 µg/m^3)	*	*	*
	Days > CAAQS (50 µg/m^3)	*	*	*
	Annual Average (µg/m^3)	*	*	*
Ultra-Fine Particulates (PM2.5):	Maximum 24-Hour Concentration (µg/m^3)	20.7	17.7	26.5
	Days > NAAQS (35 µg/m^3)	*	0	0
	Annual Average (µg/m^3)	*	*	7.8

Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Camp Pendleton Monitoring Station, unless otherwise noted.

Notes:

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

* Means there was insufficient data available to determine value.

AIR QUALITY STANDARDS

Significance Thresholds

Appendix G of the State CEQA Guidelines

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Regional Air Quality

The SDAPCD has established annual significance thresholds for NOx and VOC for stationary sources. The SDAPCD has not established rules for characterizing impacts from construction. However, SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds found in SDAPCD regulations for stationary sources (pursuant to SDAPCD Rules 20.2 and 20.3 and shown in Table 4). Because these Rules do not include VOCs or PM2.5, the screening level for VOCs and PM2.5 used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. If construction-phase emissions exceed these thresholds for a stationary source air quality impact analysis, then construction has the potential to violate air quality standards or to contribute substantially to an existing violation. For the purposes of this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SDAPCD air quality screening-level thresholds identified in Table 4.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[2] health effects from TACs are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Additionally, the SDAPCD guidance does not require an HRA for short-term construction emissions. Construction activities associated with the project would be sporadic, transitory, and short-term in nature (approximately 12 months).

Operation

SDAPCD's Rule 1210 threshold for public noticing is based on what the SDAPCD has determined as the potential for a project to contribute to potential significant adverse health impacts to nearby sensitive receptors and is based on similar thresholds provided in Health Risk Assessments for Proposed Land Use Projects, prepared by CAPCOA, July 2009. Therefore, if the proposed project is anticipated to create TACs

[2] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

from stationary sources or regular operations of diesel trucks on the project site that would potentially exceed the above thresholds at any nearby sensitive receptors than the TAC emissions should be analyzed through a comprehensive facility-wide health risk assessment (HRA).

CARB published the *Air Quality and Land Use Handbook* in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines; and (4) avoid siting sensitive receptors within 300 feet of a large gasoline dispensing facility (3.6 million gallons per year or more) or 50 feet of a typical gasoline dispensing facility (less than 3.6 million gallons per year).

The project consists of residential and temple uses and will not be a source of toxic air contaminants.

San Diego County CO Emissions Significance Thresholds

CO emissions are the result of the combustion process, and therefore primarily associated with mobile source emissions. CO "hotspots" or pockets where the CO concentration exceeds the NAAQS and/or CAAQS, have been found to occur only at signalized intersections that operate at or below level of service (LOS) E with peak-hour trips for that intersection exceeding 3,000 trips (San Diego County 2007). Pursuant to the County's CEQA Significance Determination Thresholds, a site-specific CO hotspot analysis should be performed to determine if health standards are potentially violated and to identify any affected sensitive receptor if a proposed development would:

- Place receptors within 500 feet of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips)
- Cause road intersections to operate at or below a LOS E (with intersection peak-hour trips exceeding 3,000)
- Result in emissions of CO that when totaled with the ambient concentrations, will exceed 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm

Odor Impacts

An odor impact would occur if the proposed project creates an odor nuisance pursuant to SDAPCD's Rule 51, which states:

> *"A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowl or animals."*

If the proposed project results in a violation of Rule 51 with regards to odor impacts, then the proposed project would create a significant odor impact. The odor analysis for both construction and operation of the proposed project can be found below.

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: site preparation of approximately 0.75 acres to remove existing trees; grading of approximately 6.2 acres[3]; construction of ten lots for single-family dwelling units and a 11,767 square foot temple (consisting of a 6,221 square foot assembly area, 813 square feet for restrooms, and 4,733 square feet of monk residence); paving of a parking lot with 72 parking spaces for the temple and approximately 0.68 acres of on-site roadways for the single-family residential; and application of architectural coatings. Grading of the site is anticipated to balance. See Appendix B for more details.

The proposed project is anticipated to start construction no sooner than July 2025, with completion anticipated in July 2026. The project is anticipated to be operational in 2026.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2022.1.1.28) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the San Diego County for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SDAPCD screening numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces can all be sources of fugitive

[3] The gross acreage of the site is 24.5 acres with approximately 4.2 acres for single-family residential and 20.3 acres for the temple. However, only approximately 2 acres of the 20.3 acres designated for the temple are to be disturbed and graded by the project. Therefore, the total graded acreage for the project site would be 6.2 acres.

dust. Construction operations are subject to the requirements established in SDAPCD Regulation 4, Rules 52, 54, and 55.

Per SDAPCD Rule 67.0.1, the architectural coatings will be limited to an average of 150 grams per liter or less; however, CalEEMod defaults were utilized in the analysis.

The phases of the construction activities which have been analyzed below for each phase are: (1) site preparation, (2) grading, (3) building construction, (4) paving, and (5) application of architectural coatings. To be conservative, it is anticipated that the building construction, paving and architectural phases will overlap. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

Construction-Related Regional Impacts

The construction-related criteria pollutant emissions for each phase are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed SDAPCD screening thresholds. Therefore, a less than significant air quality impact would occur from construction of the proposed project.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA),[4] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 12 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any regional thresholds.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The project would also comply with the requirements of SDAPCD Rule 1206 if asbestos is found during the renovation and construction activities. Therefore, impacts from TACs during construction would be less than significant.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

[4] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

Table 6
Construction-Related Regional Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
Maximum Daily Emissions[1,2]	12.70	18.00	25.20	0.04	3.61	2.03
SDAPCD Thresholds	75	250	550	250	100	55
Exceeds Thresholds?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2022.1.1.28

(1) Represent on-site and off-site emissions. On-site emissions are from equipment operated on-site that are not operated on public roads. On-site site preparation and grading PM-10 and PM-2.5 emissions show compliance with SDAPCD Rules 52, 54, and 55 to reduce fugitive dust.

(2) Construction, painting and paving phases may overlap.

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2026, which is the anticipated opening year for the proposed project. The operations emissions printouts from the CalEEMod model are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips (trip generation rate) from the *ISKCON Escondido Traffic Scoping Agreement* (Traffic Scoping) prepared by LOS Engineering, Inc. (August 30, 2024) into the CalEEMod Model. The Traffic Scoping found that the proposed project would create approximately 173 vehicle trips per day on weekdays, 167 vehicle trips per day on Saturdays, and 346 vehicle trips per day on Sundays. The Scoping Agreement included trip generation rates of 10 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday for the single-family residential uses and 9 trips per thousand square foot per weekday, 9 trips per thousand square foot per Saturday, and 36 trips per thousand square foot per Sunday for the temple. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the California Air Pollution Control Officers Association (CAPCOA) Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The worst-case summer or winter criteria pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 7. The results show that none of the SDAPCD

screening thresholds would be exceeded. Therefore, a less than significant regional air quality impact would occur from the operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the San Diego Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips. The following analysis analyzes the vehicular CO emissions and odor impacts.

Local CO Emission Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The SDAB is in attainment of State and federal CO standards. Nonetheless, a CO hotspot analysis is required by the County if a proposed development would cause road intersections to operate at or below a LOS E while exceeding 3,000 peak-hour trips. The Traffic Scoping prepared for the project found that the project would generate approximately 197 average daily trips per day with 173 trips per weekday, 167 trips per Saturday and 346 trips per Sunday. The project would consist of approximately 12 AM peak hour trips and 17 PM peak hour trips on weekdays. Therefore, the addition of project generated peak hour vehicle trips would not be anticipated to cause studied intersection to exceed 3,000 peak hour trips.

Therefore, no CO "hot spot" modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SDAPCD's Rule 51 no significant impact related to odors would occur during the on-going operations of the proposed project.

Table 7
Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Emissions	18.30	2.24	36.70	0.08	6.17	3.53
SDAPCD Thresholds	75	250	550	250	100	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2022.1.1.28; the higher of either summer or winter emissions.

CUMULATIVE AIR QUALITY IMPACTS

Project Specific Impacts

Cumulative air quality impacts may occur from a combination of the project's emissions with the emissions of other reasonably foreseeable projects and/or regional emissions. The project site is located in the San Diego Air Quality Basin and is regulated by the SDAPCD. San Diego County is currently in non-attainment for the 1-hour concentrations under the California Ambient Air Quality Standards (CAAQS) for Ozone (O_3), and for the 24-hour concentrations of PM10 under CAAQS. O_3 is formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels, such as gasoline, natural gas, wood and oil. Sources of PM10 include motor vehicles, wood burning stoves and fireplaces, dust from construction, landfills, agriculture, wildfires, brush and waste burning, industrial sources, and windblown dust from open lands.

SDAPCD has established air contaminant "trigger levels" which indicate scenarios that require additional review. These "trigger levels" include 100 pounds per day for PM-10, 250 pounds per day of NOx and 550 pounds per day of CO. As shown in Tables 6 and 7, construction and operation of the project would result in an increase in PM10, NOx and CO, but not to a level above SDAPCD's "trigger levels." Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under applicable federal or state ambient air quality standards. Impacts would be less than significant.

Air Quality Compliance

The proposed project would not conflict with or obstruct implementation of the SDAPCD's Regional Air Quality Strategy (RAQS) or the California State Implementation Plan (SIP). The following section discusses the proposed project's consistency with the SDAPCD's RAQS and SIP.

The California Clean Air Act requires areas that are designated nonattainment of state ambient air quality standards of any of the criteria pollutants to prepare and implement plans to attain the standards by the earliest practicable dates. As detailed above, the Air Basin is designated by the EPA for the national standards as a non-attainment area for ozone (O_3) and by CARB as nonattainment for ozone, PM10, and PM2.5. According the RAQS was developed to identify feasible emission control measures and provide expeditious progress toward attaining the state standard for ozone and particulate matter. The two pollutants in the RAQS are VOCs and NOx, which are precursors to the formation of ozone. Projected increases in motor vehicle usage, population, and growth create challenges in controlling and reducing air emissions. The RAQs, in conjunction with the Transportation Control Measures, were revised in 2016 as part of the RAQS for San Diego County. In addition, the most recent RAQS update, the 2022 RAQS, was approved in March 2023.

The SIP is the document that sets forth the State's strategies for attaining the NAAQS. The SDAPCD is the agency responsible for preparing the portion of the SIP applicable to the Air Basin. The RAQS outlines the plans and control measures designed to attain the NAAQS for ozone. The SDAPCD relies on information from CARB and SANDAG, including projected growth, mobile, area and all other source emissions in order to predict future emissions and develop appropriate strategies for the reduction of source air emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the incorporated cities and County of San Diego. As such, projects that propose development that is consistent with the growth anticipated by SANDAG would also be consistent with the RAQS and the SIP.

The proposed development consists of a subdivision of two existing parcels into 11 parcels with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple. The SANDAG population forecast for the City of Escondido shows that the City's population is anticipated to increase to approximately 165,001 by the year 2050 with a total citywide population increase of 16,232 persons from

2016 to 2050.[5] Furthermore, 2050 employment projections show an increase of approximately 43.6 percent from 2016 job availability. There will be relatively small population, housing, and employment growths associated with the project; therefore, the project would be consistent with SANDAG's employment forecast and the City's General Plan. Furthermore, the proposed project would not permanently change the existing or planned transportation network or traffic patterns anywhere in the Air Basin. As such, the proposed project would be consistent with the local general plan and SANDAG's growth projections. Based on the above, the proposed project will not result in an inconsistency with the SDAPCD RAQS. Therefore, a less than significant impact will occur in relation to implementation of the RAQS.

5 https://datasurfer.sandag.org/download/sandag_forecast_14_jurisdiction_escondido.pdf

3. GLOBAL CLIMATE CHANGE ANALYSIS

EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop". The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide (CO_2)

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in CO_2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Methane (CH_4)

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

Chlorofluorocarbons (CFC)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6)

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Global Warming Potential

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 8. As shown in Table 8, the global warming potential of GHGs ranges from 1 to 22,800.

Table 8
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential[1] (100 Year Horizon)
Carbon Dioxide (CO_2)	--[2]	1
Methane (CH_4)	12	28-36
Nitrous Oxide (NO)	114	298
Hydrofluorocarbons (HFCs)	1-270	12-14,800
Perfluorocarbons (PFCs)	2,600-50,000	7,390-12,200
Nitrogen trifluoride (NF_3)	740	17,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Notes:

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of CO_2 emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

GREENHOUSE GAS STANDARDS AND REGULATION

International

Montreal Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

The Paris Agreement

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As

such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

Clean Air Act

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment

Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[6]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[7] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[8] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

In December 2021, the EPA finalized federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026. The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050. These standards set the light-duty vehicle GHG program on track to provide a strong launch point for the agency's next phase of standards for model year 2027 and beyond.[9] On April 12, 2023, EPA announced new, more ambitious proposed standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The proposal builds upon EPA's final standards for federal greenhouse gas emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to unlock benefits to Americans ranging from reducing climate pollution, to improving public health, to saving drivers money through reduced fuel and maintenance costs. The proposed standards would phase in over model years 2027 through 2032.[10]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in

[6] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[7] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[8] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[9] United States Environmental Protection Agency (EPA), Regulations for Emissions from Vehicles and Engines, Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions

[10] United States Environmental Protection Agency (EPA), Regulations for Emissions from Vehicles and Engines, Proposed Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-multi-pollutant-emissions-standards-model

model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[11]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposed to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposed to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposed to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA).[12] This action is effective as of January 28, 2022. [13]

State of California

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with

[11] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

[12] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

[13] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

newer emission-controlled models. Refer to Section IV.B, *Air Quality*, of this Draft EIR for additional details regarding these regulations. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Assembly Bill 1493

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-3-05

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

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

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008, and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 $MMTCO_2e$ using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 $MMTCO_2e$.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 $MMTCO_2e$. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 $MMTCO_2e$.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[14] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

[14] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

2022 Climate Change Scoping Plan

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality on November 16, 2022. The 2022 Scoping Plan lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier, outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target. The Plan addresses recent legislation and direction from Governor Newsom and extends and expands upon earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. The plan also takes the unprecedented step of adding carbon neutrality as a science-based guide and touchstone for California's climate work. Specifically, this plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands (NWL) to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

SB 32, Pavley. California Global Warming Solutions Act of 2006

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.
(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009, the CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation

measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by

passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established 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 efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. CalEEMod modeling defaults to 2008 standards. 2013 Standards were approved and have been effective since July 1, 2014. 2016 Standards were adopted January 1, 2017. 2019 standards were published July 1, 2019 and became effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Per Section 100 Scope, the 2019 Title 24, Part 6 Building Code now requires healthcare facilities, such as assisted living facilities, hospitals, and nursing homes, to meet documentation requirements of Title 24, Part 1 Chapter 7 – Safety Standards for Health Facilities. A healthcare facility is defined as any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, Section 1204 or Chapter

2, Section 1250.

Section 120.1 Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times. The 2019 version of the Code also completely revised the minimum ventilation requirements including DVC airflow rates within Section 120.1 Table 120.1–A. Table 120.1-A now includes air classification and recirculation limitations, these are based on either the number of occupants or the CFM/ft^2 (cubic feet per minute per square foot), whichever is greater.

Section 120.1 Ventilation and Indoor Air Quality also included additions for high-rise residential buildings. Requirements include that mechanical systems must provide air filters that and that air filters must be MERV 13 or use a particle size efficiency rating specified in the Energy Code. Window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1.

Per Section 120.1(a) healthcare facilities must be ventilated in accordance with Chapter 4 of the California Mechanical Code and are NOT required to meet the ventilations requirements of Title 24, Part 6.

Section 140.4 Space Conditioning Systems included both additions and revisions within the 2019 Code. The changes provided new requirements for cooling tower efficiency, new chilled water-cooling system requirements, as well as new formulas for calculating allowed fan power. Section 140.4(n) also provide a new exception for mechanical system shut-offs for high-rise multifamily dwelling units, while Section 140.4(o) added new requirements for conditioned supply air being delivered to space with mechanical exhaust.

Section 120.6 Covered Processes added information in regards to adiabatic chiller requirements that included that all condenser fans for air-cooled converseness, evaporative-cooled condensers, adiabatic condensers, gas coolers, air or water fluid coolers or cooling towers must be continuously variable speed, with the speed of all fans serving a common condenser high side controlled in unison .Further, the mid-condensing setpoint must be 70 degrees Fahrenheit for all of the above mentioned systems.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

Section 130.2 Outdoor Lighting Controls and Equipment added automatic scheduling controls which included that outdoor lighting power must be reduced by 50 to 90 percent, turn the lighting off during unoccupied times and have at least two scheduling options for each luminaire independent from each other and with a 2-hour override function. Furthermore, motion sensing controls must have the ability to reduce power within 15 minutes of area being vacant and be able to come back on again when occupied. An exception allows for lighting subject to a health or life safety statute, ordinance, or regulation may have a minimum time-out period longer than 15 minutes or a minimum dimming level above 50% when necessary to comply with the applicable law.

The 2022 Building Energy Efficiency Standards will become effective on January 1, 2023. [15] The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants; establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal.

California Code of Regulations (CCR) Title 24, Part 11 (California Green Building Standards)

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The 2019 California Green Building Standards Code went into effect on January 1, 2020.

2019 CALGreen Code: During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. The 2019 version of the California Green Building Standards became effective January 1, 2020.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the post construction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require post construction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of post construction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through

[15] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

The 2022 California Green Building Standards Code became effective on January 1, 2023.[16]

HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers.

HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [17]

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 signed into law on April 1, 2015.

Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

[16] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

[17] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

SBX1 2

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

Senate Bill 350

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Executive Order N-79-20.

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

Governor Newsom's September 2022 Climate Legislation

On September 16, 2022, California enacted some of the nation's most aggressive climate measures in history as Governor Gavin Newsom signed a sweeping package of legislation to cut pollution, protect Californians from big polluters, and accelerate the state's transition to clean energy. The Governor partnered with legislative leaders to advance groundbreaking measures to achieve carbon neutrality no later than 2045 and 90 percent clean energy by 2035, establish new setback measures protecting communities from oil drilling, capture carbon pollution from the air, advance nature-based solutions, and more.

Over the next two decades, the California Climate Commitment will:

- Create 4 million new jobs
- Cut air pollution by 60 percent
- Reduce state oil consumption by 91 percent
- Save California $23 billion by avoiding the damages of pollution
- Reduce fossil fuel use in buildings and transportation by 92 percent
- Cut refinery pollution by 94 percent[18]

The following describes a few of the many bills signed in through the Governor's climate package.

Assembly Bill 1279

Establishes a clear, legally binding, and achievable goal for California to achieve statewide carbon neutrality as soon as possible, and no later than 2045, and establishes an 85% emissions reduction target as part of that goal.

[18] https://www.gov.ca.gov/2022/09/16/governor-newsom-signs-sweeping-climate-measures-ushering-in-new-era-of-world-leading-climate-action/

Senate Bill 1137

Establishes a setback distance of 3,200 feet between any new oil well and homes, schools, parks or businesses open to the public. Ensures comprehensive pollution controls for existing oil wells within 3,200 feet of these facilities.

Senate Bill 1020

Creates clean electricity targets of 90 percent by 2035 and 95 percent by 2040 with the intent of advancing the state's trajectory to the existing 100 percent clean electricity retail sales by 2045 goal.

Senate Bill 905

Establishes a clear regulatory framework for carbon removal and carbon capture, utilization and sequestration. Bans the practice of injecting carbon dioxide for the purpose of enhanced oil recovery.

Assembly Bill 1757

Requires the state to develop an achievable carbon removal target for natural and working lands.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update required that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[19]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[20] As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2022 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2023.

[19] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

[20] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

Local – City of Escondido

City of Escondido General Plan

The City of Escondido's General Plan contains goals and policies regarding climate protection in the Resources Conservation Element. The goals and policies applicable to the proposed project from the Resource conservation Element of the Escondido General Plan are stated below.

Goal 7 Improved air quality in the city and the region to maintain the community's health and reduce green-house gas emissions that contribute to climate change.

Policy 7.2 Reduce regional greenhouse gas emissions through the following measures including, but not limited to:

a) Implementing land use patterns that reduce automobile dependence (compact, mixed-use, pedestrian, and transit-oriented development, etc.);
b) Reducing the number of vehicular miles traveled through implementation of Transportation Demand Management programs, jobs-housing balance, and similar techniques;
c) Supporting public transportation improvements;
d) Encouraging the use of alternative modes of transportation by expanding public transit, bicycle, and pedestrian networks and facilities;
e) Participating in the development of park-and-ride facilities;
f) Maintaining and updating the city's traffic signal synchronization plan;
g) Promoting local agriculture;
h) Promoting the use of drought-tolerant landscaping; and
i) Encouraging the use of non-polluting alternative energy systems.

City of Escondido Climate Action Plan

The City of Escondido adopted their Climate Action Plan in March 2021. The CAP provides a comprehensive roadmap to address the challenges of climate change in the City of Escondido. The city partnered with the San Diego Association of Governments (SANDAG) to create the CAP to achieve GHG reductions and address climate change at the local level. In an effort to combat climate change, the CAP sets GHG reduction targets and proposes achievable, locally based strategies to reduce GHG emissions from both municipal and community activities. The CAP focuses on reducing emissions by 2020 and 2030 to be consistent with the legislative State targets and reducing emissions by 2035 to demonstrate the recommended trajectory to meet the State's 2050 goal. As stated in the CAP, the city includes reduction targets of 4 percent below 2012 levels by 2020, 42 percent below 2012 levels by 2030, and 52 percent below 2012 levels by 2035.

As stated in Section 4.1.1 of the CAP, the City has established a GHG screening threshold (set at 500 metric tons carbon dioxide equivalent [$MTCO_2e$] per year) for new development projects to determine if a project would need to demonstrate consistency with the CAP through the CAP Consistency Review Checklist (Checklist). New development projects that are consistent with the General Plan and are expected to generate fewer than 500 $MTCO_2e$ annually would not have a cumulative impact and would not be required to provide additional analysis. The Checklist includes a list of the size and types of projects that would be expected to generate fewer than 500 $MTCO_2e$ per year. In addition, new development projects that are expected to generate greater than 500 $MTCO_2e$ annually, but are consistent with the General Plan land use designation and zoning, may be determined to have a less than significant cumulative impact if they are determined to be consistent with the CAP. A project's consistency with the CAP will be determined through the Checklist. The Checklist contains GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved.

SIGNIFICANCE THRESHOLDS

Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- Threshold 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Threshold 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Thresholds of Significance for this Project

To determine whether the project's GHG emissions are significant, this analysis uses the screening criteria identified in the City's CAP. As stated above, the City's CAP screening criteria utilizes a 500 $MTCO_2e$ per year emission threshold. However, if a project is below specific land use characteristics (i.e., land use type and number of dwelling units and/or square feet), they are not subject to the measures of the CAP as they are considered to emit less than the 500 $MTCO_2e$ per year of emissions. Furthermore, if a project does not fall within those land use characteristics and exceeds 500 $MTCO_2e$ per year, then the project would be required to demonstrate consistency with CAP through the Checklist.

An analysis of the project's compliance with all applicable regulations and plans in regard to GHG emissions has been included below.

PROJECT GREENHOUSE GAS EMISSIONS AND CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION PLANS AND POLICIES

As stated in the City's CAP, the City Guidance Document provides methods to estimate mixed-use project development thresholds.[21] The City Guidance Document states that mixed-use projects can provide a comparison to the screening thresholds using a single-family equivalency (SFE) factor. All mixed-use projects that demonstrate they propose development equal to or less than 36 SFE units would be considered below the screening threshold and result in less than significant impacts.

The project plans to develop the site with a subdivision of two existing parcels into 11 parcels with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple. Therefore, using the SFE factor, the proposed project would result in approximately 31 SFE units.[22] Therefore, as the proposed project consists of a mixed-use that results in less than 36 SFE units, the proposed project's GHG impact is considered to be less than significant.

As the project is less than 36 SFE units, it is not subject to the measures contained in the CAP checklist, and no quantitative analysis of GHG emissions is required. However, in the interest of completeness and full disclosure, the CAP checklist has been completed and is included in Appendix C. The proposed project is consistent with the City's CAP and operation of the proposed project would not create a significant cumulative impact to global climate change. Furthermore, with consistency with the City's CAP, the proposed project would also not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

[21] Guidance for Demonstrating Consistency with the City of Escondido Climate Action Plan for discretionary Projects Subject to C EQA, available at https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/Final/Escondido_ThresholdsMemoFinal3.10.2021.pdf

[22] 10 single-family units x 1.0 SFE Factor = 10 SFE units and 11.767 sf temple x 1.8 SFE Factor for commercial uses = ~21.2 SFE Units. Total of ~31 SFE units.

CUMULATIVE GREENHOUSE GAS IMPACTS

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[23] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Consistent with CEQA Guidelines Section 15064h(3),[24] the City, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed above in the Project Greenhouse Gas Emissions and Consistency With Applicable Greenhouse Gas Reduction Plans and Policies section above, the project is consistent with the City's CAP.

Thus, given the project's consistency with the City's CAP, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

[23] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

[24] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

4. ENERGY ANALYSIS

EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

Overview

California's estimated annual energy use as of 2022 included:

- Approximately 287,220 gigawatt hours of electricity;[25]
- Approximately 2,056,267 million cubic feet of natural gas per year;[26] and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015).[27]

As of 2021, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 41.2 percent transportation;
- Approximately 23.6 percent industrial;
- Approximately 18.2 percent residential; and
- Approximately 17.1 percent commercial.[28]

California's electricity in-state generation system generates approximately 203,257 gigawatt-hours each year. In 2022, California produced approximately 71 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 12 percent) and the U.S. Southwest (approximately 17 percent). Natural gas is the main source for electricity generation at approximately 47.46 percent of the total in-state electric generation system power as shown in Table 9.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- In 2022, California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2022, the state ranked third in crude oil refining capacity.
- California is the largest consumer of jet fuel and second-largest consumer of motor gasoline among the 50 states.
- In 2020, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all but three other states.
- In 2022, renewable resources, including hydroelectric power and small-scale, customer-sited solar power, accounted for 49% of California's in-state electricity generation. Natural gas fueled another 42%. Nuclear power supplied almost all the rest.

[25] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2022. 2022 Total System Electric Generation (ca.gov).

[26] Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] 2022. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[27] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] 2021. https://www.energy.ca.gov/data-reports/planning-and-forecasting

[28] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector, 2021. California State Profile Overview.[Online] January 8, 2023 https://www.eia.gov/state/?sid=CA#tabs-2

- In 2022, California was the fourth-largest electricity producer in the nation. The state was also the nation's third-largest electricity consumer, and additional needed electricity supplies came from out-of-state generators.[29]

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

Electricity and Natural Gas

Electricity and natural gas would be provided to the project by San Diego Gas & Electric (SDG&E). SDG&E provides electrical and natural gas service to the project area through State-regulated utility contracts. SDG&E provides electric energy service to 3.7 million people located in most of San Diego County and the southern portion of Orange County, within a service area encompassing approximately 4,100 square miles.[30] The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. In 2021, SDG&E provided approximately 17,561 Gigawatt-hours per year of electricity.[31]

Table 10 identifies SDG&E's specific proportional shares of electricity sources in 2022. As shown in Table 10, the 2022 SDG&E Power Mix has renewable energy at 44.8 percent of the overall energy resources, of which biomass and waste is at 2.9 percent, solar energy is at 28 percent, and wind power is at 13.9 percent; other energy sources include natural gas at 54.4 percent and unspecified sources at 0.8 percent.

Natural gas is delivered through a nation-wide network of high-pressure transmission pipelines. In 2021, SDG&E provided approximately 524 million therms of natural gas.[32]

The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

[29] State Profile Overview. [Online] [Cited: April 20, 2023.] https://www.eia.gov/state/?sid=CA#tabs-2

[30] https://www.sdge.com/more-information/our-company

[31] Obtained from http://www.ecdms.energy.ca.gov/elecbyutil.aspx

[32] Obtained from http://www.ecdms.energy.ca.gov/gasbyutil.aspx

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[33]

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 38 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[34,35] About 27 percent of total United States energy consumption in 2022 was for transporting people and goods from one place to another. In 2022, petroleum comprised about 90 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[36] In 2022, about 135.06 billion gallons (or about 3.22 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 370 million gallons (or about 8.81 million barrels) per day.[37]

REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[38]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model

[33] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/

[34] CARB. California Greenhouse Gas Emissions Inventory – 2022 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm

[35] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA

[36] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation

[37] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

[38] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[39]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposed to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposed to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposed to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA). This action is effective as of January 28, 2022. [40]

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy

[39] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

[40] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2022 Integrated Energy Policy Report (2022 IEPR) was adopted in February 28, 2023. The 2022 IEPR provides updates on a variety of energy issues facing California. These issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The 2022 IEPR also discusses the California Energy Commission's equity and environmental justice efforts, its development of a more easily navigable online data platform via the California Energy Planning Library, and an update to the California Energy Demand Forecast. The report also provides information on emerging topics related to energy reliability, western electricity integration, hydrogen, gasoline prices, gas transition, and distributed energy resources.[41]

The 2023 Integrated Energy Policy Report (2023 IEPR) was completed in January 2024. The 2023 IEPR discusses speeding connection of clean resources to the electricity grid, the potential use of clean and renewable hydrogen, and the California Energy Demand Forecast to 2040. The report also provides updates on topics such as gas decarbonization, energy efficiency, the Clean Transportation Program, Assembly Bill 1257 (Bocanegra, Chapter 749, Statutes of 2013), and publicly owned utilities' progress toward peak demand reserves and margins..[42]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 3 of this report.

California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2022 Title 24 standards, which became effective on January 1, 2023[43] and build upon the 2019 Standards. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

[41] California Energy Commission. Final 2022 Integrated Energy Policy Report. February 2023. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2022-integrated-energy-policy-report-update

[42] California Energy Commission. Final 2023 Integrated Energy Policy Report. January 2024. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report

[43] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants; establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal.

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

As previously discussed in Section 3 of this report, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

The 2022 California Green Building Standards Code became effective on January 1, 2023[44] and builds upon the 2019 Standards.

HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers.

HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [45]

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350

As previously discussed in Section 3 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Senate Bill 1020

Senate Bill 1020 (SB 1020) requires all eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035, 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040, 100 percent of all retail

[44] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

[45] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

sales of electricity to California end-use customers by December 31, 2045, and 100 percent of electricity procured to serve all state agencies by December 31, 2035.

Assembly Bill 32

As discussed in Section 3 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 3 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed in Section 3 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed in Section 3 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may

be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

California Air Resources Board

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.15 The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[46]

In addition, the Advanced Clean Cars II was effective as of November 30, 2022. This regulation takes the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augments them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent zero-emission vehicles. The Advanced Clean Cars II regulations will rapidly scale down light-duty passenger car, pickup truck and SUV emissions starting with the 2026 model year through 2035. The regulations are two-pronged. First, it amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. These amendments support Governor Newsom's 2020 Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. In October 2023, CARB staff launched a new effort to consider potential amendments to the Advanced Clean Cars II regulations, including updates to the tailpipe greenhouse gas emission standard and limited revisions to the Low-emission Vehicle and Zero-emission Vehicle regulations.[47]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NO_X) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-

[46] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

[47] California Air Resources Board, Advanced Clean Cars II. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii

controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 3 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the SANDAG jurisdiction, which has authority to develop the SCS or APS. For the SANDAG region, the targets set by CARB are at 15 percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod 2022.1.1.28 Output contained in Appendix B, utilized for air quality and greenhouse gas analyses in Sections 2 and 3 of this report, were also utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demands

The construction schedule is anticipated to occur between approximately July 2025 and July 2026 and be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately twelve-month schedule is relatively short and the disturbed portion of the project site is approximately 6.2 acres.

Construction Equipment Electricity Usage Estimates

As stated previously, Electrical service will be provided by SDG&E. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2021 National Construction Estimator, Richard Pray (2021)[48], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.37. The project plans to develop the site with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple. Based on Table 11, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $889.23. Furthermore, as shown in Table 11, the total electricity usage from project construction related activities is estimated to be approximately 2,681 kWh.[49]

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 12 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 12 shows the results of the analysis of construction equipment.

As presented in Table 12, project construction activities would consume an estimated 30,342 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

[48] Pray, Richard. 2021 National Construction Estimator. Carlsbad : Craftsman Book Company, 2021.

[49] Assumes the project will be under the standard small commercial rate under SDG&E for the temple and the schedule DR – residential rate for the single-family residential uses. Rates as effective March 1, 2024. https://www.sdge.com/total-electric-rates.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2) at a mix of 25 percent/50 percent/25 percent, respectively, along area roadways.[50] With respect to estimated VMT, the construction worker trips would generate an estimated 31,781 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.28 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) using information generated using CARB's 2021 EMFAC model (see Appendix C for details). An aggregate fuel efficiency of 25.57 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 13 shows that an estimated 1,243 gallons of fuel would be consumed for construction worker trips.

Construction Vendor/Hauling Fuel Estimates

Table 14 and Table 15 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 5,265 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.28 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during building construction would use medium to heavy duty vehicles with an average fuel consumption of 7.4 mpg for medium heavy-duty trucks and 5.94 mpg for heavy heavy-duty trucks (see Appendix C for details). [51] Tables 14 and 15 show that an estimated 789 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately twelve-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in the construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment.

[50] CalEEMod User's Guide Appendix C (April 2022) states that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

[51] CalEEMod User's Guide Appendix C (April 2022) states that vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT) and that hauling and onsite truck trips are made by a fleet consisting of 100 percent HHDT.

Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Operational Energy Demands

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), it is assumed that, for the proposed project, an average trip for autos and light trucks was assumed to be 14.93 miles and 3- 4-axle trucks were assumed to travel an average of 13.58 miles.[52] In order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 16 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[53]

The proposed project would generate a total of 173 vehicle trips per weekday, 167 vehicle trips per Saturday, and 346 vehicle trips per Sunday with an average of 197 vehicle trips per day. The vehicle fleet mix was used from the CalEEMod output. Table 16 shows that an estimate of up to 43,371 gallons of fuel would be consumed per year for the operation of the proposed project.

Trip generation and VMT generated by the proposed project are consistent with other residential and temple uses of similar scale and configuration as reflected respectively in the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 3.1 billion gallons of diesel and 13.6 billion gallons of gasoline in 2022.[54,55] Therefore, the increase in fuel consumption from the proposed project is insignificant in comparison to the State's demand. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity and natural gas (provided by SDG&E). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) and are provided in Table 17.

As shown in Table 17, the estimated electricity demand for the proposed project is approximately 235,688 kWh per year. In 2022, the non-residential sector of the County of San Diego consumed approximately 12,803 million kWh of electricity and the residential sector of the County of San Diego consumed

[52] CalEEMod default distance for the proposed project is 14.93 miles for residential H-W (home-work), 8.6 miles for residential H-S (home-shop), 7.11 miles for residential H-O (home-other), 13.58 miles for non-residential H-W (home-work), 8.15 miles for non-residential W-O (work-other), and 7.1 miles for non-residential O-O (other-other). The trip type utilized for each vehicle category was determined based on both the description of the trip type (CalEEMod User's Guide Appendix A, 2022) as well as the highest total daily VMT calculated by CalEEMod (Sunday VMT).

[53] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2026). See Appendix C for EMFAC output.

[54] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics

[55] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics and https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm

approximately 7,440 million kWh of electricity.[56] In addition, the estimated natural gas consumption for the proposed project is approximately 760,135 kBTU per year. In 2022, the non-residential sector of the County of San Diego consumed approximately 242 million therms of gas and the residential sector of the County of San Diego consumed approximately 281 million therms of gas.[57] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2022 non-residential and residential sector demand.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The proposed project would be required to comply with Title 24 standards.

Furthermore, the proposed project energy demands in total would be comparable to other residential and temple projects of similar scale and configuration. Therefore, the project facilities' energy demands, and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by SDG&E.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 3 above, the proposed project is consistent with the applicable strategies of the City of Escondido Climate Action.

Conclusions

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a residential and temple project that is not proposing any additional features that would require a larger energy demand than other residential and temple projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would

[56] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[57] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes commercial uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

Table 9
Total Electricity System Power (California 2022)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	273	0.13%	181	5,716	5,897	6,170	2.15%
Natural Gas	96,457	47.46%	44	7,994	8,038	104,495	36.38%
Oil	65	0.03%	-	-	-	65	0.02%
Other (Waste Heat/Petroleum Coke)	315	0.15%	-	-	-	315	0.11%
Unspecified Sources of Power	-	0.00%	12,485	7,943	20,428	20,428	7.11%
Total Thermal and Unspecified	97,110	47.78%	12,710	21,653	34,363	121,473	45.77%
Nuclear	17,627	8.67%	397	8342	8739	26,366	9.18%
Large Hydro	14,607	7.19%	10,803	1,118	11,921	26,528	9.24%
Biomass	5,366	2.64%	771	25	797	6,162	2.15%
Geothermal	11,110	5.47%	253	2,048	2,301	13,412	4.67%
Small Hydro	3,005	1.48%	211	13	225	3,230	1.12%
Solar	40,494	19.92%	231	8,225	8,456	48,950	17.04%
Wind	13,938	6.86%	8,804	8,357	17,161	31,099	10.83%
Total Non-GHG and Renewables	106,147	52.22%	21,471	28,129	49,599	155,747	54.23%
Total Energy	203,257	100%	34,180	49,782	83,962	287,220	100%

Notes:

(1) Source: California Energy Commission. 2022 Total System Electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation

Table 10
SDG&E 2022 Power Content Mix

Energy Resources	2022 SDG&E Power Mix
Eligible Renewable[1]	44.8%
Biomass & Biowaste	2.9%
Geothermal	0%
Eligible Hydroelectric	0%
Solar	28.0%
Wind	13.9%
Coal	0%
Large Hydroelectric	0.0%
Natural Gas	54.4%
Nuclear	0.0%
Other	0%
Unspecified Sources of power[2]	0.8%
Total	100%

Notes:

Source: https://www.energy.ca.gov/filebrowser/download/6064

(1) The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

(2) Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Table 11
Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Land Use Type	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Construction Power Cost
$2.37	Residential	19.5	12	$554.58
	Place of Worship	11.767	12	$334.65
			Total Project Construction Power Cost	$889.23

Cost per kWh[2]	Land Use Type	Total Project Construction Electricity Usage (kWh)
$0.30	Residential	1853
$0.40	Place of Worship	828
Total Project Construction Electricity Usage (kWh)		2,681

Notes:

(1) Place of Worship use includes 6,221 square foot assembly, 813 square foot restrooms, and 4,733 square foot monk residence building for a total of 11,767 square feet. The residential use square footage is from the CalEEMod default square footage of 19,500 square feet for the 10 single-family residential dwelling units.

(2) Assumes the project will be under the rate for Small Commercial Customers for the place of worship use and the Schedule DR - Residential rate for the single-family residential uses under SDG&E. Rates as effective March 1, 2024. https://www.sdge.com/total-electric-rates

Table 12
Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Site Preparation	10	Rubber Tired Dozers	1	8	367	0.40	1,174	635
	10	Tractors/Loaders/Backhoes	1	8	84	0.37	249	134
Grading	20	Excavators	1	8	36	0.38	109	118
	20	Graders	1	8	148	0.41	485	525
	20	Rubber Tired Dozers	1	8	367	0.40	1,174	1,270
	20	Tractors/Loaders/Backhoes	3	8	84	0.37	746	806
Building Construction	230	Cranes	1	7	367	0.29	745	9,262
	230	Forklifts	3	8	82	0.20	394	4,893
	230	Generator Sets	1	8	14	0.74	83	1,030
	230	Tractors/Loaders/Backhoes	3	7	84	0.37	653	8,114
	230	Welders	1	8	46	0.45	166	2,059
Paving	20	Pavers	2	8	81	0.42	544	588
	20	Paving Equipment	2	8	89	0.36	513	554
	20	Rollers	2	8	36	0.38	219	237
Architectural Coating	20	Air Compressors	1	6	37	0.48	107	115
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								30,342

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Table 13
Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	5	12	600	25.57	23
Grading	20	15	12	3,600	25.57	141
Building Construction	230	8.54	12	23,570	25.57	922
Paving	20	15	12	3,600	25.57	141
Architectural Coating	20	1.71	12	410	25.57	16
Total Construction Worker Fuel Consumption						1,243

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod Version 2022.1.1.28 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

Table 14
Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)[1]	Vehicle Miles Traveled[1]	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0	7.63	0	6.67	0
Grading	20	0	7.63	0	6.67	0
Building Construction	230	3	7.63	5,265	6.67	789
Paving	20	0	7.63	0	6.67	0
Architectural Coating	20	0	7.63	0	6.67	0
Total Construction Vendor Fuel Consumption						789

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod Version 2022.1.1.28 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT).

Table 15
Construction Hauling Fuel Consumption Estimates (HHD Trucks)

Phase	Number of Days	Total Hauling Trips	Trip Length (miles)[1]	Vehicle Miles Traveled[1]	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0	20	0	5.94	0
Grading	20	0	20	0	5.94	0
Building Construction	230	0	20	0	5.94	0
Paving	20	0	20	0	5.94	0
Architectural Coating	20	0	20	0	5.94	0
Total Construction Hauling Fuel Consumption						0

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod Version 2022.1.1.28 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes hauling and onsite truck trips are made by a fleet consisting of 100 percent HHDT.

Table 16
Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles[1]	Average Trip Length (miles)[2]	Daily VMT	Average Fuel Economy (mpg)[3]	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	99	14.93	1,478	32.47	45.52	16,615
Light Truck	Automobile	10	14.93	149	24.09	6.20	2,262
Light Truck	Automobile	45	14.93	672	24.17	27.80	10,146
Light Heavy Truck	2-Axle Truck	6	14.93	90	12.14	7.38	2,693
Light Heavy Truck 10,000 lbs +	2-Axle Truck	1	14.93	15	11.81	1.26	461
Motorcycle	Automobile	5	14.93	75	39.29	1.90	693
Medium Truck	Automobile	27	14.93	403	20.07	20.09	7,331
Motor Home	--	1	14.93	15	5.29	2.82	1,030
Medium Heavy Truck	3-Axle Truck	2	13.58	27	7.51	3.62	1,320
Other Bus	--	0	14.93	0	5.8	0.00	0
School Bus	--	0	14.93	0	8.71	0.00	0
Urban Bus	--	0	14.93	0	5.89	0.00	0
Heavy Heavy Truck	4-Axle Truck	1	13.58	14	6.06	2.24	818
Total		197	--	2,937	-	118.82	--
Total Annual Fuel Consumption							**43,371**

Notes:

(1) Based on the size of the site and relative location, trips were assumed to be local rather than regional.

(2) This analysis utilizes the weekday average total vehicle trips of 197 trips per day as provided in the Traffic Scoping Agreement (LOS Engineering, Inc., August 30, 2024).

(3) Based on EMFAC2021 emission rates for opening year of 2026.

Table 17
Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year[1,2]
Single Family Housing	285,169
Place of Worship	474,966
Total	760,135

Electricity Demand	kWh/year
Single Family Housing	61,413
Place of Worship	105,590
Parking Lot	68,685
Total	235,688

Notes:

(1) Taken from the CalEEMod 2022.1.1.28 output (Appendix B of this report).

(2) The monk residences were modeled in CalEEMod as Apartments Low Rise as this was the closest land use available.

5. EMISSIONS REDUCTION MEASURES

CONSTRUCTION MEASURES

Adherence to SDAPCD Rule 55 is required.

No construction mitigation is required.

OPERATIONAL MEASURES

No operational mitigation is required.

6. REFERENCES

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2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

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U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

APPENDICES

Appendix A Glossary of Terms

Appendix B CalEEMod Model Detailed Report

Appendix C EMFAC Data & CAP Consistency Checklist

APPENDIX A

GLOSSARY

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL DETAILED REPORT

19648 ISKCON of Escondido Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	19648 ISKCON of Escondido
Construction Start Date	7/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	6.20
Location	33.16649567252776, -117.0793554204136
County	San Diego
City	Escondido
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6116
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	10.0	Dwelling Unit	3.52	19,500	117,129	—	28.0	—

Place of Worship	11.8	1000sqft	0.27	11,767	13,068	—	—	—
Parking Lot	72.0	Space	1.80	0.00	0.00	—	—	—
Other Asphalt Surfaces	0.90	Acre	0.68	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.1	12.7	18.0	25.2	0.04	0.72	2.89	3.61	0.66	1.37	2.03	—	4,350	4,350	0.18	0.05	1.00	4,371
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.39	1.16	10.6	13.4	0.02	0.43	0.09	0.52	0.40	0.02	0.42	—	2,549	2,549	0.10	0.03	0.01	2,562
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.11	1.02	4.11	5.34	0.01	0.17	0.25	0.43	0.16	0.12	0.28	—	995	995	0.04	0.01	0.08	1,000
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.19	0.75	0.97	< 0.005	0.03	0.05	0.08	0.03	0.02	0.05	—	165	165	0.01	< 0.005	0.01	166

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.14	1.80	16.3	18.6	0.03	0.72	2.89	3.61	0.66	1.37	2.03	—	3,102	3,102	0.13	0.03	0.53	3,114
2026	13.1	12.7	18.0	25.2	0.04	0.72	0.23	0.96	0.66	0.06	0.72	—	4,350	4,350	0.18	0.05	1.00	4,371
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.39	1.16	10.6	13.4	0.02	0.43	0.09	0.52	0.40	0.02	0.42	—	2,549	2,549	0.10	0.03	0.01	2,562
2026	1.32	1.10	9.98	13.3	0.02	0.38	0.09	0.47	0.35	0.02	0.37	—	2,546	2,546	0.10	0.03	0.01	2,558
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.54	0.45	4.11	5.01	0.01	0.17	0.25	0.43	0.16	0.12	0.28	—	925	925	0.04	0.01	0.07	929
2026	1.11	1.02	3.95	5.34	0.01	0.15	0.04	0.19	0.14	0.01	0.15	—	995	995	0.04	0.01	0.08	1,000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	0.08	0.75	0.91	< 0.005	0.03	0.05	0.08	0.03	0.02	0.05	—	153	153	0.01	< 0.005	0.01	154
2026	0.20	0.19	0.72	0.97	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	165	165	0.01	< 0.005	0.01	166

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.8	18.3	2.10	36.7	0.08	2.65	3.52	6.17	2.64	0.89	3.53	319	4,886	5,205	4.60	0.18	14.0	5,388
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.6	18.2	2.24	34.6	0.07	2.65	3.52	6.17	2.64	0.89	3.53	319	4,699	5,018	4.61	0.19	0.54	5,190

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.41	5.24	1.09	12.3	0.03	0.62	1.66	2.27	0.61	0.42	1.03	103	2,554	2,657	4.31	0.09	3.01	2,794
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99	0.96	0.20	2.24	< 0.005	0.11	0.30	0.42	0.11	0.08	0.19	17.1	423	440	0.71	0.01	0.50	463

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.36	2.16	1.59	16.6	0.04	0.03	3.52	3.55	0.03	0.89	0.92	—	4,115	4,115	0.18	0.15	13.8	4,179
Area	16.4	16.2	0.31	20.0	0.03	2.60	—	2.60	2.59	—	2.59	278	119	397	0.26	0.02	—	410
Energy	0.02	0.01	0.20	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	624	624	0.04	< 0.005	—	626
Water	—	—	—	—	—	—	—	—	—	—	—	1.38	27.9	29.3	0.14	< 0.005	—	33.9
Waste	—	—	—	—	—	—	—	—	—	—	—	39.7	0.00	39.7	3.97	0.00	—	139
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	18.8	18.3	2.10	36.7	0.08	2.65	3.52	6.17	2.64	0.89	3.53	319	4,886	5,205	4.60	0.18	14.0	5,388
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.32	2.12	1.74	15.5	0.04	0.03	3.52	3.55	0.03	0.89	0.92	—	3,932	3,932	0.20	0.16	0.36	3,985
Area	16.3	16.0	0.30	18.9	0.03	2.60	—	2.60	2.59	—	2.59	278	116	394	0.26	0.02	—	406
Energy	0.02	0.01	0.20	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	624	624	0.04	< 0.005	—	626
Water	—	—	—	—	—	—	—	—	—	—	—	1.38	27.9	29.3	0.14	< 0.005	—	33.9
Waste	—	—	—	—	—	—	—	—	—	—	—	39.7	0.00	39.7	3.97	0.00	—	139
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	18.6	18.2	2.24	34.6	0.07	2.65	3.52	6.17	2.64	0.89	3.53	319	4,699	5,018	4.61	0.19	0.54	5,190

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.09	0.99	0.82	7.35	0.02	0.01	1.66	1.67	0.01	0.42	0.43	—	1,874	1,874	0.09	0.08	2.83	1,902
Area	4.30	4.24	0.07	4.78	0.01	0.59	—	0.59	0.58	—	0.58	62.4	27.8	90.2	0.06	< 0.005	—	93.0
Energy	0.02	0.01	0.20	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	624	624	0.04	< 0.005	—	626
Water	—	—	—	—	—	—	—	—	—	—	—	1.38	27.9	29.3	0.14	< 0.005	—	33.9
Waste	—	—	—	—	—	—	—	—	—	—	—	39.7	0.00	39.7	3.97	0.00	—	139
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	5.41	5.24	1.09	12.3	0.03	0.62	1.66	2.27	0.61	0.42	1.03	103	2,554	2,657	4.31	0.09	3.01	2,794
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.18	0.15	1.34	< 0.005	< 0.005	0.30	0.31	< 0.005	0.08	0.08	—	310	310	0.02	0.01	0.47	315
Area	0.78	0.77	0.01	0.87	< 0.005	0.11	—	0.11	0.11	—	0.11	10.3	4.60	14.9	0.01	< 0.005	—	15.4
Energy	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	103	103	0.01	< 0.005	—	104
Water	—	—	—	—	—	—	—	—	—	—	—	0.23	4.62	4.85	0.02	< 0.005	—	5.61
Waste	—	—	—	—	—	—	—	—	—	—	—	6.58	0.00	6.58	0.66	0.00	—	23.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.99	0.96	0.20	2.24	< 0.005	0.11	0.30	0.42	0.11	0.08	0.19	17.1	423	440	0.71	0.01	0.50	463

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.27	1.07	10.2	9.42	0.02	0.44	—	0.44	0.41	—	0.41	—	1,668	1,668	0.07	0.01	—	1,674
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.7	45.7	< 0.005	< 0.005	—	45.9
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.59
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	47.4	47.4	< 0.005	< 0.005	0.18	48.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.89	0.98	< 0.005	0.04	—	0.04	0.04	—	0.04	—	162	162	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.43	7.43	< 0.005	< 0.005	0.01	7.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.90	3.62	0.01	0.12	—	0.12	0.11	—	0.11	—	666	666	0.03	0.01	—	669
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	110	110	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.40	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	81.0	81.0	< 0.005	< 0.005	0.30	82.3
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.0	75.0	< 0.005	0.01	0.19	78.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.35	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	76.5	76.5	< 0.005	< 0.005	0.01	77.5
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.1	75.1	< 0.005	0.01	0.01	78.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.5	21.5	< 0.005	< 0.005	0.04	21.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.02	21.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.55	3.55	< 0.005	< 0.005	0.01	3.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.45	3.45	< 0.005	< 0.005	< 0.005	3.61
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.45	0.38	3.47	4.57	0.01	0.13	—	0.13	0.12	—	0.12	—	844	844	0.03	0.01	—	847
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.63	0.83	< 0.005	0.02	—	0.02	0.02	—	0.02	—	140	140	0.01	< 0.005	—	140
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	79.4	79.4	< 0.005	< 0.005	0.28	80.6
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.18	77.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.0	75.0	< 0.005	< 0.005	0.01	76.0
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.7	73.7	< 0.005	0.01	< 0.005	76.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.6	26.6	< 0.005	< 0.005	0.04	27.0
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.9	25.9	< 0.005	< 0.005	0.03	27.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.41	4.41	< 0.005	< 0.005	0.01	4.48
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.30	4.30	< 0.005	< 0.005	< 0.005	4.49

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	< 0.005	0.49	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.28	7.28	< 0.005	< 0.005	0.01	7.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	10.3	10.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.06	16.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.45	0.41	0.30	3.14	0.01	0.01	0.67	0.67	0.01	0.17	0.17	—	779	779	0.04	0.03	2.62	791
Place of Worship	1.91	1.75	1.29	13.4	0.03	0.03	2.85	2.88	0.02	0.72	0.75	—	3,336	3,336	0.15	0.12	11.2	3,388
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.36	2.16	1.59	16.6	0.04	0.03	3.52	3.55	0.03	0.89	0.92	—	4,115	4,115	0.18	0.15	13.8	4,179
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.44	0.40	0.33	2.95	0.01	0.01	0.67	0.67	0.01	0.17	0.17	—	744	744	0.04	0.03	0.07	754
Place of Worship	1.88	1.71	1.41	12.6	0.03	0.03	2.85	2.88	0.02	0.72	0.75	—	3,188	3,188	0.16	0.13	0.29	3,231
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.32	2.12	1.74	15.5	0.04	0.03	3.52	3.55	0.03	0.89	0.92	—	3,932	3,932	0.20	0.16	0.36	3,985
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.07	0.06	0.52	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	120	120	0.01	< 0.005	0.18	122
Place of Worship	0.12	0.11	0.09	0.82	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.05	—	190	190	0.01	0.01	0.29	193
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.20	0.18	0.15	1.34	< 0.005	< 0.005	0.30	0.31	< 0.005	0.08	0.08	—	310	310	0.02	0.01	0.47	315

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	99.1	99.1	0.01	< 0.005	—	99.4
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	170	170	0.01	< 0.005	—	171
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	111	111	0.01	< 0.005	—	111
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	380	380	0.02	< 0.005	—	382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	99.1	99.1	0.01	< 0.005	—	99.4
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	170	170	0.01	< 0.005	—	171
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	111	111	0.01	< 0.005	—	111
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	380	380	0.02	< 0.005	—	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	16.4	16.4	< 0.005	< 0.005	—	16.5
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	18.3	18.3	< 0.005	< 0.005	—	18.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	63.0	63.0	< 0.005	< 0.005	—	63.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.4	91.4	0.01	< 0.005	—	91.6
Place of Worship	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	153
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.20	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	244	244	0.02	< 0.005	—	244

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.4	91.4	0.01	< 0.005	—	91.6
Place of Worship	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	153
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.20	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	244	244	0.02	< 0.005	—	244
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.2
Place of Worship	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.2	25.2	< 0.005	< 0.005	—	25.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.3	40.3	< 0.005	< 0.005	—	40.4

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	15.6	15.3	0.30	18.9	0.03	2.60	—	2.60	2.59	—	2.59	278	116	394	0.26	0.02	—	406
Consumer Products	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.13	0.01	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.62	3.62	< 0.005	< 0.005	—	3.63
Total	16.4	16.2	0.31	20.0	0.03	2.60	—	2.60	2.59	—	2.59	278	119	397	0.26	0.02	—	410
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	15.6	15.3	0.30	18.9	0.03	2.60	—	2.60	2.59	—	2.59	278	116	394	0.26	0.02	—	406
Consumer Products	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	16.3	16.0	0.30	18.9	0.03	2.60	—	2.60	2.59	—	2.59	278	116	394	0.26	0.02	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.64	0.63	0.01	0.77	< 0.005	0.11	—	0.11	0.11	—	0.11	10.3	4.31	14.6	0.01	< 0.005	—	15.1
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Total	0.78	0.77	0.01	0.87	< 0.005	0.11	—	0.11	0.11	—	0.11	10.3	4.60	14.9	0.01	< 0.005	—	15.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.67	22.2	22.9	0.07	< 0.005	—	25.1
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.71	5.72	6.42	0.07	< 0.005	—	8.76
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.38	27.9	29.3	0.14	< 0.005	—	33.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.67	22.2	22.9	0.07	< 0.005	—	25.1

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.71	5.72	6.42	0.07	< 0.005	—	8.76
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.38	27.9	29.3	0.14	< 0.005	—	33.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.11	3.67	3.78	0.01	< 0.005	—	4.16
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.12	0.95	1.06	0.01	< 0.005	—	1.45
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.23	4.62	4.85	0.02	< 0.005	—	5.61

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.58	0.00	3.58	0.36	0.00	—	12.5

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	36.1	0.00	36.1	3.61	0.00	—	126
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	39.7	0.00	39.7	3.97	0.00	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.58	0.00	3.58	0.36	0.00	—	12.5
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	36.1	0.00	36.1	3.61	0.00	—	126
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	39.7	0.00	39.7	3.97	0.00	—	139
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.07
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	5.98	0.00	5.98	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	6.58	0.00	6.58	0.66	0.00	—	23.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2025	7/14/2025	5.00	10.0	—
Grading	Grading	7/15/2025	8/11/2025	5.00	20.0	—
Building Construction	Building Construction	8/12/2025	6/29/2026	5.00	230	—
Paving	Paving	6/1/2026	6/26/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	6/4/2026	7/1/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	8.54	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	3.00	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.71	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT

Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	39,488	13,163	17,651	5,884	6,482

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	5.00	0.00	—
Grading	—	—	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	2.59

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.11	0%
Place of Worship	0.00	0%
Parking Lot	1.80	100%
Other Asphalt Surfaces	0.68	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	100	94.8	84.8	35,436	944	894	800	334,353
Place of Worship	106	106	424	55,221	1,011	1,011	4,042	526,937
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)

Single Family Housing	—
Wood Fireplaces	4
Gas Fireplaces	6
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	1
Non-Catalytic Wood Stoves	1
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
39487.5	13,163	17,651	5,884	6,482

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	61,413	589	0.0330	0.0040	285,169
Place of Worship	105,590	589	0.0330	0.0040	474,966

Parking Lot	68,685	589	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	589	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	351,331	2,139,372
Place of Worship	368,177	195,290
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	6.64	—
Place of Worship	67.1	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	16.8	annual days of extreme heat
Extreme Precipitation	5.30	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	14.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.3
AQ-PM	10.1
AQ-DPM	13.5
Drinking Water	49.7
Lead Risk Housing	14.7
Pesticides	63.0
Toxic Releases	10.5
Traffic	46.4
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	52.0

Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	90.1
Solid Waste	52.9
Sensitive Population	—
Asthma	20.7
Cardio-vascular	36.0
Low Birth Weights	35.0
Socioeconomic Factor Indicators	—
Education	36.9
Housing	11.6
Linguistic	42.1
Poverty	21.3
Unemployment	39.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	72.60361863
Employed	25.29192865
Median HI	71.97484922
Education	—
Bachelor's or higher	59.70742974
High school enrollment	10.76607212
Preschool enrollment	76.37623508
Transportation	—
Auto Access	87.47593995
Active commuting	9.778005903

Social	—
2-parent households	71.76953676
Voting	81.99666367
Neighborhood	—
Alcohol availability	88.41267804
Park access	29.93712306
Retail density	10.6249198
Supermarket access	15.55241884
Tree canopy	61.70922623
Housing	—
Homeownership	84.70422174
Housing habitability	86.97549083
Low-inc homeowner severe housing cost burden	75.54215321
Low-inc renter severe housing cost burden	77.31297318
Uncrowded housing	90.74810728
Health Outcomes	—
Insured adults	57.69280123
Arthritis	43.8
Asthma ER Admissions	82.5
High Blood Pressure	75.3
Cancer (excluding skin)	34.5
Asthma	61.7
Coronary Heart Disease	63.8
Chronic Obstructive Pulmonary Disease	53.7
Diagnosed Diabetes	67.4
Life Expectancy at Birth	55.4
Cognitively Disabled	39.7
Physically Disabled	78.7

Heart Attack ER Admissions	74.3
Mental Health Not Good	58.7
Chronic Kidney Disease	73.0
Obesity	64.9
Pedestrian Injuries	39.4
Physical Health Not Good	66.1
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	18.0
Current Smoker	60.5
No Leisure Time for Physical Activity	64.0
Climate Change Exposures	—
Wildfire Risk	59.0
SLR Inundation Area	0.0
Children	71.1
Elderly	42.0
English Speaking	62.5
Foreign-born	25.1
Outdoor Workers	51.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	90.5
Traffic Density	52.8
Traffic Access	23.0
Other Indices	—
Hardship	37.3
Other Decision Support	—
2016 Voting	82.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	24.0
Healthy Places Index Score for Project Location (b)	62.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	24.5 total acres w/ 10 single-family DUs on 4.2 acres & temple on 20.3 acres. Only ~2 acres of the 20.3 acres are to be developed for temple. Temple includes 6,221sf assembly, 813sf restrooms, & 4,733sf monk residence building for a total of 11,767sf. Based on project impervious area calcs for temple assumed ~1.8 ac for parking (with 72 parking spaces). Assumed ~15% (~0.3 ac or ~13,068 sf) of developed site for temple is to be landscaping. Per project area impervious area calcs for single-fam res (taking into consideration an approximate building footprint), on-site roadways assumed to be ~0.68 ac.
Construction: Construction Phases	Construction anticipated to begin early July 2025 and be complete by early July 2026 No demolition needed. Site anticipated to balance.
Construction: Off-Road Equipment	Site prep of only ~0.75 acres or ~12% of total disturbed acreage; therefore, reduced default construction equipment number.

Operations: Vehicle Data	Trip generation rates per Scoping Agreement of 10 trips/DU/weekday, 9.48 trips/DU/Saturday, & 8.48 trips/DU/Sunday for single-family residential and 9 trips/TSF/Weekday, 9 trips/TSF/Saturday, & 36 trips/TSF/Sunday for temple.

APPENDIX C

EMFAC DATA & CAP CONSISTENCY CHECKLIST

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: San Diego County APCD
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
San Diego County APCD	2025	HHDT	Aggregate	Aggregate	Gasoline	7.033691582	140.7301012	0	0.127142395	127.1423953	330857.5006	477.7265269	1965628.762	**5.94**	**HHDT**
San Diego County APCD	2025	HHDT	Aggregate	Aggregate	Diesel	15090.82986	226484.8998	0	315.9430507	315943.0507		1880530.877			
San Diego County APCD	2025	HHDT	Aggregate	Aggregate	Electricity	102.6559953	1358.118339	21173.04359	0	0		11480.72009			
San Diego County APCD	2025	HHDT	Aggregate	Aggregate	Natural Gas	1140.659532	7065.205246	0	14.78730755	14787.30755		73139.4388			
San Diego County APCD	2025	LDA	Aggregate	Aggregate	Gasoline	1163596.254	5402698.045	0	1619.328593	1619328.593	1652860.327	46599752.27	52068883.66	**31.50**	**LDA**
San Diego County APCD	2025	LDA	Aggregate	Aggregate	Diesel	5162.279972	21728.71347	0	3.852391775	3852.391775		154640.3509			
San Diego County APCD	2025	LDA	Aggregate	Aggregate	Electricity	71862.9683	356557.5327	1403024.913	0	0		3634002.546			
San Diego County APCD	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	35220.43208	145636.4867	262596.401	29.67934248	29679.34248		1680488.486			
San Diego County APCD	2025	LDT1	Aggregate	Aggregate	Gasoline	124744.8402	541305.6888	0	182.6902753	182690.2753	182883.7779	4295869.365	4320829.856	**23.63**	**LDT1**
San Diego County APCD	2025	LDT1	Aggregate	Aggregate	Diesel	55.09345602	154.4302365	0	0.034897891	34.89789073		785.5598347			
San Diego County APCD	2025	LDT1	Aggregate	Aggregate	Electricity	297.7872042	1445.409003	5483.437801	0	0		14202.76058			
San Diego County APCD	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	192.0900699	794.292439	1707.487207	0.158604684	158.6046841		9972.171201			
San Diego County APCD	2025	LDT2	Aggregate	Aggregate	Gasoline	557048.7736	2595042.569	0	973.1802547	973180.2547	979997.3921	22572000.61	23044891.9	**23.52**	**LDT2**
San Diego County APCD	2025	LDT2	Aggregate	Aggregate	Diesel	2113.282108	10026.40996	0	2.911661021	2911.661021		88769.84974			
San Diego County APCD	2025	LDT2	Aggregate	Aggregate	Electricity	3968.968637	20224.03865	58165.20614	0	0		150654.8495			
San Diego County APCD	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	4694.722502	19412.67755	38497.64337	3.905476369	3905.476369		233466.5831			
San Diego County APCD	2025	LHDT1	Aggregate	Aggregate	Gasoline	41448.06348	617514.3882	0	169.6785024	169678.5024	244161.5599	1670644.364	2902433.135	**11.89**	**LHDT1**
San Diego County APCD	2025	LHDT1	Aggregate	Aggregate	Diesel	30080.41385	378373.765	0	74.48305755	74483.05755		1202470.55			
San Diego County APCD	2025	LHDT1	Aggregate	Aggregate	Electricity	399.0752686	5579.210824	19080.59775	0	0		29318.22009			
San Diego County APCD	2025	LHDT2	Aggregate	Aggregate	Gasoline	5937.831977	88464.84909	0	26.54097829	26540.97829	63269.83936	231177.6845	732029.5692	**11.57**	**LHDT2**
San Diego County APCD	2025	LHDT2	Aggregate	Aggregate	Diesel	11919.52487	149932.628	0	36.72886108	36728.86108		493662.1828			
San Diego County APCD	2025	LHDT2	Aggregate	Aggregate	Electricity	103.0284867	1366.259336	4604.092935	0	0		7189.70188			
San Diego County APCD	2025	MCY	Aggregate	Aggregate	Gasoline	69656.62848	139313.257	0	10.86795731	10867.95731	10867.95731	425156.8058	425156.8058	**39.12**	**MCY**
San Diego County APCD	2025	MDV	Aggregate	Aggregate	Gasoline	332056.3528	1526242.735	0	690.8533817	690853.3817	703387.5846	13179760.11	13719278.9	**19.50**	**MDV**
San Diego County APCD	2025	MDV	Aggregate	Aggregate	Diesel	5727.051143	26509.81906	0	9.99375868	9993.75868		228362.4913			
San Diego County APCD	2025	MDV	Aggregate	Aggregate	Electricity	4296.125349	21882.65987	62897.49301	0	0		162912.0392			
San Diego County APCD	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	2943.229581	12170.25432	24127.00101	2.540444272	2540.444272		148244.2547			
San Diego County APCD	2025	MH	Aggregate	Aggregate	Gasoline	9552.961706	955.678289	0	19.98954525	19989.54525	24140.36478	88181.20735	127139.5404	**5.27**	**MH**
San Diego County APCD	2025	MH	Aggregate	Aggregate	Diesel	4060.707663	406.0707663	0	4.150819528	4150.819528		38958.33302			
San Diego County APCD	2025	MHDT	Aggregate	Aggregate	Gasoline	3413.785275	68303.01579	0	40.94711107	40947.11107	131529.808	196476.0298	972677.286	**7.40**	**MHDT**
San Diego County APCD	2025	MHDT	Aggregate	Aggregate	Diesel	17786.84546	206359.3853	0	88.59393965	88593.93965		752420.1333			
San Diego County APCD	2025	MHDT	Aggregate	Aggregate	Electricity	162.4972231	2102.442811	10323.26594	0	0		9323.889988			
San Diego County APCD	2025	MHDT	Aggregate	Aggregate	Natural Gas	332.0274424	3939.342103	0	1.988757248	1988.757248		14457.2329			
San Diego County APCD	2025	OBUS	Aggregate	Aggregate	Gasoline	1125.440188	22517.80728	0	11.20384251	11203.84251	18970.99522	54073.79901	108026.6773	**5.69**	**OBUS**
San Diego County APCD	2025	OBUS	Aggregate	Aggregate	Diesel	616.3950387	7916.939486	0	6.985140897	6985.140897		47739.06253			
San Diego County APCD	2025	OBUS	Aggregate	Aggregate	Electricity	5.45561073	109.1558595	590.2838669	0	0		532.1304253			
San Diego County APCD	2025	OBUS	Aggregate	Aggregate	Natural Gas	95.31022775	848.261027	0	0.782011812	782.0118117		5681.685306			
San Diego County APCD	2025	SBUS	Aggregate	Aggregate	Gasoline	272.4022615	1089.609046	0	1.576317931	1576.317931	7195.301208	15799.40207	61894.19743	**8.60**	**SBUS**
San Diego County APCD	2025	SBUS	Aggregate	Aggregate	Diesel	2123.719469	30751.45791	0	5.537353145	5537.353145		45117.86263			
San Diego County APCD	2025	SBUS	Aggregate	Aggregate	Electricity	15.74407402	200.1287897	515.2299047	0	0		489.0855481			
San Diego County APCD	2025	SBUS	Aggregate	Aggregate	Natural Gas	18.98534761	274.9078334	0	0.081630132	81.63013202		487.8471802			
San Diego County APCD	2025	UBUS	Aggregate	Aggregate	Gasoline	139.8797631	559.5190523	0	1.460164559	1460.164559	22624.61847	14033.31187	131004.4936	**5.79**	**UBUS**
San Diego County APCD	2025	UBUS	Aggregate	Aggregate	Electricity	31.98417083	127.9366833	6885.463998	0	0		3949.799069			
San Diego County APCD	2025	UBUS	Aggregate	Aggregate	Natural Gas	919.7023559	3678.809423	0	21.16445391	21164.45391		113021.3827			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: San Diego County APCD
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
San Diego County APCD	2026	HHDT	Aggregate	Aggregate	Gasoline	5.923215788	118.5117015	0	0.121183917	121.183917	329304.0192	471.7979167	1997073.521	**6.06**	**HHDT**
San Diego County APCD	2026	HHDT	Aggregate	Aggregate	Diesel	15402.40271	231586.7319	0	313.9943355	313994.3355		1900420.58			
San Diego County APCD	2026	HHDT	Aggregate	Aggregate	Electricity	177.6552236	2366.438972	37104.19931	0	0		20129.29208			
San Diego County APCD	2026	HHDT	Aggregate	Aggregate	Natural Gas	1194.431388	7369.031794	0	15.18849982	15188.49982		76051.85091			
San Diego County APCD	2026	LDA	Aggregate	Aggregate	Gasoline	1154344.525	5357573.558	0	1576.162134	1576162.134	1610094.738	46405189.07	52274428.49	**32.47**	**LDA**
San Diego County APCD	2026	LDA	Aggregate	Aggregate	Diesel	4624.090405	19453.95707	0	3.392232062	3392.232062		137704.4761			
San Diego County APCD	2026	LDA	Aggregate	Aggregate	Electricity	79088.74877	390704.1516	1528797.639	0	0		3959768.967			
San Diego County APCD	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	37511.09761	155108.3886	282109.0552	30.54037148	30540.37148		1771765.973			
San Diego County APCD	2026	LDT1	Aggregate	Aggregate	Gasoline	120689.6673	522818.8059	0	174.0089178	174008.9178	174241.0005	4165596.369	4196971.478	**24.09**	**LDT1**
San Diego County APCD	2026	LDT1	Aggregate	Aggregate	Diesel	47.21022735	130.1382447	0	0.029239376	29.23937561		661.8267208			
San Diego County APCD	2026	LDT1	Aggregate	Aggregate	Electricity	362.2428548	1769.408375	6829.108924	0	0		17688.20994			
San Diego County APCD	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	253.1616185	1046.823293	2259.110248	0.202843329	202.843329		13025.07197			
San Diego County APCD	2026	LDT2	Aggregate	Aggregate	Gasoline	558133.6387	2598280.056	0	953.8479898	953847.9898	961049.117	22684895.09	23223983.33	**24.17**	**LDT2**
San Diego County APCD	2026	LDT2	Aggregate	Aggregate	Diesel	2137.242008	10104.26388	0	2.86739711	2867.39711		89302.37718			
San Diego County APCD	2026	LDT2	Aggregate	Aggregate	Electricity	4914.986885	24925.42173	71395.89408	0	0		184923.9157			
San Diego County APCD	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	5389.573669	22285.88712	44336.48429	4.333730117	4333.730117		264861.9544			
San Diego County APCD	2026	LHDT1	Aggregate	Aggregate	Gasoline	40969.35777	610382.3864	0	166.7632494	166763.2494	241236.1741	1668595.534	2928915.021	**12.14**	**LHDT1**
San Diego County APCD	2026	LHDT1	Aggregate	Aggregate	Diesel	30005.00463	377425.2119	0	74.47292466	74472.92466		1206603.885			
San Diego County APCD	2026	LHDT1	Aggregate	Aggregate	Electricity	759.6153716	10620.16807	34959.22889	0	0		53715.6013			
San Diego County APCD	2026	LHDT2	Aggregate	Aggregate	Gasoline	5888.290606	87726.75648	0	26.10261352	26102.61352	63205.69969	230602.5247	746150.8594	**11.81**	**LHDT2**
San Diego County APCD	2026	LHDT2	Aggregate	Aggregate	Diesel	12121.36239	152471.4902	0	37.10308617	37103.08617		502331.0394			
San Diego County APCD	2026	LHDT2	Aggregate	Aggregate	Electricity	196.5499598	2607.310966	8464.808452	0	0		13217.2953			
San Diego County APCD	2026	MCY	Aggregate	Aggregate	Gasoline	69177.96924	138355.9385	0	10.71556647	10715.56647	10715.56647	421048.9173	421048.9173	**39.29**	**MCY**
San Diego County APCD	2026	MDV	Aggregate	Aggregate	Gasoline	330661.1077	1519572.593	0	674.1564028	674156.4028	686485.1917	13191745.09	13781014.46	**20.07**	**MDV**
San Diego County APCD	2026	MDV	Aggregate	Aggregate	Diesel	5610.07014	25815.36183	0	9.495145746	9495.145746		220738.3422			
San Diego County APCD	2026	MDV	Aggregate	Aggregate	Electricity	5287.646803	26801.72794	76699.86299	0	0		198661.8304			
San Diego County APCD	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	3399.579093	14057.25955	28190.05939	2.833643111	2833.643111		169869.197			
San Diego County APCD	2026	MH	Aggregate	Aggregate	Gasoline	9009.517777	901.3121584	0	18.97314179	18973.14179	23060.59699	83714.90427	122067.6918	**5.29**	**MH**
San Diego County APCD	2026	MH	Aggregate	Aggregate	Diesel	4022.10886	402.210886	0	4.0874552	4087.4552		38352.78758			
San Diego County APCD	2026	MHDT	Aggregate	Aggregate	Gasoline	3363.917199	67305.25532	0	40.47045424	40470.45424	130905.9184	196488.844	983152.843	**7.51**	**MHDT**
San Diego County APCD	2026	MHDT	Aggregate	Aggregate	Diesel	18054.21185	209689.9534	0	88.44139498	88441.39498		755338.7963			
San Diego County APCD	2026	MHDT	Aggregate	Aggregate	Electricity	297.6191445	3836.633585	18557.36442	0	0		16818.96984			
San Diego County APCD	2026	MHDT	Aggregate	Aggregate	Natural Gas	339.5977244	4024.856198	0	1.994069144	1994.069144		14506.23288			
San Diego County APCD	2026	OBUS	Aggregate	Aggregate	Gasoline	1081.924457	21647.14454	0	10.58360862	10583.60862	18306.39226	51596.61925	106192.3769	**5.80**	**OBUS**
San Diego County APCD	2026	OBUS	Aggregate	Aggregate	Diesel	634.4123044	8179.43113	0	6.957381025	6957.381025		48097.33988			
San Diego County APCD	2026	OBUS	Aggregate	Aggregate	Electricity	9.145274282	182.9786478	979.1186477	0	0		882.6580762			
San Diego County APCD	2026	OBUS	Aggregate	Aggregate	Natural Gas	97.0596912	863.8312517	0	0.765402617	765.4026165		5615.759665			
San Diego County APCD	2026	SBUS	Aggregate	Aggregate	Gasoline	271.997476	1087.989904	0	1.565681453	1565.681453	7122.670418	15865.4564	62061.41845	**8.71**	**SBUS**
San Diego County APCD	2026	SBUS	Aggregate	Aggregate	Diesel	2109.423455	30544.45163	0	5.470812604	5470.812604		44841.90373			
San Diego County APCD	2026	SBUS	Aggregate	Aggregate	Electricity	27.03712207	345.6795351	880.8997323	0	0		836.2001593			
San Diego County APCD	2026	SBUS	Aggregate	Aggregate	Natural Gas	20.29378535	293.8540119	0	0.086176361	86.17636118		517.8581623			
San Diego County APCD	2026	UBUS	Aggregate	Aggregate	Gasoline	144.5253001	578.1012003	0	1.49999257	1499.99257	22971.93107	14501.91041	135384.6472	**5.89**	**UBUS**
San Diego County APCD	2026	UBUS	Aggregate	Aggregate	Electricity	45.074371	180.297484	9716.204285	0	0		5573.633767			
San Diego County APCD	2026	UBUS	Aggregate	Aggregate	Natural Gas	938.4632901	3753.85316	0	21.4719385	21471.9385		115309.103			

Climate Action Plan Consistency Review Checklist

Project # PL23-0129 & -0130

Introduction

The City of Escondido ("City") adopted an updated Climate Action Plan ("CAP") on March 10, 2021 by Resolution No. 2021-37. The CAP outlines strategies and measures that the City will undertake to achieve its proportional share of State greenhouse gas ("GHG") emissions reduction targets. The CAP's strategies and measures are designed to reduce GHG emissions for build-out under the General Plan. The CAP does so by (1) calculating a baseline GHG emissions level as of 2012; and (2) estimating future GHG emissions under a business as usual standard; and (3) implementing state mandated GHG reduction targets. Measures to reduce GHG emissions for projects with land use consistent with the City's General Plan are found in the CAP.

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The purpose of the CAP Consistency Checklist ("Checklist") is to provide a streamlined review process for proposed development projects that trigger environmental review pursuant to the California Environmental Quality Act ("CEQA").

The City's CAP is a qualified GHG emissions reduction plan in accordance with State CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of a CAP. Projects that are consistent with the General Plan and implement applicable CAP GHG reduction measures may incorporate by reference the CAP's cumulative GHG analysis. Conversely, projects that are consistent with the General Plan, but do not implement CAP GHG reduction measures, as well as General Plan Amendments and Annexations that increase emissions beyond CAP projections — will require a project-level GHG analysis.

The purpose of this Checklist is to implement GHG reduction measures from the CAP and determine if development would demonstrate consistency with the CAP's assumptions for implementation. Projects that are consistent with the CAP, as determined through the use of this Checklist, may rely on the CAP for the cumulative impact analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions, incorporation of the measures in this Checklist to the extent applicable, and demonstration of consistency with a VMT threshold currently in development by the City. Cumulative GHG impacts could be significant for any project that is not consistent with the CAP.

This Checklist may be updated periodically to incorporate new GHG reduction techniques, include reference to or requirements of new ordinances adopted by the City, or to comply with later amendments to the CAP or local, State, or federal law. Comprehensive updates to this Checklist will be coordinated with each CAP update. Administrative updates to the Checklist may occur regularly, as necessary for the

purpose of keeping the Checklist up-to-date and implementable. Updates to the CAP Checklist associated with an update to the City's CAP would require City Council approval and shall comply with CEQA.

Applicability and Procedures

This Checklist is required only for discretionary projects[1] that are subject to and not exempt from CEQA. Projects that are exempt from CEQA are deemed to be consistent with the City's CAP, and no further review is necessary, with the exception of a Class 32 "In-Fill Development Projects" categorical exemption (State CEQA Guidelines Section 15332), for which projects are required to demonstrate consistency with the CAP through this Checklist.

General procedures for Checklist compliance and review are described below. Specific guidance is also provided under each of the questions under Steps 1 and 2 of the Checklist.

- The City's Community Development Department reviews development applications relative to environmental review requirements under Article 47 of the Escondido Zoning Code. These environmental quality regulations implement CEQA and State CEQA Guidelines by applying the provisions and procedures contained in CEQA to development projects proposed within the City.

- The project proponent or applicant must demonstrate if the project request is CAP compliant to the satisfaction of the Director of Community Development. In doing so, the project proponent or applicant must provide written documentation to demonstrate the applicability of the Checklist; and provide substantial evidence that demonstrates how the proposed project would implement each applicable Checklist requirement described herein.

- If a question in the Checklist is deemed not applicable (N/A) to a project, written documentation and substantial evidence supporting that conclusion shall be provided to the satisfaction of the Director of Community Development.

- Development projects requiring discretionary review that cannot demonstrate consistency with the CAP using this Checklist shall prepare a separate, project-level GHG analysis as part of the CEQA document prepared for the project and may be required to prepare an Environment Impact Report ("EIR").

- The specific applicable requirements outlined in the Checklist shall be required as conditions of project approval for CAP compliant projects with streamlined GHG emissions assessments.

[1] In this context, a project is any action that meets the definition of a "Project" in Section 15378 of the State CEQA Guidelines.

Application Information

Contact Information

Project No. and Name: PL23-0129 & -0130 ISKCON Temple and Residential

Property Address and APN: 1315 & 1365 Rincon Ave, Escondido CA 92026 APN:224-100-84; 224-100-85

Applicant Name and Co.: Dhiru Tantod 10707 El Caballo Ave San Diego, CA 92127

Contact Phone: 858-344-0832 | 858-272-7711 Contact Email: dtantod@yahoo.com

Was a consultant retained to complete this checklist? ☒ Yes ☐ No
If Yes, complete the following:

Consultant Name: Raab Rydeen Contact Phone: 619-326-6017

Company Name: REC Consultants, Inc Contact Email: raab@rec-consultants.com

Project Information

1. What is the size of the project site (acres)? 20.33 Acres

2. Identify all applicable proposed land uses:

- ■ Residential (indicate # of single-family dwelling units): 4.21 acre; 10 units
- ☐ Residential (indicate # of multi-family dwelling units):
- ☐ Commercial (indicate total square footage):
- ☐ Industrial (indicate total square footage):
- ■ Other (describe use and indicate size): Temple 20.33ac total; 2 ac developed for temple

3. Provide a description of the project proposed. This description should match the basic project description used for the CEQA document. The description may be attached to the Checklist if there are space constraints.

The project consists of splitting the parcel into 10 lots for single family residential dwellings with drive way access, and access road cul-de-sac. The remaining lot is being proposed as a religious temple hall with living areas, patio, detached restrooms, parking lot, and driveway.

Step 1: Land Use Consistency

The first step in this section evaluates a project's GHG emissions consistent with the City's *Guidance to Demonstrating Consistency with the City of Escondido Climate Action Plan for Discretionary Projects Subject to CEQA* (Guidance Document). A summary of the process for determining the required level of analysis for these projects is provided in Figure 1, "Require Level of Analysis Flowchart," provided in the Guidance Document.

The CAP contains in-City GHG projections for 2020, 2030, and 2035. Measures to reduce GHG emissions for projects with land use consistent with the General Plan are found in the CAP. If any one of these calculations is erroneous, the CAP fails to accomplish this purpose. Therefore, the first step of this checklist is to determine if the project's anticipated growth would have been included in the CAP's business-as-usual land use and activity projections. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP. Projects that are consistent with the General Plan may incorporate by reference the CAP's cumulative GHG analysis.

For projects that are determined to be consistent with CAP projections, the next step is to identify if the project would be estimated to emit fewer than 500 metric tons of carbon dioxide equivalent ($MTCO_2e$) annually. If found to emit fewer than 500 $MTCO_2e$, a project would not contribute considerably to cumulative climate change impacts as stated in the City's Guidance Document. Therefore, these projects would be considered consistent with the CAP.

Additionally, at the time of this CAP Checklist preparation, the City is in the process of developing screening thresholds for vehicle miles traveled (VMT) consistent with State legislation. . Thus, projects that would be below both the GHG and VMT screening level thresholds would not be anticipated to result in cumulative GHG impacts and conflict with the City's ability to achieve its GHG reduction targets.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide an explanation and supporting documentation for your answer)	**Yes**	**No**
1. Is the proposed project consistent with the City's existing General Plan land use designation? If **"Yes"**, proceed to Question 3 of Step 1. If **"No"**, proceed to Question 2 of Step 1.	☑	☐
2. If the proposed project is not consistent with the existing General Plan land use designation, does the project include a General Plan Amendment that would generate GHG emissions equal to or less than estimated emissions generated under the existing designation? If **"Yes",** provide estimated project emissions under both existing and proposed designation(s) for comparison and proceed to Question 3 of Step 1. If **"No",** the project's GHG impact is potentially significant, and a GHG analysis must be prepared in accordance with the City's Guidance Document and applicable CEQA Guidelines. The project would not be eligible for GHG streamlining provisions of the CAP. The project must incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless a measure is determined to be infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete a project specific GHG analysis, and Step 2 of the Checklist.	☐	☐
3. The size and type of projects listed below would emit fewer than 500 $MTCO_2e$ per year. Based on this threshold, does the proposed project exceed these characteristics? ▪ Single-Family Housing[2]: 36 dwelling units ▪ Multi-Family Housing: 55 dwelling units ▪ Office: 43,000 square feet ▪ Commercial Space: 20,000 square feet ▪ Regional Shopping Center: 18,000 square feet ▪ Restaurant: 6,500 square feet ▪ General Light Industrial: 58,000 square feet ▪ Warehouse (Unrefrigerated): 233,000 square feet ▪ Warehouse (Refrigerated): 62,000 square feet ▪ Mixed-Use: See the City's Guidance Document[3] for methods to estimate mixed-use development thresholds ▪ Other: For project types not listed in this section the need for GHG analysis and mitigation will be made on a project-specific basis, considering the 500 $MTCO_2e$ per year screening threshold. If **"Yes",** proceed to Step 2. If **"No",** in accordance with the City's CAP screening criteria, the project's GHG impact is less than significant and is not subject to the measures of the CAP.	☐	☑

[2] Single-Family Housing developments are defined as single-family detached homes on individual lots. All other residential use types (e.g. single-family attached, condo/townhouse, apartment) should be considered "Multi-Family Housing" for the purposes of comparing a project to the screening thresholds.

[3] *Guidance for Demonstrating Consistency with the City of Escondido Climate Action Plan for discretionary Projects Subject to CEQA*, available at https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/Final/Escondido_ThresholdsMemoFinal3.10.2021.pdf

Step 2: CAP Measures Consistency

The second step of CAP consistency review is to evaluate a project's consistency with the applicable strategies and measures of the CAP. Each Checklist item is associated with specific GHG reduction measures in the City's CAP.

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
Parking and Transportation Demand Management			
1. Electric Vehicle Charging Stations (Measures T-1.3 & T-1.4) All Projects: Will the project install electric vehicle charging stations (EVCSs) consistent with the following requirements: • Comply with the most recently updated version of the California Building Energy Efficiency Standards (Title 24, Part 6)? • For multi-family residential and commercial (i.e. office and retail commercial) projects, will the project install electric vehicle charging stations at a minimum of 10 percent of the total parking spaces provided? • For single-family residential projects, will the project install at least one EVCS in each new single-family home? Check "N/A" only if the project is not proposing any parking; or if the project does not propose any construction activities.	☑	☐	☐
Please substantiate how the project satisfies question 1: The project will provide a minimum of 4 EV stalls. The project has 72 stalls, the building code requires 4EV stalls.			
2. Pedestrian Infrastructure (Measure T-3.2) All Projects: If the following conditions are met, would the project pay its fair-share contribution or fully install pedestrian infrastructure improvements? ☑ The project frontage is located along a roadway for which pedestrian improvements are identified in the City's Street Design Manual, Pedestrian Master Plan, Trail Master Plan, or Safe Routes to School and Transit Plans; ☑ The proposed project would include site design amenities with pedestrian access points from the existing, identified roadway; and, ☑ The identified pedestrian improvements have not yet been installed. Or if they have been installed, the infrastructure is being redesigned, upgraded, and/or maintained to promote universal access. Check "N/A" only if the project does not propose any construction activities.	☑	☐	☐

Please substantiate how the project satisfies question 2:

The project will constructing a sidewalk along Rincon Ave for the existing sidewalk to the west of the site along with a pedestrian access sidewalk to the temple.

3. Transportation Demand Management and Transit (Measures T-3.4 and T-3.6) Single-Family Projects: N/A Multi-Family Residential Projects: If the project is located in the Downtown Specific Plan area and is proposing a reduction in over 15 percent of the required amount of on-site vehicular parking, would the project implement the following policies or programs? • The project would provide six-month transit passes to new residents; • The project establishes strong connections in site design to promote convenient access and transit orientation; and, • The project would monitor transit use by new residents for the first six months of project operations. Non-Residential Projects: If the project is located within the Downtown Specific Plan, South Centre City Specific Plan, or East Valley Parkway Specific Plan, will the project implement Transportation Demand Management (TDM) program that includes, at a minimum: • "End-of-trip" facilities for bicycle commuters (e.g. bicycle parking spaces, showers, lockers); • Discounted monthly North County Transit District (NCTD) passes or transit subsidies; • Informational material (provided to each employee or tenant) for carpool and vanpool ride-matching services; and • Parking cash-out policies. Check "N/A" only if the project is a single-family residential project; if the project is multi-family or non-residential but not located within the aforementioned specific plans; or if the project does not propose any construction activities..	☐	☐	☑

Please substantiate how the project satisfies question 3:

N/A

4. Bicycle Infrastructure (Measure T-3.5) All Projects: If the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements? ☐ Intersection or roadway improvements are proposed as part of the project; and ☐ The City's Bicycle Master Plan for identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be impacted as part of the project. Check "N/A" if the intersection or roadway improvements required are fully in place to the satisfaction of the Director of Community Development; or if the project does not propose any construction activities.	☑	☐	☐

Please substantiate how the project satisfies question 4:

The project has 72 stalls, and will provide temporary bicycle parking for 5% of the stalls, which is 4 bicycle stalls.

Building Energy Use and Efficiency

5. Alternatively Fueled Water Heaters (Measures E-4.1 and E-4.2) Residential Projects: If the project is a new single-family or multi-family residential development, will the project install electric heat pump water heaters? Non-Residential Projects: If the project is non-residential, will the project install electric heat pump water heaters? Check "N/A" only if the project is non-residential and has an alteration and addition with a permit value of $200,000 or less; or if the project does not propose any construction activities.	☑	☐	☐

Please substantiate how the project satisfies question 5:

The project will use electric water heaters

6. Electric Cooking Appliances (Measure E-4.2) Single-Family Residential Projects: N/A Multi-Family Residential Projects: If the project is a new multi-family residential development, will the project install only electric cooking appliances? Non-Residential Projects: N/A Check "N/A" only if the project is a single-family residential or non-residential project, or if the project does not propose any construction activities.	☐	☐	☑

Please substantiate how the project satisfies question 6:

The project consists of a religious temple and single family residences.

7. Zero Net Energy (Measure E-5.2) Residential Projects: N/A Commercial Projects: If the project is a new commercial retail or office development, would the project achieve zero net energy (i.e. the total amount of energy used on-site is equal to the amount of renewable energy created on-site) and comply with the most recently updated California Building Energy Efficiency Standards (Title 24, Part 6)? Check "N/A" only if the project is a residential or project, or if the project does not propose any construction activities.	☑	☐	☐

Please substantiate how the project satisfies question 7:

The project will comply with the most recent efficiency standards.

Landscaping and Land Conservation

8. Landscape Water Consumption (Measure W-6.2) Single-Family Residential Projects: If the project is proposing a single-family or townhome model home development, would the project: • Fully equip all model homes with greywater systems and rain barrels (or other rainwater capture systems); and, • Offer greywater systems and rain barrels (or other rainwater capture systems) as an add-on option for new homes. Non-Residential Projects: N/A Check "N/A" if the project is not a single-family or townhome model home development; or if the project does not propose any construction activities.	☑	☐	☐

Please substantiate how the project satisfies question 8:

The project proposes rain barrels.

9. Tree Planting (Measure C-9.1) All Projects: Would the project plant trees consistent with the following requirements? • Would the project plant a minimum of one tree for every four new parking spaces and/or demonstrate 50% canopy coverage in parking areas? Residential Projects: In addition to the planting requirements above for all projects, would the project be consistent with the following requirement? • Would the project plant a minimum of one tree per dwelling unit or pay an in-lieu fee? Check "N/A" only if the project is not proposing any landscaping; or if the City's landscape ordinance would not apply to the project.	☑	☐	☐

Please substantiate how the project satisfies question 9:

The project is currently a Krishna farm, farming is a big part of the religious practice of the faith. The trees planted will exceed this requirement of 10% of the overall property being developed for the Temple. The rest of the property will be used for agriculture.

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APPENDIX B

Biological Assessment Report
Results for Protocol Surveys for Coastal California Gnatcatcher

Biological Assessment Report

ISKCON Cultural Center

Escondido, California

APNs: 224-100-84, APN 224-100-85

Prepared for:

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October 10, 2023

REVISED February 10, 2025

BBI
BLOOM BIOLOGICAL INC.
research | consulting | conservation

ABOUT BLOOM BIOLOGICAL, INC,

For more than 45 years, Bloom Biological, Inc. (BBI) has provided biological consulting services for large and small clients. Our resume of services includes raptor and endangered species research, biological monitoring, impact assessment, permitting, conservation planning and geospatial analysis. Our innovative approach has provided solutions to complex problems for clients and projects throughout a range of industries including alternative energy, residential development, and the public sector. Collectively, the management and staff of BBI hold permits or memoranda of understanding for participating in the conservation and recovery of more than a dozen endangered or threatened species, as well as several other special-status species, in California and the western United States. Over the years, BBI has established an impeccable relationship with the resource agencies, project proponents, and environmental organizations by skillfully balancing the needs and objectives of land planning, resource conservation, and the public interest. In addition to our work in California and the western United States, BBI biologists have worked in Alaska, Central and South America, Europe, Southern Asia, and the western Pacific. BBI is a certified Small Business Enterprise and Woman-owned Business Enterprise.

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1.0 EXECUTIVE SUMMARY

Bloom Biological, Inc. (BBI) was retained by Phil Martin & Associates in June of 2023 to conduct a Biological Assessment of the proposed ISKCON Cultural Center project for ISKCON of Escondido, Inc., located at 1315 and 1356 Rincon Ave, Escondido, California 92026 [APN 224-100-84 (4.2 acres) and APN 224-100-85 (20.33 acres)]. The Project proposes to construct a temple and ten (10) single-family residences on the subject property. The development will comprise 7.30 acres of the 24.53 acres within the subject parcels. An existing single-family residence, live-stock corral and shelter, garden, and outbuildings are present within the larger of the two parcels (224-100-85). There is no existing development within the smaller parcel (224-100-84). This Biological Assessment is prepared in order to summarize the biological data for the proposed project, document the project's potential biological impacts, and provide recommendations for reducing, avoiding, and/or mitigating those potential impacts.

The project was assessed for the presence/absence of several species designated as Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW), threatened or endangered under the California Endangered Species Act (CESA) or federal Endangered Species Act (ESA), or protected by city or county ordinance. The presence/absence and the potential for the following species to occur onsite was assessed through literature review and field survey: Coastal California Gnatcatcher (*Polioptila californica californica*), Least Bell's Vireo (*Vireo bellii pusillus*), Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), orange-throated whiptail (*Aspidoscelis hyperythra*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Ramona horkelia (*Horkelia truncata*), and mature and protected trees.

A biological survey of the property was conducted on 6 July 2023 with the primary purpose of inventorying all biological resources present and analyzing potential project related impacts. Additional protocol-level surveys for Coastal California Gnatcatcher were conducted from 15 August through 18 December 2023. Field surveys followed the requirements provided in the applicable species-specific protocol developed by the U.S. Fish and Wildlife Service (USFWS 1997).

The subject property is comprised of four vegetation communities: coastal sagescrub, non-native grassland, Engelmann oak woodland, and avocado orchard. The dominant vegetation community within the area proposed for development is non-native grassland. There are 20 mature trees within the project impact area which are proposed for removal, which consist of non-native eucalyptus and pines. Additionally, 1.94 acres of coastal sagescrub and 5.09 acres of non-native grassland fall within the project impact area and will be removed as a result of the project. Coastal whiptail and orange-throated whiptail have a moderate potential to occur within the project impact area.

Recommendations for reducing, avoiding, and/or mitigating potential project impacts to vegetation communities, mature trees, coastal and orange-throated whiptails, nesting birds, and water resources are provided in Section 5.0 of this document. Recommendations for reducing or avoiding potential impacts to offsite water resources via runoff into the storm drain network involves implementation of stormwater Best Management Practices.

2.0 PROJECT OVERVIEW

2.1 Project Location

The proposed project is located at 1315 and 1356 Rincon Ave., in Escondido, California on two parcels [APN 224-100-84 (4.2 acres) and APN 224-100-85 (20.33 acres)], consisting of 24.53-acres. The property is bordered by Rincon Ave. and a plant nursery to the north, existing residential subdivisions to the south and west, an avocado orchard and vacant land to the east, and vacant land to the southwest. The project is in northwestern San Diego County, Valley Center USGS 7.5-minute quadrangle, in Township 12 south and Range 2 west. The City of Escondido is accessible via Interstate 15 (I-15) and State Route 78 (SR-78). Photographs of the project site taken during the 2023 biological surveys are provided in Appendix A. Figure 1 shows the location of the Project relative to the state and county.

Figure 1. Location of the Project Relative to the State (Left) and County (Right).

2.2 Project Description

The roughly 25-acre project site is vacant, except for a single-family detached residence and foundations of a shed and other outbuildings close to the residence that are located in the north central area of the site. The project applicant proposes to demolish the existing outbuilding foundations and build 10 single-family detached residential units on approximately 4.2-acres of the 25-acre site adjacent to and south of Rincon Avenue. The residential lots range from 0.31 acres up to 0.63 acres in size. The project proposes the construction of market rate homes on 8 of the 10 lots with two of the lots proposed for low- and moderate-income households.

The project also includes the proposed development of a 6,500 square foot Krishna Temple, an adjacent 5,413 square foot residence associated with the Krishna Temple and a 964 square foot restroom/change room/janitor closet. The Temple/residence/restroom buildings are approximately 80 feet east of the proposed residential development and adjacent to and south of Rincon Avenue. The project proposes 88 parking spaces for the Krishna Temple and meets the number of parking spaces required for the project by the City of Escondido parking code. Each proposed residential unit would provide 2 parking spaces for a total of 20 parking spaces.

The project proposes to construct a 56-foot-wide and 600-foot-long private cul de sac that would extend south from Rincon Avenue and serve the single-family homes. All utilities, including sewer, water, natural gas, electricity, and telecommunication facilities that would serve the residential units would be constructed within the easement of the private on-site cul de sac. Access to the Temple would be provided by a second on-site private road that would be 60 feet-wide and extend approximately 100 feet onto the site south from Rincon Avenue. Both on-site private streets would be paved. All utilities, including water, sewer, storm drain, natural gas, and telecommunication facilities would be constructed within the easement of the road that provides access to the Temple. Grading on the site would be balanced with 30,000 cubic yards of cut and 30,000 cubic yards of fill.

The project is scheduled to start construction in the first quarter of 2024 and be completed in the first quarter of 2025.

2.3 Site History

Within the property there is an existing single-family residence, livestock pens and enclosures, and a garden area. The majority of the property is undeveloped and contains areas experiencing routine weed abatement as well as relatively undisturbed native vegetation. A review of Google Earth imagery indicates that the single-family residence has been present since at least 1995, the garden to the south of the residence was installed between 2010 and 2012, and the livestock area to the east was constructed in 2013. Figure 2 shows the site and surrounding lands in 1995 in relatively the same condition as it is today, with the exception of the housing developments now present to the south and southwest of the property (Figure 3).

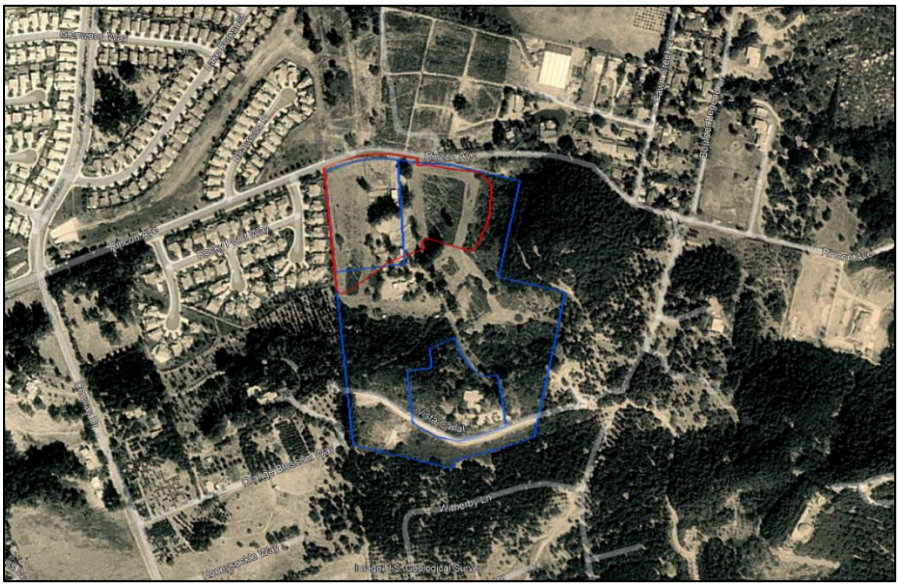

Figure 2. Historic Aerial Imagery of the Project Site (Google Earth, October 1995). Property boundary shown in blue and project area shown in red.

Figure 3. Recent Aerial Imagery of the Project Site (Google Earth, May 2023). Property boundary shown in blue and project area shown in red.

2.4 Topography

The property slopes toward Rincon Ave to the north, with elevations ranging from approximately 760 to 940 ft (231 to 287 m) above mean sea level (amsl). There is a ridgeline between 920 to 940 ft (280 to 286 m) amsl that borders the property along the eastern edge and intersects the property in the southern region. The proposed project area in the northern portion of the property is gently sloping towards the north and northwest with elevations ranging between 760 and 800 ft (232 to 244 m) amsl.

2.5 Soil Types

Soils present onsite and in the immediate vicinity include Visalia sandy loam with 0 to 2 percent slopes, Ramona sandy loam with 9 to 15 percent slopes and eroded, Vista coarse sandy loam with 15 to 30 percent slopes and MLRA 20, Cieneba rocky coarse sandy loam with 9 to 30 percent slopes and eroded, and Cieneba-Rock outcrop complex with 30 to 75 percent slopes and very stony (NRCS 2022) (Appendix C).

Visalia soils are well drained and typically used as irrigated farmland. The Ramona series consists of well-drained soils with slow to rapid runoff and moderately slow permeability, frequently used for production of crops and in undeveloped areas is dominated by annual grasses, forbs, chamise, or chaparral. Vista soils are coarse-loamy, mixed, super active, and thermic with good drainage, slow to rapid runoff, and moderately rapid permeability. This soil is common beneath irrigation of avocados and citrus and natural vegetation includes annual grasses and forbs including California sagebrush, scrub oak, lilac, chamise, sumac, and flattop buckwheat. Cieneba soils are made from weathered granitic rock and are somewhat excessively drained with low to high runoff and moderately rapid permeability. Vegetation in Cieneba soils consists mainly of chaparral and chamise with widely spread foothill pines or oak trees (Soil Survey Staff 2023).

2.6 Land Use & Surrounding Development

The 24.53-acre project site is primarily vacant/undeveloped, except for a single-family detached residence and foundations of a shed and other outbuildings near the middle of the site located on APN 224-100-73-00. The City of Escondido General Plan land use designation for the 24.53-acre site is Estate II (E-2), which is an estate residential designation. The project site has estate residential (R-E-20) zoning designation. Existing residential subdivisions are present to the northwest, west, southwest, and south of the project. Agricultural fields and buildings are located to the north of the project site across Rincon Ave. and an avocado orchard is immediately adjacent to the east. The majority of the areas surrounding the project consist of single-family residences. Daley Ranch open space begins 0.3 miles to the east and extends approximately 3 miles east to Valley Center Rd, 3 miles north, and 2 miles south.

3.0 BIOLOGICAL SITE ASSESSMENT METHODS

3.1 Literature and Database Review

Prior to performing the biological inventory of the site, a review of all pertinent literature was conducted, and the CDFW California Natural Diversity Database (CNDDB) and USFWS Information for Planning and Consultation (IPaC) were queried for the presence of sensitive species and habitats and to compile all relevant information pertaining to wetland and riparian resources. For the purpose of this report, sensitive species and habitats include rare, threatened, or endangered species that are designated or are candidates for listing under State or Federal Law, California Native Plant Society (CNPS) “1B” or “2” listed species, those species identified as state “fully protected species” or “species of special concern”, and any other species for which there is compelling evidence of rarity. The literature and database review for sensitive species and habitats was conducted for the following USGS quadrants: Valley Center (3311721), San Marcos (3311722), Rodriquez Mtn (3311628), Bonsall (3311732), Pala (3311731), Boucher Hill (3311638), Rancho Santa Fe (3311712), Escondido (3311711), and San Pasqual (3311618) (CDFW 2023). These results were refined to include only observations within 2-miles of the project site. The USFWS National

Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD) were reviewed to compile all relevant information pertaining to wetland and riparian features in the vicinity of the project site (USFWS 2009, USGS 2023).

The potential for sensitive species to occur within the project site was evaluated based on the criteria provided in Table 1, with the exception of Coastal California Gnatcatcher for which protocol-level surveys are currently being conducted.

Table 1. Criteria for Evaluating Potential for Special Status Species Occurrence

Potential for Occurrence	Criteria
Not Expected	Species is restricted to habitats or conditions that do not occur on site.
Low Potential	Historical records for this species do not exist within close proximity to the site, and/or habitats or conditions needed to support the species are of poor quality.
Moderate Potential	Either historical records exist for the species in close proximity and marginal habitat exists on site or habitat requirements or conditions associated with the species occur onsite, but no historical records exist in close proximity.
High Potential	Both historical record exists of the species in close proximity and habitat requirements and conditions associated with the species occur onsite.
Present	Species was detected in or near the project site during the biological surveys.

3.2 Biological Surveys

BBI biologist Rainey Barton conducted a biological survey of the project site on 6 July 2023, from approximately 0800 to 1330 hours to inventory all biological resources and assess the project site for the potential special status species to occur. The entire project site and all areas within 500 ft were walked, pausing frequently to listen, observe, and document all species, species sign, vegetation communities, and habitats in detail. The site was assessed for the presence of the sensitive species provided in Table 2, as well as mature and protected trees, through a combination of literature review and site surveys.

Table 2. Special-Status Species & Occurrence Potential

Scientific Name **Common Name**	**Status**			**Occurrence Potential**
	Federal Status	**State Status**	**CDFW Status/Rare Plant Rank**	
Polioptila californica californica Coastal California Gnatcatcher	Threatened	None	SSC	Not Expected in Project Area Not Expected on Property
Vireo bellii pusillus Least Bell's Vireo	Endangered	Endangered	N/A	Not Expected in Project Area Not Expected on Property
Aspidoscelis tigris stejnegeri Coastal whiptail	None	None	SSC	Moderate Potential in Project Area Moderate Potential on Property
Aspidoscelis hyperythra Orange-throated whiptail	None	None	SSC	Moderate Potential in Project Area Moderate Potential on Property
Aimophila ruficeps canescens Southern California Rufous-crowned Sparrow	None	None	WL	Low Potential in Project Area Low Potential on Property
Comarostaphylis diversifolia ssp. *diversifolia* Summer holly	None	None	1B.2	Not Expected in Project Area Low Potential on Property
Horkelia truncata Ramona horkelia	None	None	1B.3	Not Expected in Project Area Not Expected on Property

3.2.1 Coastal California Gnatcatcher

A total of nine (9) presence/absence Coastal California Gnatcatcher surveys were conducted by Dana Kamada (Permit # TE-799568-9) and Karly Moore (Permit # TE-02484A-3) in accordance with service protocol for non-NCCP areas (Service 1997). All potential Coastal California Gnatcatcher habitat within the Survey Area was surveyed during the non-breeding season (July 1 to March 14) with at least two weeks between survey visits. The biologist surveyed no more than 24.5 acres per day. The surveys were conducted during the morning hours between 6:00 a.m. and 11:30 p.m. Biologists slowly walked through the survey area, pausing frequently to play Coastal California Gnatcatcher vocalizations from Merlin Bid ID© broadcast from a portable speaker within suitable habitat, the objective being to elicit a response from silent individuals that might not otherwise be detected.

Weather conditions and time of day were appropriate for maximizing the likelihood of Coastal California Gnatcatcher detection and are presented in Table 1. Temperatures ranged from 53 to 81° F.

Table 3. Field Dates, Times, and Weather Conditions

Date	Time	Weather	Biologists
08/15/2023	0730-0950h	Start: 67° F, 100% cloud cover, Calm End: 80° F, 0% cloud cover, Wind 1-3.5 mph Fog in the early morning, cleared by 0800h	Karly Moore
08/31/2023	0630-1030h	Start: 66° F, 0% cloud cover, Calm End: 81° F, 0% cloud cover, Wind 1 mph Haze	Dana Kamada
9/14/2023	0700-1100h	Start: 64° F, 100% cloud cover, Calm End: 70° F, 100% cloud cover, Wind 0-1 mph Patchy fog; Overcast	Dana Kamada
09/28/2023	0800-1130h	Start: 68° F, 100% cloud cover, Calm End: 72° F, 10% cloud cover, Wind 1.7 mph Patch fog; Overcast	Dana Kamada
10/18/2023	0630-1030h	Start: 61° F, 0% cloud cover, Calm End: 77° F, 0% cloud cover, Wind 1.7 mph Clear	Dana Kamada
11/03/2023	0650-1040h	Start: 53° F, 0% cloud cover, Calm End: 75° F, 0% cloud cover, Wind 0.4 mph Clear	Dana Kamada
11/20/2023	0715-1045h	Start: 52° F, 0% cloud cover, Calm End: 69° F, 0% cloud cover, Wind 1.3 mph Clear	Dana Kamada
12/04/2023	0710-1040h	Start: 56° F, 40% cloud cover, Calm End: 67° F, 25% cloud cover, Wind 1 mph Clear	Dana Kamada
12/18/2023	0700-1055h	Start: 57° F, 80% cloud cover, Calm End: 68° F, 85% cloud cover, Wind 1 mph Clear	Dana Kamada

3.2.2 Mature & Protected Trees

The project site was assessed for the presence of mature and protected trees. The City of Escondido considers a "mature tree" to be any self-supporting woody perennial plant, native or ornamental, with a single well-defined stem or multiple stems supporting a crown of branches. The single stem, or one of the multiple stems of any mature oak tree (*Quercus* sp.), shall have a diameter of 4 inches or greater when measured at 4.5 feet at breast height (DBH) above the tree's natural grade. All other mature trees shall have a DBH of 8 inches, or greater, for a single stem or one of the multiple stems. A "protected tree" is defined as any oak that has a 10-inch or greater DBH, or any other tree species or individual specimen listed on the historic register or is determined to substantially contribute to the historic character of a property or structure listed on the local register, pursuant to Article 40 of the Escondido Zoning Code. The project impact area was evaluated from the presence of mature and/or protected trees.

3.2.3 Jurisdictional Waters/Wetlands Investigation

Although a formal wetlands delineation was not conducted during the field survey, the project site was evaluated for the potential to support jurisdictional waters regulated under the federal Clean Water Act, California Fish and Game Code, and Porter-Cologne Water Quality Act. This included a field survey of the project site and a review of the USFWS NWI and the USGS NHD.

4.0 RESULTS

Weather conditions during the general biological survey on 6 July 2023 consisted of clear skies, no wind, temperatures between 97° to 93°F and some moisture was present on the ground and vegetation from overnight fog. Photographs taken during the survey are provided in Appendix A.

4.1 Flora

The results of the botanical survey detected 38 species of plants present within the property (Appendix D). Vegetation communities present onsite include coastal sagescrub (both intact and disturbed), Engelmann oak woodland, and non-native grassland (Table 3). Disturbance onsite varies, with higher disturbance in the northern region of the property and surrounding the existing residences, structures, and livestock area. The eastern and southern regions of the property contain relatively intact plant communities which have only experienced slight disturbances. All vegetation types present onsite are provided in Table 4 and a map of vegetation communities is provided in Appendix E.

Table 4. Vegetation Types within the Property & Project Area

Vegetation Type	Total Property Area (acres)
Coastal Sagescrub	7.81
Disturbed Coastal Sagescrub	2.29
Engelmann Oak Woodland	3.61
Non-native Grassland	6.99
Avocado Orchard	0.54
Developed/disturbed	3.29
Total	**24.53**

4.1.1 Coastal Sagescrub

Coastal sagescrub is present primarily along the eastern boundary and southern region of the property (7.81 acres). A small portion of intact coastal sagescrub occurs within the project impact area (0.60 acres) and additional areas of disturbed coastal sagescrub are present within the project impact area (1.34 acres). The disturbed areas have

experienced clearing for fire suppression. This community primarily consists of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*).

4.1.2 Engelmann Oak Woodland

A dense Engelmann oak woodland (3.61 acres) is present on the north facing slope of the property to the south of the project impact area. This woodland primarily consists of mature Engelmann oaks and scrub oaks (*Quercus berberidifolia*) with some coast live oaks (*Quercus agrifolia*). The understory within the woodland is dominated by spiny redberry (*Rhamnus crocea*), monkey flower (*Mimulus* sp.) and poison oak (*Toxicodendron diversilobum*).

4.1.3 Non-native Grassland

Non-native grassland comprises 6.99 acres of the property consisting primarily of wild oat (*Avena fatua*), brome (*Bromus* spp.), and short-pod mustard (*Hirschfeldia incana*). This community is highly invasive, and these species are found throughout the entire property with the highest concentration in the northern region where routine weed abatement occurs. A substantial number of the highly invasive tree of heaven (*Alianthus altissima*) are also present within this region, all of which have heights less than 4 ft. Stands of eucalyptus (*Eucalyptus* spp.) are present along the roadways and in the northern region of the project site within the non-native grassland community. The area proposed for development will primarily occur in non-native grassland (5.09 acres).

4.1.4 Avocado Orchard

The neighboring property to the east contains an avocado orchard with some spillover into the eastern area of the subject property (0.54 acres). This region of the property likely receives regular irrigation and its proximity to the coastal sagescrub community may be increasing the health of this community through inadvertent watering. No areas containing avocado orchard fall within the area proposed for development.

4.1.5 Developed & Disturbed

Areas categorized as developed/disturbed within the property include residences, other existing structures, roadways, and livestock facilities and comprise 3.29 acres. Within these areas are a variety of non-native ornamental plants, fruit trees, eucalyptus trees, and a vegetable garden. The area proposed for development encompasses 0.27 acres of previously developed/disturbed areas onsite.

4.1.6 Summer Holly

Summer holly is a perennial evergreen shrub which is found in chaparral and cismontane woodland in San Diego County and in the Peninsular Range, extending into northern Baja California, Mexico. The floristic period for this plant is between April and June. The nearest known occurrence of this species is 1.5 miles north of the project site in Daley Ranch Park (CDFW 2023). This species was not observed during the biological survey. It is a relatively conspicuous species and would have been detected within the area proposed for development during the survey, if it had been present. However, there is a low potential for it to occur in the more-dense areas of vegetation on the property outside of the project impact area, which were inaccessible to the biologist.

4.1.7 Ramona Horkelia

Ramona horkelia is a perennial herb found in dry red clay and gabbroic soils in open chaparral and cismontane woodland in the Peninsular Range and south into northern Baja California, Mexico. The floristic period for this species is between May and June. The nearest known occurrence is located 1 mile northeast on Daley Ranch (CDFW 2023). This species was not observed during the biological survey. While there is no suitable habitat for this species

within the area proposed for development, there is a low potential for it to occur in open areas within the more-dense vegetation within the property. This project is expected to have no impact on Ramona horkelia.

4.1.8 Mature and Protected Trees

There are 20 mature trees present within the proposed project area consisting of the following species and quantities: *Eucalyptus* spp. (16), *Pinus* spp. (4). No protected trees were observed within the project impact area. A map displaying the locations of the mature trees within the project impact area is provided in Appendix F.

4.2 Fauna

Wildlife detected on and adjacent to the project site consists of 18 bird, 4 mammal, and 2 reptile species (Appendix G). Most notably, there are an abundance of small mammal burrows present throughout the northern region of the property, belonging primarily to California ground squirrel (*Otospermophilus beecheyi*) and gopher. Additionally, a pack of three coyotes was observed hunting in this region of the property during the July 6th survey, spending over one hour foraging onsite and resting in the shade beneath the eucalyptus trees. Substantial bird activity was observed during the survey and birds are expected to nest onsite.

4.2.1 Coastal California Gnatcatcher

Coastal California Gnatcatcher is a local, uncommon, obligate resident of arid coastal scrub below about 1,500 ft. (500 m) from eastern Orange and southwestern Riverside Counties south through the coastal foothills of San Diego County. They are found along the immediate coast at Palos Verdes Peninsula, Los Angeles County, at Camp Pendleton and in the Tijuana River Valley, San Diego County, and may still occur along lower, coastal slopes of San Gabriel and San Bernardino Mountains, Los Angeles, and San Bernardino Counties, but their status is uncertain (Grinnell and Miler 1944, Garrett and Dunn 1981, Atwood 1990, 1993). The nearest documented occurrence is 1.5 miles west of the project site where an adult and juvenile were observed along the Caltrans right-of-way of I-15 in 2000.

Coastal California Gnatcatchers were not detected during the survey. Coastal sagescrub is present primarily along the eastern boundary and southern region of the property (7.81 acres). A small portion of intact coastal sagescrub occurs within the project impact area (0.60 acre) and additional areas of disturbed coastal sagescrub are present within the project impact area (1.34 acres). The disturbed areas have experience clearing for fire suppression. The coastal sagescrub community onsite primarily consists of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*).

4.2.2 Least Bell's Vireo

Least Bell's Vireo are a rare, local summer resident below 2,000 ft amsl. During the breeding season, they are found in low vegetation in shrub-dominated and woodland habitats, including riparian areas, mesquite brushland or woodland, shrubby old-fields, and sapling-stage shrub habitats. They are mostly found in natural ecosystems, often in riparian scrub along drainages or in other areas near water (Kus et al. 2022). The nearest observation of this species is 0.17 miles west of the project site, where a territorial individual was observed during surveys along a riparian area in 1999 (CDFW 2023). Neither this species nor suitable habitat was observed within or in proximity to the property and this species is not expected to occur onsite.

4.2.3 Coastal Whiptail

Coastal whiptails are typically found in hot, dry, flat open spaces in deserts or semi-arid areas in a variety of habitat types. This species occurs in California from southern Santa Barbara County south through San Diego County and into Baja California, Mexico. While this species was not observed during the biological survey, suitable habitat is

present within the property and project impact area and there is a moderate potential for this species to occur onsite.

4.2.4 Orange-throated Whiptail

Orange-throated whiptails are found in semi-arid brushy areas typically with loose soil and rocks, including in washes, stream sides, rocky hillsides, and in coastal chaparral. This species ranges from the Santa Ana River in Orange County south through Baja California, Mexico. While this species was not observed during the biological survey, suitable habitat is present within the property and project impact area and there is a moderate potential for this species to occur onsite.

4.2.5 Southern California Rufous-crowned Sparrow

Southern California Rufous-Crowned Sparrows are residents of southwestern California on coastal slopes of the Transverse ad Peninsular Ranges from northwestern Los Angeles County, south into Baja California, Mexico. They prefer south- or west-facing slopes with coastal sagescrub dominated by California sagebrush, but also are found in coastal bluff scrub, low chaparral outcrops, sparse chaparral recovering from burn, and along the edges of tall chaparral (Collins 2020). The nearest documented occurrence is located 1.5 miles west of the project site where one adult was observed in July of 1998 (CDFW 2023). While this species was not detected during the biological survey, suitable habitat is present in the coastal sagescrub along the western edge of the site.

4.2.6 Nesting Birds

Suitable nesting bird habitat is present throughout the site and within the area proposed for development and birds are expected to nest in vegetation onsite. Additionally, several adult Red-tailed Hawks were observed foraging within the property and in areas immediately adjacent, suggesting the presence of a nearby nest territory.

4.2.7 Wildlife Corridors and Habitat Linkages

The project site was analyzed for sign of and potential for wildlife movement and corridors. While wildlife is known to utilize and move through the site, it does not constitute a wildlife corridor. The property is surrounded by a chain link fence which limits wildlife movement. However, coyotes were observed passing through holes in the fence to hunt onsite. The property is largely surrounded by existing single-family residential development, agricultural development, and the roadway along the northern parcel boundary. The property does not provide connectivity to substantial habitat patches.

4.3 Water Resources

The project site falls within the northeastern region of the Carlsbad Watershed (HUC 18070303). This watershed encompasses roughly 211 square miles and is comprised of six distinct hydrologic areas, extending from the headwaters of Lake Wohlford in the east to the Pacific Ocean in the west. It is bordered by the San Luis Rey Watershed to the north and the San Dieguito Watershed to the south. A freshwater emergent wetland and riverine feature are located offsite 130 to 320 m northwest of the property. A review of the USFWS NWI and the NHD as well as a survey of onsite conditions returned no results of the presence of water resources present onsite. An ephemeral stream/river shown in the NHD is present 50 m to the east of the site (Appendix H). It is likely that this stream/river was present historically; however, the development to the north of Rancho Rd has channelized this once ephemeral stream, redirecting it into the storm drain network, prior to crossing Rancho Rd. The project site does not contain any wetland features or water resources.

5.0 IMPACTS & MITIGATION RECOMMENDATIONS

The California Environmental Quality Act (CEQA), California Natural Community Conservation Program (NCCP), and the Multiple Habitat Conservation Program Plan (MHCP) require that projects avoid or adequately mitigation for the loss of sensitive species and habitats.

5.1 Vegetation Communities

In summary, 1.94 acres of coastal sagescrub and 5.09 acres of non-native grassland fall within the project impact area and will be removed as a result of the project. Mitigation is required for the removal of non-native grassland and coastal sagescrub as a result of the development. Table 4 provides a breakdown of the acreage present onsite, the amount of impact, and the required mitigation.

Table 5. Mitigation Required for Vegetation Removal

Vegetation Type	Total Property Area (acres)	Project Impact Area (acres)	Acreage Preserved Onsite	Impacts Requiring Mitigation	Mitigation Required (Ratio)
Coastal Sagescrub	7.81	0.6	7.21	7.81	0.6 (1:1)
Disturbed Coastal Sagescrub	2.29	1.34	0.95	2.29	1.34 (1:1)
Engelmann Oak Woodland	3.61	0	3.61	3.61	0
Non-native Grassland	6.99	5.09	1.90	6.99	2.55 (0.5:1)
Avocado Orchard	0.54	0	0.54	0.54	0
Developed/disturbed	3.29	0.27	3.02	3.29	0
Total	**24.53**	**7.30**	**17.23**	**24.53**	**4.49**

In August of 2002, the City of Escondido approved a Coastal Sage Scrub Habitat Loss 4(d) Permit for removal of 2.22 acres of sage scrub associated with the future development of the ISKCON Cultural Center (Resolution No. 2002-203). Per the terms of the permit, the remaining 9.77 acres of sage scrub was to be preserved onsite and additional mitigation credits were to be purchased to offset the direct impacts onsite. It is not clear whether this permit is still applicable or whether offsite credits have been purchased.

5.2 Mature & Protected Trees

Mature trees which cannot be preserved onsite shall be replaced at a minimum ratio of 1:1. Protected trees which cannot be preserved on site shall be replaced at a minimum ratio of 2:1. However, the number, size, and species of replacement trees can be determined on a case-by-case basis by consultation with the City.

There are 20 mature trees, eucalyptus and pine, that fall within the project impact area and will be removed as a result of the project, requiring mitigation as provided in Table 5.

Table 6. Mitigation Required for Mature Tree Removal

Tree Designation	Tree Species	Number of Trees to be Removed	Mitigation Required (Ratio)
Mature Tree	*Eucalyptus* spp.	16	16 (1:1)
Mature Tree	*Pinus* spp.	4	4 (1:1)
Total		**20**	**20**

5.3 Coastal & Orange-throated Whiptail

As coastal and orange-throated whiptail have a moderate potential to occur within the proposed development area, there is a potential for these species to be directly impacted by injury or mortality as a result of construction activities. The following measures are recommended to avoid, reduce, and mitigate potential impacts to whiptail lizards:

- A biologist with appropriate permits for surveying, monitoring, and handling coastal and orange-throated whiptails should be onsite daily for all grading grubbing, and clearing activities.
- The biologist will conduct a daily preconstruction survey for whiptail lizards, sweeping the work area for sign of the species, and work shall only begin once the biologist has communicated that the site is cleared to proceed with work.
- The biologist will remain onsite daily to monitor grading, grubbing, and clearing activities to ensure no whiptails are harmed.
- If a coastal or orange-throated whiptail is found within the work area, construction will be paused, and the biologist will attempt to capture and relocate the lizard to suitable habitat within the property boundary, but outside of the development area.

5.4 Nesting Birds

As nesting bird habitat is present and birds are expected to nest onsite, this project has a potential to impact nesting birds if construction occurs during nesting bird season (February 1 through September 1). Disrupting active bird nests represents a potential violation of Section 3503 of the California Fish and Game Code. Thus, clearing and grading of the site during nesting bird season could potentially result in a significant adverse effect upon nesting birds.

In order to avoid impacts to nesting birds it is recommended that the following mitigation measures be employed:

- Any necessary clearing and removal of vegetation for project development should be conducted outside of the typical nesting season for birds.
- If vegetation removal must be conducted during the nesting bird season (February 1 through September 1), a biologist should first conduct a survey to determine whether any birds are nesting in the area.
- The survey should occur within 7-days prior to beginning work and include a search for nesting raptors within 500 feet line-of-sight of the project and all other bird nests within or adjacent to the project site.
- If any active nests are found, a “no disturbance” buffer should be implemented by the biologist and no activity should occur within the buffer until after all young have fledged from the nest or the nest is determined to no longer be active. Exceptions may be made to the buffer distance if a biological monitor is present onsite when work is occurring.

5.5 Water Resources

No riparian, riverine, or wetland resources were observed within the project site. However, as runoff is conveyed from this project site into the storm drain network there is a potential for impacts in the form of stormwater and non-stormwater pollution.

The following recommendations are provided for mitigating potential impacts to water resources:

- Stormwater Best Management Practices – During the project, proper stormwater Best Management Practices (BMPs) should be followed to preserve native vegetation, reduce disturbed soil areas, and establish proper spill covers, sediment and erosion control, material storage, and waste management. Erosion prevention BMPs which may be implemented include, but are not limited to, straw wattle, sandbags, and silt fencing. More information on stormwater BMPs can be found at the following website:

5.6 Additional Recommendations

- During construction-related activities, motor vehicles should be limited to the use of maintained roads, designated routes, and areas identified as being permanently or temporarily affected by construction within the development area. Motor vehicle speeds should not exceed 15 mph.
- All holes, trenches, pits, or other steep-sided excavations that may pose a threat to animals should either be constructed with escape ramps (earthen or wooden) or securely covered when unattended to precent trapping.
- At the start and end of each workday and just before backfilling, all excavations should be inspected for trapped animals.
- All animals found trapped should be provided with an exit to leave of their own accord.
- Any animals which do not leave on their own shall be removed by the City Approved Biologist.
- All pipes or other construction materials should be inspected for trapped wildlife prior to moving or installing.
- Trash and food items should be contained in closed containers and removed daily to reduce attracting predators and to avoid entrapping wildlife.

CERTIFICATION

I certify that the information in this report and attached appendices fully and accurately represents the work of BBI. If you have any questions or require additional information, please feel free to contact us at (949) 272-0905 ext. 103 or raineybarton@bloombiological.com.

BLOOM BIOLOGICAL, INC.

Rainey Barton
Project Manager & Biologist

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APPENDICES

Appendix A. Site Photographs

Photo 1. Western boundary of property facing south (07/06/2023).

Photo 2. Northern extent of property facing east (07/06/2023).

Photo 3. Northern region of property facing south (07/06/2023).

Photo 4. Northern region of property and Rincon Ave facing north (07/06/2023)

Photo 5. Southern extent of development area facing southwest (07/06/2023).

Photo 6. Disturbed coastal sagescrub in the foreground and Engelmann oak woodland on the hillside, facing south (07/06/2023).

Photo 7. Disturbed coastal sagescrub in the central-western region of the property, facing northeast (07/06/2023).

Photo 8. Row of mature eucalyptus in the northern region of property (07/06/2023).

Photo 9. Row of mature eucalyptus in the northern region of property (07/06/2023).

Photo 10. Disturbed coastal sagescrub in the northern region of the property, facing northeast (07/06/2023).

Photo 11. Disturbed coastal sagescrub in the northern region of the property, facing southwest (07/06/2023).

Photo 12. Disturbed coastal sagescrub in the northern region of the property, facing east (07/06/2023).

Photo 13. Coastal sagescrub in the northeastern region of the property, facing northeast (07/06/2023).

Photo 14. Livestock facilities in the central region of the property (07/06/2023).

Photo 15. Non-native grassland and coastal sagescrub in the southeastern region of the property (07/06/2023).

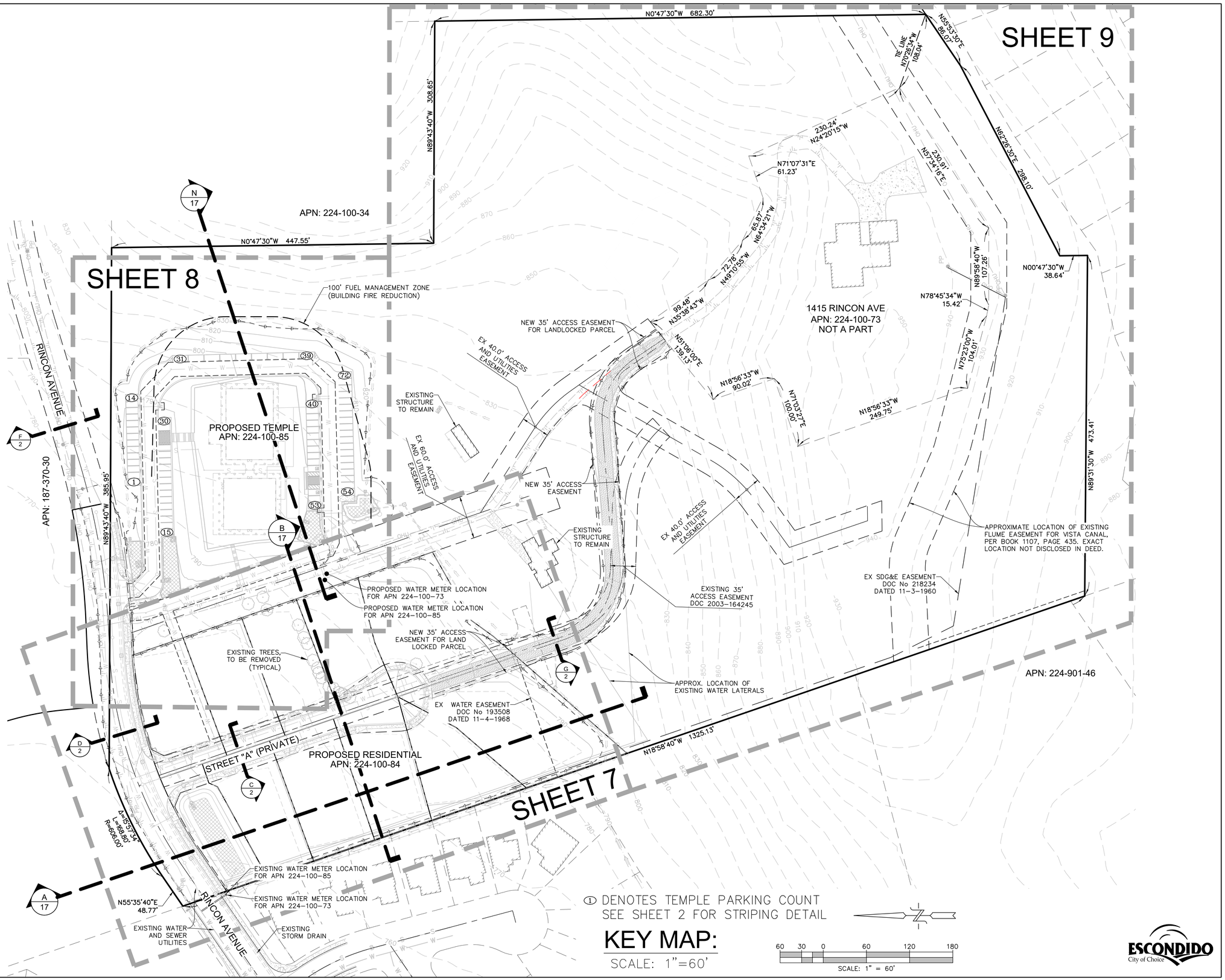
Photo 16. Coastal sagescrub in the southeastern region of the property (07/06/2023).

Photo 17. Coastal sagescrub in the very southeastern region of the property (07/06/2023).

Photo 18. View of surrounding development from the southern extent of the property, facing southwest (07/06/2023).

Appendix B. Site Plans

-- Content Appears on Following Page --



REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 1-20-2025
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: KEY MAP

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 3 OF 29 SHEETS

ESCONDIDO City of Choice

SAVE DATE: 1/30/2025 ~ PLOT DATE: 1/30/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

Appendix C. Soil Map

-- Content Appears on Following Page --

Map Scale: 1:4,370 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 18, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BlC	Bonsall sandy loam, 2 to 9 percent slopes	5.0	5.0%
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded	10.6	10.6%
CmrG	Cieneba-Rock outcrop complex, 30 to 75 percent slopes, very stony	6.0	6.0%
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded	0.5	0.5%
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes	1.1	1.1%
GrC	Greenfield sandy loam, 5 to 9 percent slopes	0.4	0.4%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	15.9	15.8%
VaA	Visalia sandy loam, 0 to 2 percent slopes	28.1	28.0%
VsE	Vista coarse sandy loam, 15 to 30 percent slopes, MLRA 20	32.7	32.6%
Totals for Area of Interest		**100.2**	**100.0%**

Appendix D. Floral Compendium

This compendium lists 38 plant species detected by BBI during the survey conducted on July 6, 2023.

Eudicots	Flowering Plants
Aizoaceae	**Fig-Marigold Family**
Drosanthemum floribundum	Ice plant
Amaranthaceae	**Amaranth Family**
Salsola tragus	Russian thistle
Anacardiaceae	**Sumac Family**
Malosma laurina	Laurel sumac
Rhus aromatica	Fragrant sumac
Toxicodendron diversilobum	Poison oak
Asphodelaceae	**Asphodel Family**
Asphodelus fistulosus	Onion-leafed asphodel
Asteraceae	**Sunflower Family**
Artemisia californica	California sagebrush
Centaurea melitensis	Tocalote
Dittrichia graveolens	Stinkwort
Erigeron bonariensis	Flax-leaved horseweed
Isocoma menziesii	Menzies' goldenbush
Brassicaceae	**Mustard Family**
Hirschfeldia incana	Short pod mustard
Cactaceae	**Cactus Family**
Opuntia robusta	Nopal tapon
Caprifoliaceae	**Honeysuckle Family**
Lonicera subspicata	Southern honeysuckle
Chenopodiaceae	**Goosefoot Family**
Bassia scoparia	Summer cypress
Cucurbitaceae	**Gourd Family**
Marah macrocarpa	Chilicothe
Euphorbiaceae	**Spurge Family**
Croton setiger	Turkey-mullein
Fabaceae	**Legume Family**
Acmispon glaber	Deerweed
Fagaceae	**Beech, Chestnut, Oak Family**
Quercus agrifolia	Coast live oak
Quercus berberidifolia	Scrub oak
Quercus engelmannii	Engelmann oak
Hydrophyllaceae	**Waterleaf Family**
Phacelia ramosissima	Branching phacelia
Juglandaceae	**Walnut Family**
Juglans californica	Southern California black walnut
Lamiaceae	**Mint Family**

Marrubium vulgare	White horehound
Salvia apiana	White sage
Myrtaceae	**Myrtle Family**
Eucalyptus spp.	Eucalyptus
Oleaceae	**Olive Family**
Olea spp.	Olive
Phytolaccaceae	**Pokeweed Family**
Phytolacca americana	American pokeweed
Plantaginaceae	**Plantain Family**
Keckiella antirrhinoides var. *antirrhinoides*	Chaparral beard tongue
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
Primulaceae	**Primrose Family**
Anagallis arvensis	Scarlet pimpernel
Rhamnaceae	**Buckthorn Family**
Rhamnus crocea	Redberry buckthorn
Simaroubaceae	**Amargo, Bitterwood, Marupa, and Quassia Family**
Alianthus altissima	Tree of heaven
Solanaceae	**Nightshade Family**
Nicotiana glauca	Tree tobacco
Viburnaceae	**Moschatel Family**
Sambucus mexicana	Blue elderberry
Zygophyllalaceae	**Caltrop Family**
Tribulus terrestris	Puncture vine
Monocots	Grasses and Allies
Poaceae	**Grass Family**
Avena fatua	Wildoats
Bromus spp.	Brome
Gymnosperms	Conifers, Ginkos, Cycads, Gnetophytes
Pinus spp.	Pine

Appendix E. Vegetation Communities Map

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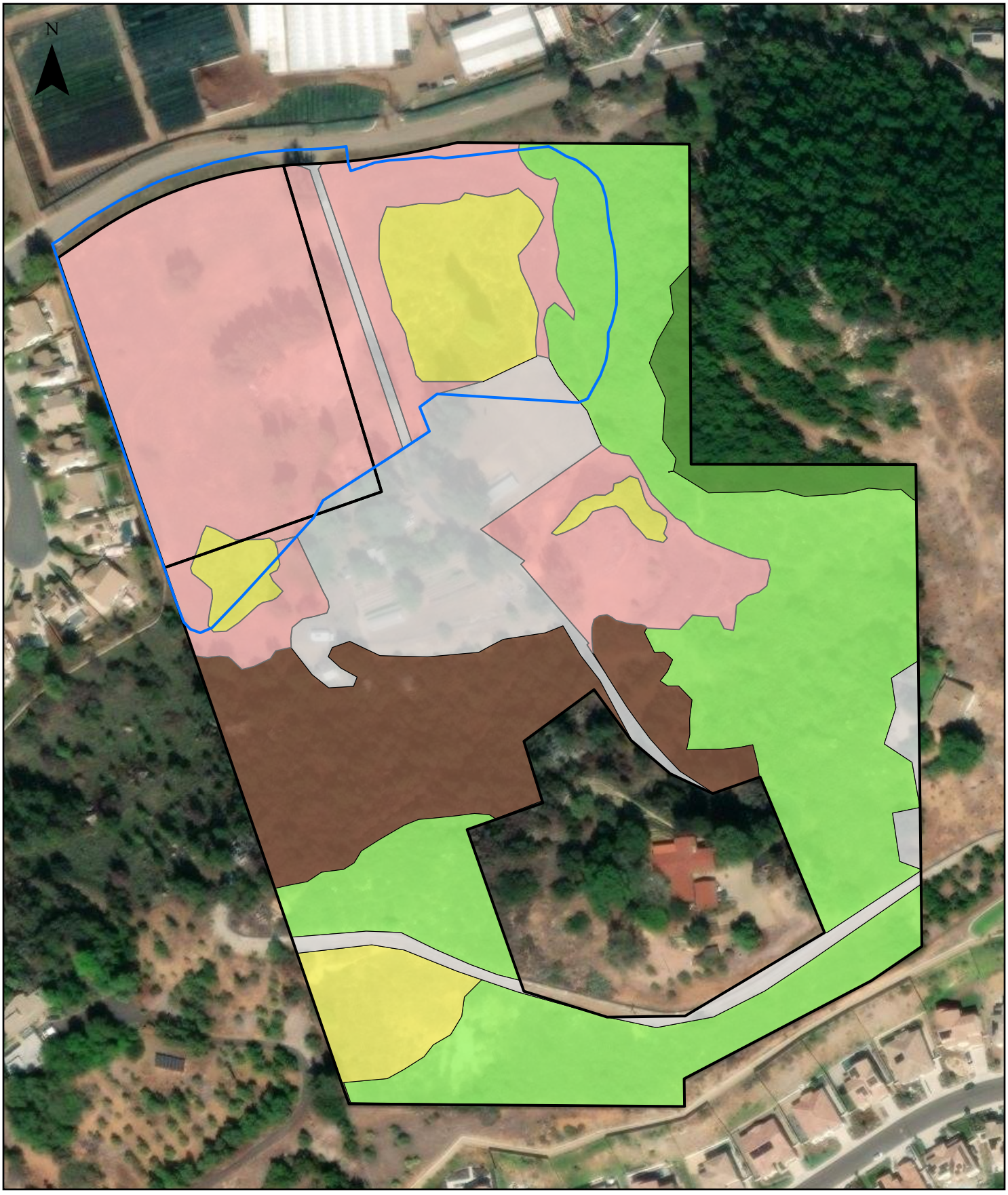

Vegetation Community

- Coastal Sagescrub
- Coastal Sagescrub Disturbed
- Non-native Grassland
- Avocado Orchard
- Developed/Disturbed
- Engelman Oak Woodland
- Parcel Boundary
- Development Area

0 25 50 100 m

Date: 10/05/2023

Credits: ESRI Imagery

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Appendix F. Mature Tree Map

-- Content Appears on Following Page --

Species

- Eucalyptus (16)
- Pine (4)

Parcel Boundary

Development Area

0 25 50 100 m

Date: 10/05/2023

Credits: ESRI Imagery

BBI
BLOOM BIOLOGICAL INC.
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Appendix G. Faunal Compendium

This compendium lists 18 bird, 4 mammal, and 2 reptile species detected by BBI during the survey conducted on 6 July 2023.

Birds

Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Wrentit	*Chamaea fasciata*	Black Phoebe	*Sayornis nigricans*
California Towhee	*Melozone crissalis*	House Finch	*Haemorhous mexicanus*
California Scrub Jay	*Aphelocoma californica*	Anna's Hummingbird	*Calypte anna*
Red-tailed Hawk	*Buteo jamaicensis*	Bushtit	*Psaltriparus minimus*
Northern Mockingbird	*Mimus polyglottos*	Western Kingbird	*Tyrannus verticalis*
Mourning Dove	*Zenaida macroura*	Common Raven	*Corvus corax*
Eurasian Collared-dove	*Streptopelia decaocto*	Allen's Hummingbird	*Selasphorus sasin*
Blue-gray Gnatcatcher	*Polioptila caerulea*	Acorn Woodpecker	*Melanerpes formicivorus*
American Robbin	*Turdus migratorius*	Red-shouldered Hawk	*Buteo lineatus*

Mammals

Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
California ground squirrel	*Otospermophilus beecheyi*	Gopher	*Unk.*
Coyote	*Canis latrans*	Striped skunk	*Mephitis mephitis*

Reptiles

Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Western fence lizard	*Sceloporus occidentalis*	Western side-blotched lizard	*Uta stansburiana elegans*

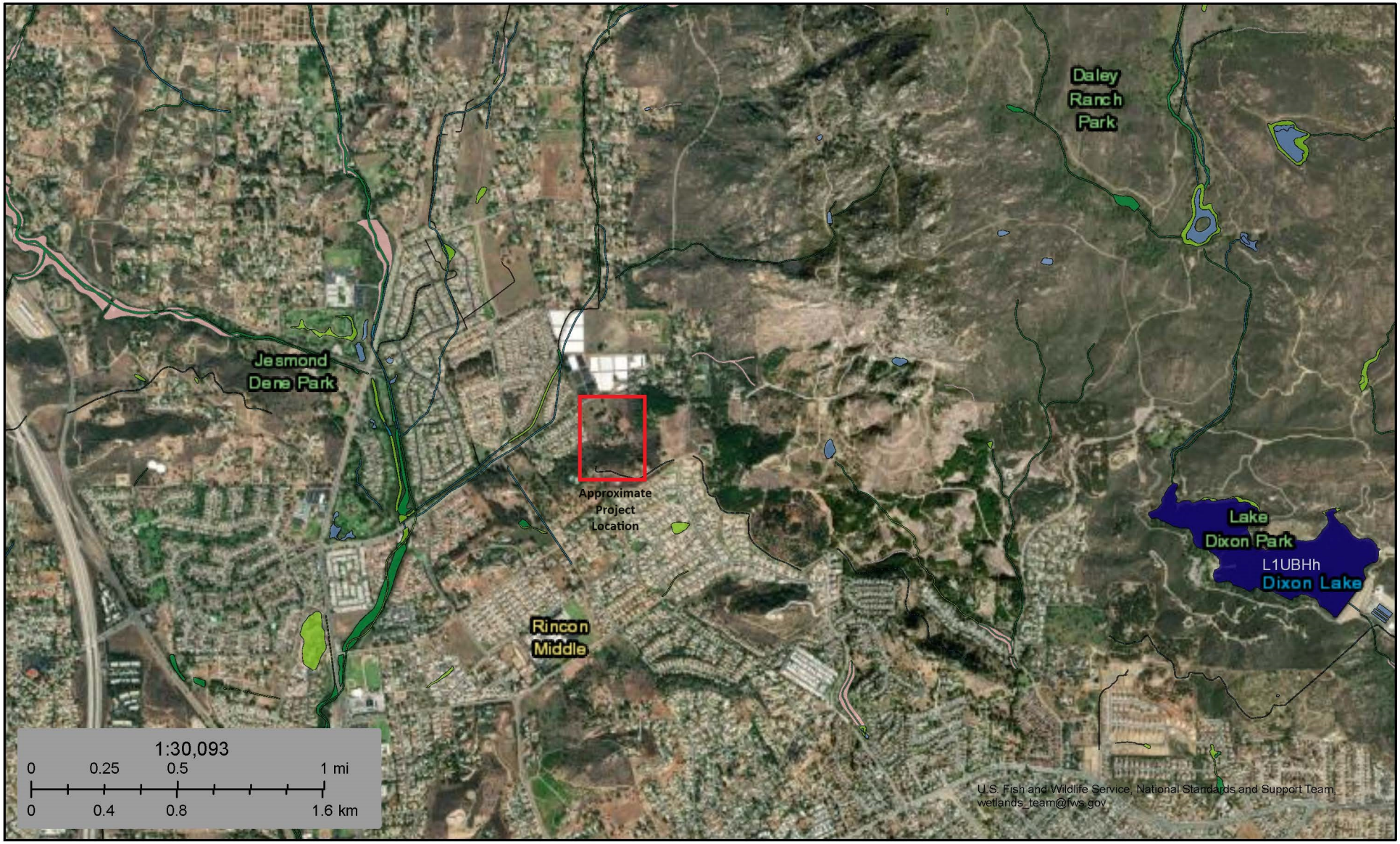
Appendix H. Wetland Map

-- Content Appears on Following Page --

U.S. Fish and Wildlife Service

National Wetlands Inventory

1315 & 1356 Rincon Ave., Escondido, CA



September 28, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

BLOOM BIOLOGICAL INC.
research | consulting | conservation

December 22, 2023

Stacey Love
U.S. Fish & Wildlife Service
2177 Salk Avenue
Carlsbad, CA 92008

[Delivered via email: stacey_love@fws.gov]

SUBJECT: Results of protocol surveys for Coastal California Gnatcatcher (*Polioptila californica*) at the ISKCON Cultural Center property within the City of Escondido, San Diego County, California

Dear Stacey,

Bloom Biological, Incorporated (BBI) was retained by Phil Martin and Associates to assess the presence of Coastal California Gnatcatcher (*Polioptila californica californica*) on the land proposed as the ISKCON Cultural Center located at 1315 and 1356 Rincon Avenue, Escondido, California (APN 224-100-84 & APN 224-100-85). The project proposes to construct a temple and ten single-family residences within approximately 7 acres of the 24.5-acre property. Permittees Dana Kamada (TE-799568-9) and Karly Moore (TE-02484A-3) conducted 9 surveys for Coastal California Gnatcatcher within the Survey Area from 15 August through 18 December 2023 following the current protocol established by the U.S. Fish and Wildlife Service. The results of the surveys indicate that Coastal California Gnatcatcher was absent from the Survey Area in 2023. The following letter documents the methods, results, and conclusions of the surveys.

SURVEY AREA DESCRIPTION

The Survey Area in this report comprises approximately 24.5 acres containing potential Coastal California Gnatcatcher habitat in the form of disturbed and undisturbed coastal sagescrub within the subject parcels at 3115 and 1356 Rincon Ave., Escondido, California. The Survey Area is within the western region of San Diego County in the southern portion of the U.S. Geological Survey (USGS) 7.5-minute *Valley Center* quadrangle. Elevations in the Survey Area range from approximately 760 to 940 feet (231 to 287 meters) above mean sea level (amsl).

Vegetation within the survey area consists of coastal sagescrub (both intact and disturbed), Engelmann oak woodland, and non-native grassland. An existing single-family residence, livestock pens and enclosures, and a garden are present within the central region of the Survey Area. The majority of the property is undeveloped and contains areas which experience routine weed abatement as well as relatively undisturbed native vegetation.

The location of the Survey Area relative to the state and county is shown below in Figure 1. The limits of the Survey Area are shown in Appendix A.

Figure 1. Survey Area relative to the state (left) and county (right).

PROJECT DESCRIPTION

The project proposes to demolish the existing outbuildings and build ten single-family detached residential units on approximately 4.2 acres adjacent to and south of Rincon Avenue. The residential lots range from 0.31 to 0.63 acres in size. The project also includes the proposed development of a 6,500 square foot Krishna Temple, an adjacent 5,143 square foot residence associated with the temple and a 964 square foot restroom/change room/janitor closet. The project proposes 88 parking spaces for the Krishna temple and meets the number of parking spaces required by the City of Escondido parking code. A 56-foot-wide and 600-foot-long paved cul de sac would be constructed extending south from Rincon Avenue to serve the single-family homes. The project is scheduled to start construction in the first quarter of 2024 and be completed in the first quarter of 2025.

CALIFORNIA GNATCATCHER NATURAL HISTORY SUMMARY

The California Gnatcatcher "is a local, uncommon, obligate resident of arid coastal scrub below about 500 m (1,500 ft) from eastern Orange and southwestern Riverside Cos. south through the coastal foothills of San Diego Co.; along the immediate coast at Palos Verdes Peninsula, Los Angeles Co.; at Camp Pendleton and in Tijuana River Valley, San Diego Co. may still occur along lower, coastal slopes of San Gabriel and San Bernardino Mts., Los Angeles and San Bernardino Cos., but status uncertain (Grinnell and Miller 1944, Garrett and Dunn 1981, Atwood 1990, 1993)."[1]

The California Gnatcatcher was listed as Threatened under the Federal Endangered Species Act in 1993 (58 FR 16742-16757) with Critical Habitat designated in 2000 (65 FR 63680-63743). Critical Habitat was revised in 2007 (72 FR 72010-72213).

[1] California Department of Fish and Game. 2010. CWHR version 8.1 personal computer program. California Interagency Wildlife Task Force, Sacramento.

METHODS

A total of nine (9) presence/absence Coastal California Gnatcatcher surveys were conducted by Dana Kamada (Permit # TE-799568-9) and Karly Moore (Permit # TE-02484A-3) in accordance with service protocol for non-NCCP areas (Service 1997). All potential Coastal California Gnatcatcher habitat within the Survey Area was surveyed during the non-breeding season (July 1 to March 14) with at least two weeks between survey visits. The biologist surveyed no more than 24.5 acres per day. The surveys were conducted during the morning hours between 6:00 a.m. and 11:30 p.m. Biologists slowly walked through the survey area, pausing frequently to play Coastal California Gnatcatcher vocalizations from Merlin Bid ID© broadcast from a portable speaker within suitable habitat, the objective being to elicit a response from silent individuals that might not otherwise be detected.

Weather conditions and time of day were appropriate for maximizing the likelihood of Coastal California Gnatcatcher detection and are presented in Table 1. Temperatures ranged from 53 to 81° F.

Table 1. Field Dates, Times, and Weather Conditions

Date	Time	Weather	Biologists
08/15/2023	0730-0950h	Start: 67° F, 100% cloud cover, Calm End: 80° F, 0% cloud cover, Wind 1-3.5 mph Fog in the early morning, cleared by 0800h	Karly Moore
08/31/2023	0630-1030h	Start: 66° F, 0% cloud cover, Calm End: 81° F, 0% cloud cover, Wind 1 mph Haze	Dana Kamada
9/14/2023	0700-1100h	Start: 64° F, 100% cloud cover, Calm End: 70° F, 100% cloud cover, Wind 0-1 mph Patchy fog; Overcast	Dana Kamada
09/28/2023	0800-1130h	Start: 68° F, 100% cloud cover, Calm End: 72° F, 10% cloud cover, Wind 1.7 mph Patch fog; Overcast	Dana Kamada
10/18/2023	0630-1030h	Start: 61° F, 0% cloud cover, Calm End: 77° F, 0% cloud cover, Wind 1.7 mph Clear	Dana Kamada
11/03/2023	0650-1040h	Start: 53° F, 0% cloud cover, Calm End: 75° F, 0% cloud cover, Wind 0.4 mph Clear	Dana Kamada
11/20/2023	0715-1045h	Start: 52° F, 0% cloud cover, Calm End: 69° F, 0% cloud cover, Wind 1.3 mph Clear	Dana Kamada
12/04/2023	0710-1040h	Start: 56° F, 40% cloud cover, Calm End: 67° F, 25% cloud cover, Wind 1 mph Clear	Dana Kamada
12/18/2023	0700-1055h	Start: 57° F, 80% cloud cover, Calm End: 68° F, 85% cloud cover, Wind 1 mph Clear	Dana Kamada

RESULTS & DISCUSSION

Coastal California Gnatcatchers were not detected during the survey. Coastal sagescrub is present primarily along the eastern boundary and southern region of the property (7.81 acres). A small portion of intact coastal sagescrub occurs within the project impact area (0.60 acre) and additional areas of disturbed coastal sagescrub are present within the project impact area (1.34 acres). The disturbed areas have experience clearing for fire suppression. The coastal sagescrub community onsite primarily consists of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*).

Photographs of the project site are provided in Appendix B and a list of all wildlife detected during the survey is provided as Appendix C.

Sincerely,
BLOOM BIOLOGICAL, INC.

Peter H. Bloom
Zoologist/President

CERTIFICATION

We certify that the information in this survey report and attached appendices fully and accurately represents our work. If you have any questions or require additional information, please feel free to contact us at (949) 272-0905 or petebloom@bloombiological.com.

Peter H. Bloom
TE-787376-14, SC-000221

Date Signed

Dana Kamada
TE-799568-9, SC-190520011

Date Signed

Karly Moore
TE-02484A-3

Date Signed

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Atwood, J. L. 1993. California gnatcatchers and coastal sage scrub: the biological basis for endangered species listing. Pages 149-169 in J. E. Keeley, ed. Interface between ecology and land development in California. Southern Calif. Acad. Sci., Los Angeles.

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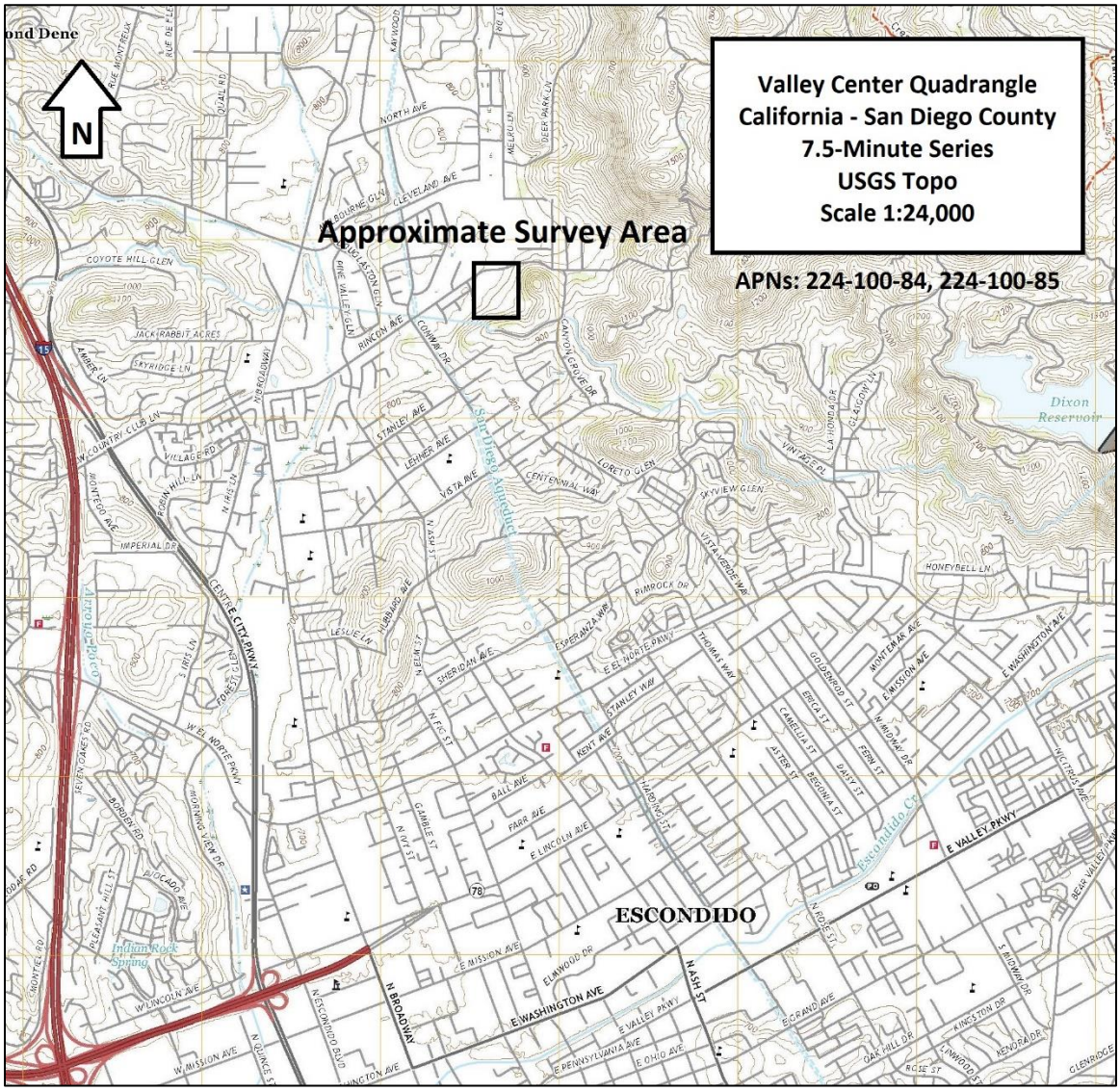
Grinnell, J., and A. H. Miller. 1944. The distribution of the birds of California. Pac. Coast Avifauna No. 27. 608pp.

U.S. Fish and Wildlife Service (Service). 1997. Coastal California gnatcatcher (*Polioptila californica californica*) presence/absence survey protocol. Unpublished report, Carlsbad Field Office, Carlsbad, California.

Appendix A. USGS 7.5 Minute Topographical Maps with Survey Area Demarcated 1:24,000



APPENDIX B. SITE PHOTOGRAPHS

Photo 1. Coastal sagescrub vegetation community within the Survey Area.

Photo 2. Coastal sagescrub vegetation community within the Survey Area.

Photo 3. Coastal sagescrub vegetation community within the Survey Area.

Photo 4. Coastal sagescrub vegetation community within the Survey Area.

Photo 5. Coastal sagescrub vegetation community within the Survey Area.

Photo 6. Coastal sagescrub vegetation community within the Survey Area.

APPENDIX C. SPECIES LIST

FAMILY/SPECIES NAME	COMMON NAME
ORDER LEPIDOPTERA	**BUTTERFLIES AND MOTHS**
PAPILIONIDAE	**SWALLOWTAILS**
Papilio eurymedon	pale swallowtail
PIERIDEA	**WHITES & ORANGETIPS**
Artogeia rapae	cabbage white
Pontia protodice	checkered (common) white
NYMPHALIDAE	**Brush Footed Butterflies**
Vanessa atalanta	red admiral
Junonia coenia	buckeye
LYCAENIDAE	
PLEBEJINAE/LYCAENIDAE	**BLUES**
Icaricia acmon	Acmon blue
RIODININAE	**METALMARKS**
Apodemia mormo virgulti	Behr's metalmark
WASPS	
POMPILIDAE	**SPIDER WASPS**
Pepsis species	Tarantula hawks
AMPHIBIANS AND REPTILES	
IGUANIDAE	**IGUANIDS**
Sceloporus orcutti	granite spiny lizard
Sceloporus occidentalis	western fence lizard
BIRDS	
ANATIDAE	**SWANS, GEESE & DUCKS**
Anas platyrhynchos	mallard
CATHARTIDAE	**AMERICAN VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**KITES, HAWKS, EAGLES & VULTURES**
****Accipiter striatus***	sharp-shinned hawk
****Accipiter cooperii***	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
FALCONIDAE	**FALCONS**
Falco sparverius	American kestrel
COLUMBIDAE	**PIGEONS & DOVES**
Zenaida macroura	mourning dove
STRIGIDAE	**TYPICAL OWLS**
Bubo virginianus	great horned owl
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**WOODPECKERS**
Melanerpes formicivorus	acorn woodpecker
Colaptes auratus	northern flicker
Picoides nuttallii	Nuttall's woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**

Tyrannus vociferans	Cassin's kingbird
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
CORVIDAE	**CROWS, JAYS**
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Aphelocoma coerulescens	scrub jay
AEGITHALIDAE	**BUSHTIT**
Psaltriparus minimus	common bushtit
SITTIDAE	**NUTHATCHES**
Sitta carolinensis	white-breasted nuthatch
Certhia america	red-breasted nuthatch
TROGLODYTIDAE	**WRENS**
Troglodytes aedon	house wren
Thryomanes bewickii	Bewick's wren
MUSCICAPIDAE	**THRUSHES, OLD WORLD WARBLERS**
Sialia mexicana	western bluebird
Regulus calendula	ruby-crowned kinglet
Polioptila caerulea	blue-gray gnatcatcher
Chamaea fasciata	wrentit
MIMIDAE	**MOCKINGBIRDS & THRASHERS**
Mimus poolyglottos	northern mockingbird
Toxostoma crissale	California thrasher
PARULIDAE	**WOOD WARBLERS**
Dendroica coronata	yellow-rumped warbler
Vermivora celata	orange-crowned warbler
CARDINALIDAE	**CARDINALS, GROSBEAKS & ALLIES**
Pheucticus melanocephalus	black-headed grosbeak
EMBERIZIDAE	**TOWHEES, SPARROWS & LONGSPURS**
Zonotricha leucophrys	white-crowned sparrow
Melospiza melodia	song sparrow
Pipilo erythrophthalmus	spotted towhee
Pipilo crissalis	California towhee
Junco hyemalis	dark-eyed junco
ICTERIDAE	**BLACKBIRDS & ORIOLES**
Icterus cucullatus	hooded oriole
FRINGILLIDAE	**OLD WORLD FINCHES**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
MAMMALS	
CANIDAE	**DOGS, WOLVES, FOXES**
Canis latrans	coyote
SCIURIDAE	**SQUIRRELS**
Citellus beecheyi	California ground squirrel
LEPORIDAE	**HARES, RABBITS**
Sylvilagus auduboni	desert cottontail

APPENDIX C

Cultural Resources Assessment

CULTURAL RESOURCES ASSESSMENT

Temple and Residential Project
Escondido, San Diego County, California

Prepared for:

Phil Martin
Phil Martin & Associates
4860 Irvine Boulevard, Suite 203
Irvine, California 92620

Prepared by:

David Brunzell, M.A., RPA
Contributions by Nicholas Shepetuk, B.A.
BCR Consulting LLC
Claremont, California 91711

Project No. PMA2303

Data Base Information:
Type of Study: Intensive Survey
Resources: P-37-17523, P-37-30889, PMA2303-H-1, H-2, H-3
Keywords: Historic-Period House, Utility Pole, Utility Alignment, Irrigation Feature, Irrigation Valve Hatch, Bedrock Milling Feature, Milling Slick, Vista Irrigation District Bench Flumes
USGS Quadrangle: 7.5-minute *Valley Center*, *California* (1975)

BCRCONSULTING LLC

August 20, 2023

MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to Phil Martin & Associates to complete a Cultural Resources Assessment of the Temple and Residential Project (the project) located in the City of Escondido (City), San Bernardino County, California. A cultural resources records search, intensive-level pedestrian field survey, Native American Heritage Commission (NAHC) Sacred Lands File Search, and vertebrate paleontological resources overview were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The records search results revealed that 23 previous cultural resource studies have taken place resulting in 14 cultural resources identified within the 0.5-mile research radius. Five previous studies have assessed the project site for cultural resources, and three cultural resources have been previously-identified within its boundaries. The previously-identified resources include one prehistoric archaeological site (a bedrock milling site designated P-37-17523), the historic-period Vista Irrigation District Bench Flumes alignment (designated P-37-30889), and a pre-1948 residence and ancillary structures (designated PMA2303-H-1). Two additional cultural resources were documented during the field survey. These include a historic-period electrical distribution alignment (designated PMA2303-H-2) and a historic-period steel irrigation valve hatch (designated PMA2303-H-3). Each of the resources within the project boundaries is summarized in the following table and described in detail in California DPR 523 forms which have been appended to this report. Recommendations for additional work are provided after the table.

Cultural Resources within the Project Site

Resource Designation	Description	California Register Eligibility Recommendation	Additional Work Recommended
P-37-17523	Prehistoric Bedrock Milling Site	Potentially Eligible	Avoidance or Archaeological Test Excavation
P-37-30889	Historic-Period Vista Irrigation District Bench Flumes	Eligible	Preservation
PMA2303-H-1	Historic-Period Residence	Potentially Eligible	Preservation or Eligibility Evaluation
PMA2303-H-2	Historic-Period Electrical Distribution	Not Eligible	None
PMA2303-H-3	Historic-Period Steel Irrigation Valve Hatch	Not Eligible	None

Non-significant Resources. The historic-period electrical distribution alignment (PMA2303-H-2) and the historic-period steel irrigation valve hatch (PMA2303-H-3) are recommended not eligible for California Register listing and as such are not significant historical resources under CEQA. These two resources do not require any further consideration.

Significant or Unevaluated Resources not Subject to Project-Related Impacts. The historic-period Vista Irrigation District Bench Flumes alignment (P-37-30889) has been previously recommended eligible for National Register of Historic Places (National Register; Van Wormer 2009). As such it is eligible for California Register listing and is a significant historical resource under CEQA. The historic-period residence (PMA2303-H-1) has not been evaluated for California Register listing. It is considered potentially-significant. Preservation is the preferred manner of treatment for significant or potentially-significant resources. The concrete foundations near the house are not considered significant or potentially significant.

A review of project plans show that P-37-30889 and the historic residence at PMA2303-H-1 are outside the proposed impact area. Since they will not be subject to impacts, no further consideration is required. Should the project description change to include impacts to either resource, further evaluation and/or analysis would be necessary.

P-37-17523. The prehistoric bedrock milling site designated P-37-17523 is considered potentially eligible for the California Register due to potential significance. Preservation in place is the preferred manner of treatment for archaeological/historical resources. If preservation is not feasible, California Register eligibility evaluations will be necessary for this potentially eligible resource. Evaluations would take place in consultation with the applicant, the City, and with any consulting Native American entities. Evaluations would likely involve:

- Preparation of a research design
- Surface collection of artifacts
- Mapping of artifacts and features
- Systematic test excavations
- Artifact tool and source analysis
- Preparation of a technical report to present evaluation results.

Any resources that are determined eligible would require mitigation of significant impacts. Mitigation options for historical resources typically include the following:

- Preservation in place is the preferred approach to mitigate effects to historical resources.
- If preservation in place is not feasible, then a Phase III data recovery plan, which provides for adequately recovering scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any undertaking or project-related excavation.

Due to the presence of a prehistoric archaeological site located within the project site boundaries and a high number of prehistoric archaeological sites in the vicinity, the area is considered sensitive for buried archaeological resources. Therefore, any proposed ground disturbing activities should be monitored by a professional archaeologist working under the direct supervision of a cultural resource professional that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology (the qualified archaeologist). In the event of a suspected cultural resource discovery, the monitor would be authorized to temporarily stop or divert construction in the area of the find until it could be evaluated for significance by the qualified archaeologist. Significant or potentially significant resources would be subject to preservation or eligibility evaluation in consultation with the applicant, the City, and with any participating Native American entities.

Findings were negative during the Sacred Lands File search with the NAHC (see Appendix C). The City will initiate Assembly Bill (AB) 52 Native American Consultation for the project. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project

would “directly or indirectly destroy a unique paleontological resource”. The Paleontological Overview provided in Appendix D has recommended that:

> The geologic units underlying the project area are mapped primarily as Pleistocene aged old alluvial flood-plain deposits at the northern end of the project and Cretaceous monzogranite elsewhere (Kennedy, Tan, Bovard, Alvarez, Watson, and Guitierrez 2007). Monzogranite units are considered to be paleontologically sensitive. On the other hand, Pleistocene alluvial units are considered to be fossiliferous and highly paleontologically sensitive. The Western Science Center does not have any localities within the project area or within a 1 mile radius, although we do have localities from similarly mapped units from across Southern California.
>
> Any fossil specimens recovered from the Proposed Temple and Residential Project would be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils from the study area.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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INTRODUCTION

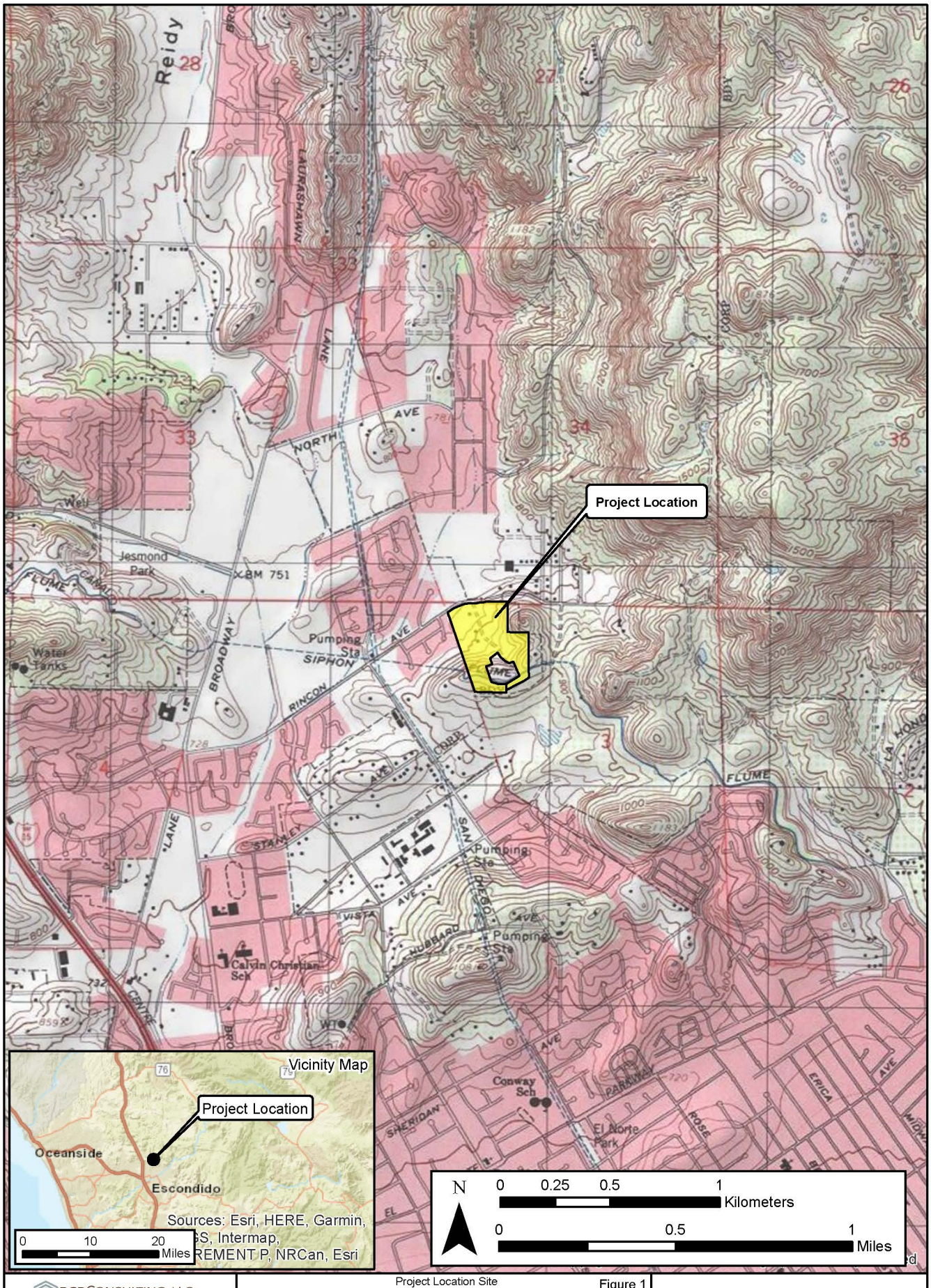
BCR Consulting LLC (BCR Consulting) is under contract to Phil Martin & Associates to complete a Cultural Resources Assessment of the Temple and Residential Project (the project) located in the City of Escondido (City), San Bernardino County, California. A cultural resources records search, intensive-level pedestrian field survey, Native American Heritage Commission (NAHC) Sacred Lands File Search, and vertebrate paleontological resources overview were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The project site, as identified in this report, occupies a portion of Section 3 of Township 12 South, Range 2 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Valley Center, California* (1975) 7.5-minute topographic quadrangle (Figure 1). Project plans have been included as Appendix F.

Regulatory Setting

The California Environmental Quality Act. CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations 14(3), § 15002(i)). Under CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (Cal. Code Regs. tit. 14(3), § 15064.5(b)). State CEQA Guidelines section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register)
- Listed in a local register of historical resources (as defined at Cal. Public Res. Code § 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of § 5024.1(g) of the Cal. Public Res. Code
- Determined to be a historical resource by a project's lead agency (Cal. Code Regs. tit. 14(3), § 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The significance of a historical resource is impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the California Register. If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (State CEQA Guidelines § 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the resource. Section 5024.1 of the Cal. Public Res. Code established the California Register. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The eligibility criteria for the California Register are similar to those of the National Register,



BCR CONSULTING LLC
Claremont Napa Tehachapi
www.bcrconsulting.net
909-625-7078

Project Location Site
Proposed Temple and Residential Project

Figure 1

Reference: ESRI; USGS Quad: Valley Center, California (1975)

Phil Martin & Associates

and a resource that meets one or more of the eligibility criteria of the National Register will be eligible for the California Register. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. Criteria for Designation:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years (i.e. resources from the "historic-period") will be evaluated for California Register listing eligibility, or CEQA significance. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

a) cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;

c) Disturb any human remains, including those interred outside of formal cemeteries.

Tribal Cultural Resources. The Legislature added requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Proposed Project. Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff are available to answer questions and address comments as necessary.

Paleontological Resources. CEQA provides guidance relative to significant impacts on paleontological resources, indicating that a project would have a significant impact on paleontological resources if it disturbs or destroys a unique paleontological resource or site or unique geologic feature. Section 5097.5 of the California Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources. CEQA documentation prepared for projects would be required to analyze paleontological resources as a condition of the CEQA process to disclose potential impacts. Please note that as of January 2018 paleontological resources are considered in the geological rather than cultural category. Therefore, paleontological resources are not summarized in the body of this report. A paleontological overview completed by the Western Science Center is provided as Appendix D.

NATURAL SETTING

Geology

The project area is located in the Peninsular Range geomorphic province of southern California. Comprised partially of the southern California batholith, this province is a northwest by southeast trending complex of igneous and metamorphic rocks (Norris and Webb 1990). The project elevation is approximately 750 to 960 feet above mean sea level (AMSL).

Hydrology

Local rainfall averages from 10-18 inches annually, and warm summers and mild winters combine to form a Mediterranean climate. The project site is drained by intermittent drainages that empty into Reidy Creek, approximately 0.5 miles to the west of the project site (see USGS 1975). The creek drains into the Pacific Ocean 13 miles to the southwest.

Biology

Although the project area is devoid of native vegetation, the remaining native local vegetation in the surrounding area is dominated by coastal sage scrub, with some willow scrub noted in the vicinity. Small mammals, deer, reptiles, and various birds are native to the area and were widely exploited by the prehistoric residents (Robbins-Wade 1994:234).

CULTURAL SETTING

Prehistory

The primary regional synthesis for prehistory in San Diego County consists of three basic and successive periods: the Paleoindian, the Archaic, and the Late Prehistoric.

Paleoindian Period (11,500 to 8,500 BP). Climatic warming punctuates the transition from the Pleistocene to the Holocene, which has been theorized to allow considerable human expansion during this period. In San Diego County, the earliest artifact assemblages have been characterized as the San Dieguito, which are almost exclusively composed of flaked stone tools, including scrapers, choppers, and large projectile points (Warren 1987; Warren et al. 1998). San Deiguito culture has been largely interpreted as a big game hunting tradition, though this conclusion is based on a relatively small number of sites (most notably the Harris Site [see Ezell 1983, 1987 and others]). At 9,400 to 7,000 years BP, the Remington Hills site in Otay Mesa yielded domed scrapers, adzes, and large leaf-shaped projectile points consistent with transition from the Paleoindian to Archaic Periods. Imported materials present on the site (including Coso-formation obsidian) have indicated that this area was part of a large trading network (Kyle et al. 1994).

Archaic Period (8,500 to 1,500 BP). The Archaic Period is generally associated with desiccation of southern California, with a temporary return to moister conditions towards the middle and terminal Archaic (after 4,000 BP). Artifact assemblages in San Diego County have been characterized for this period as coastal shell midden sites of the La Jollan complex and inland non-shell midden sites of the Pauma complex. Hallmarks for both complexes include flaked cobble tools, basin metates, manos, discoids, and flexed burials. During the early archaic, resource-rich bays and estuaries accommodated relatively dense semi-sedentary populations that exploited shellfish as a staple, supplemented by plant resources. In many coastal areas reliance on shellfish declined after 4,000 years BP, due to silting of wetlands and other factors (Masters and Gallegos 1997). Inland sites lacked access to marine food sources and evidence suggests that exploitation of plant resources had largely replaced the big game hunting of the Paleoindian Period (ibid.).

Late Prehistoric Period (1,500 to European Contact). This period is the first to benefit from contact-era ethnography and is subject to its inherent biases. Interviews of living informants allowed anthropologists to match artifact assemblages and particular traditions with linguistic groups, and plot them geographically (see Kroeber 1925 and others). Evidence collected has suggested that during the Late Prehistoric hunting and gathering continued to diversify, and the diagnostic projectile points include desert side-notch and cottonwood triangular. Flexed inhumations are widely replaced by cremations, and the appearance of the mortar and pestle has been correlated with greater emphasis on plant food (particularly acorn) processing (Christenson 1990; McDonald and Eighmey 1998; Warren 1964, 1968). Ceramics also

proliferate during this period and trade routes have become well established between coastal and inland groups.

Ethnography

The subject property lies within the traditional territory of the Kumeyaay and the Luiseño people.

Kumeyaay. The Kumeyaay are also known as Tipai-Ipai, Kamia, and Diegueño. Their territory ranges from the San Luis Rey River in the north to the Salton Sea and Sand Hills in the east, south to the Hardy River and west to the Todas Santos Bay in Baja, California (Luomala 1978; Kroeber 1925).

Kumeyaay groups spoke three distinct Hokan stock, Yuman language family dialects (still often generalized as Diegueño), including Ipai, Tipai, and a third hypothesized dialect. Ipai is the dialect spoken in the central and northern portions of San Diego County from the Pacifc coast to the Sand Hills in the eastern extent of the Kumeyaay boundaries. Tipia is spoken in the southern portion of the Kumeyaay boundaries, from the Pacific coast to an area just west of Lake Maquata in the southeast. The third hypothesized dialec was likely spoken in “Ha’a, San Jose de la Zorra, La Huerta de los Indios, and Ensenada (Luomala 1978:592-593).

The Kumeyaay occupied semi-sedentary villages or rancherias, and subsisted by hunting and gathering small game and plant resources. They would make flour from acorns, chia, seeds from pigweed, peppergrass, flax, and buckwheat, cacti seeds, seeds of various fruits, *Cyperus erythorhizos*, *Atriplex torreyi*, and other plants. The Kumeyaay also gathered watercess, clover, yucca, miner’s lettuce, various grasses and shrubs, the buds of clover, rose, and cacti, berries from elderberry, manzanita, and juniper trees, plums, cherries, wild onion, agave, prickly pear, tule roots, and pollen. Some bands adhered to an annual cycle of migration between campsites. Areas at different elevations would produce ripened plant resources during different seasons. Bands moved to an area during the season that it was most productive. It was mainly women that were responsible for gathering and horticulture. The Kumeyaay did not climb trees to gather food so they relied on plant resources that grew on the ground and ones that could be knocked down from trees. Plants were usually collected in baskets and net bags, and acorns were stored in granaries. Corn, beans, teparies, and melons were planted by the Imperial Valley Tipai. Wild onions and tobacco were transplanted, and tobacco seeds planted by women. Fires were often set to grassy areas to increase the amount of seeds yielded. Hunting was focused on rodents such as wood rats and rabbits, birds such as quails, doves, geese, and some hawks, lizards, snakes, insects and their larvae, fish. Deer hunting was also practiced although some bands did not partake (Luomala 1978: 600-601).

Bands were the main and largest political units within the Ipai and Tipai. Each band controlled its own territory of around 10 to 30 miles of land that followed a drainage. In addition to a village which was usually centrally located there were also outlying camps located near other water sources. A separate political structure which can be referred to as the sib structure or kinship structure existed as well. These kinship structures could have members that were parts of separate bands. This facilitated relocation of groups to new locales when necessitated by the productivity of the environment. Members of one kinship group could potentially

relocate to be with other members of the same group within a different band's territory, if that locale was producing more resources that could support them (Shipek 1982).

Trade was most common between the Ipai and the Tipai although it did occur between them and other tribes. Salt, dried seafood, dried greens, and abalone shells were traded from groups on the coast to inland groups for items such as acorns, agave, mesquite beans, and gourds (Cuero 1968: 33). However, all manner of goods were also traded such as granite, steatite, ochre, yucca fiber, agave fiber, juncus rushes, feathers, clamshells, horses, nets, basketry caps, winnowing trays, processed acorns and seeds, wild black grapes, wild tobacco, and various other resources (Luomala 1978:601-602).

Clans were exogamous although marriage was preferred between members of clans that they were familiar with. Polygamy was sometimes practiced but monogamy was most common. Parents selected partners for their children and arranged the marriages at the time puberty was reached. The parents of the husband and wife often exchanged gifts and favors and supported the marriage. Daughters were valuable to a family, as they demanded a substantial bridewealth. The Kumeyaay had patrilocal marriage practices, meaning that the bride would relocate to the clan of the groom (Luomala 1978:602).

Toloache, or datura (*Datura ferox*), was an important component in the religion of the Kumeyaay. The Ipai have practiced rituals involving the ingestion of datura for longer than the Tipai, who learned the custom from the Ipai sometime around the 1850s. Once processed correctly, datura can be ingested in order to bring on a hallucinatory state. This "was believed to stabilize an inherent talent and insure its lifelong enhancement" and datura may be used to learn songs or for luck before gambling (Lightfoot and Parrish 2009:263; Luomala 1978:603). Shamans often ingested datura to have visions and assist in rituals. There were different types of powers that could be possessed by shamans. These powers included: the ability to transform into their guardian animal, weather control, skills in herbalism, dream interpretation, hunting large game, and other abilities. There were also evil shamans that could cause people to fall ill or die. These shamans were usually killed to protect the people. Psychological disorders were also common, and were treated through consultation with a curer who may interpret dreams, hypnotize the afflicted individual, and provide practical advice to them (Luomala 1978:604).

Kumeyaay stone tools include complex chipped and groundstone industries, which are commonly manufactured using locally abundant quartzite, felsite, andesite, and fine-grained granitics. Obsidian, chalcedony, chert, and other stone tool materials were also used, but were acquired through trade (Robbins-Wade 1994).

Warfare among the Kumeyaay consisted mainly of clan feuds for "women, trespass, murder, and sorcery" (Luomala 1978). Compared to some surrounding tribes however, the Kumeyaay were not as prone to warfare. Starting in the Mexican period the Kumeyaay became increasingly warlike and battled with and against neighboring tribes, missions, and Mexicans (Woodward 1934; Forbes 1965).

Luiseño. The project site is situated within the traditional boundaries of the Luiseño (Bean and Shipek 1978; Kroeber 1925). Typically, the native culture groups in southern California

are named after nearby Spanish missions, and such is the case for this Takic-speaking population. For instance, the term “Luiseño” is applied to the natives inhabiting the region within the “ecclesiastical jurisdiction of Mission San Luis Rey… [and who shared] an ancestral relationship which is evident in their cosmogony, and oral tradition, common language, and reciprocal relationship in ceremonies” (Oxendine 1983:8). The first written accounts of the Luiseño are attributed to the mission fathers; Sparkman (1908), Oxendine (1983) and others contributed later documentation. Prior to Spanish occupation of California, the territory of the Luiseño extended along the coast from Agua Hedionda Creek to the south, Aliso Creek to the northwest, and the Elsinore Valley and Palomar Mountain to the east. These territorial boundaries were somewhat fluid and changed through time. They encompassed an extremely diverse environment that included coastal beaches, lagoons and marshes, inland river valleys and foothills, and mountain groves of oaks and evergreens (Bean and Shipek 1978:551).

Like other Native American groups in southern California, the Luiseño caught and collected seasonally available food resources, and led a semi-sedentary lifestyle. Luiseño villages generally were located in valley bottoms, along streams, or along coastal strands near mountain ranges sheltered in canyons, near a water source, and in a location that was easily defended. Individuals from these villages took advantage of the varied resources available. They also established seasonal camps along the coast and nearby bays and estuaries to gather shellfish and hunt waterfowl (Kroeber 1925, Bean and Shipek 1978). The Luiseño lived in small communities, which were the focus of family life. Luiseño villages were politically independent, administered by a hereditary chief, and occupied by patrilineally linked extended families (Kroeber 1925; Bean and Shipek 1978). The Luiseño believed in private property, which covered items and land owned by the village, as well as items (houses, gardens, ritual equipment, trade beads, eagle nests, and songs) owned by individuals. Trespass against any property was punished (Bean and Shipek 1978:551).

Luiseño subsistence was based primarily on seeds like acorns, grass seed, Manzanita, sunflower, sage, chia, pine nuts, a kind of fruit called *Prunus ilicifolia*, Christmas berries (*Photinia arbutifolia*), gooseberries, currants, blackberries, elderberries, wild grapes, prickly pear cactus fruit, berries of the aromatic sumac plant (*Rhus trilobata*), the bulbs of several plants of the lily family, various mushrooms, *Yucca Whipplei* and *Yucca Mohavensis*, and white sage, mesquite beans, wild mustard, watercress, wild clover, wild oats, and edible gums obtained from the white oak and the milkweed tree. Acorns were the staple food of the Luiseño. Seeds were dried and ground to be cooked into a mush. Game animals such as deer, rabbit, jackrabbit, wood rat, mice, antelope, and many types of birds supplemented their vegetal intake. Additional food sources included insects such as grasshoppers and green grubs, and fish which were especially important to Luiseño that lived near the coast (Lightfoot and Parrish 2009:341-362; Sparkman 1908:193). The Luiseño utilized fire for crop management and communal rabbit drives (ibid.; Bean and Shipek 1978:552).

Residential structures of the Luiseño varied between one of two main forms. Some houses consisted of a conical roof that was placed on a series of logs. Another form consisted of a roof that was not as pointed on the top which was held up by one or two posts. Sweat houses were smaller than dwellings, with an oval floor plan, two support posts which held a log on top of them forming the ridge of the roof. A temple, or a wamkish, was a round fence structure with no roof and was used for ceremonial purposes (Kroeber 1925).

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The Spanish period (1769-1821) is represented by exploration of the region; establishment of the San Diego Presidio and missions at San Diego and San Luis Rey; and the introduction of livestock, agricultural goods, and European architecture and construction techniques. Spanish influence continued to some extent after 1821 due to the continued implementation of the mission system.

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Beattie and Beattie 1974; Cleland 1941).

Local Sequence. Juan Bautista de Anza was the first European to visit the current day City of Escondido in 1776 (City of Escondido 2023). The Rancho Rincon del Diablo, given to Juan Bautista Alvarado by Governor Manuel Micheltoren, subsumed the land on which Escondido now stands in 1843 (City of Escondido 2023; Whetstone 1963). The land was sold to Judge Oliver S. Witherby in the 1850s after Alvardo passed away, and then to the Wolfskill brothers in 1868. The first post office, known initially as Apex, was opened in the early 1880s on McDougal Ranch, which was the first new settlement since Alvarado arrived. The first school in the area was built in 1880 and was later named the Lime Street School. The town was bought by the Escondido Company (the first appearance of the name in historic documents) in 1883 and renamed to Escondido on April 24, 1884 (Whetstone 1963). The area was granted to the Escondido Land and Town Company in 1886 who divided the town into small farms to be sold (Whetstone 1963). Escondido was incorporated by October of 1888 and its first mayor was A. K. Crovath (City of Escondido 2023; Whetstone 1963).

The Escondido Hotel, the first hotel in the area, was built in 1887 on Grand Avenue (Covey 2008; Whetstone 1963). It was a 100-room hotel and was seen as the center of the community during the City's early days until it was demolished in 1925. The Santa Fe railway constructed

a line through Escondido in 1887 as well which greatly benefited the budding city. An improved source of water was sorely needed for the agriculture on which the community was based. This need was finally satisfied in 1895 when the Escondido Mutual Water Company completed a large irrigation project that brought Colorado River water to Escondido (Covey 2008). Grapes, along with citrus, hay, grain, and later avocados, were among the chief cash crops in Escondido and contributed greatly to the towns economic and populational growth in the late Nineteenth and early Twentieth Centuries (Whetstone 1963). By the mid-Twentieth Century, especially beginning in the 1950s, Escondido was becoming more urbanized as the farmland that once supported the community was replaced by housing developments (Escondido History Center 2023; United States Department of Agriculture [USDA] 1938, 1946, 1947, 1953, 1964, 1967, 1968, 1978, 1980, 1981, 1982, 1983, 1984, 1985; Whetstone 1963).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager/Principal Investigator for the current study and wrote the technical report with contributions from BCR Consulting Crew Chief Nicholas Shepetuk, B.A. South Coastal Information Center staff performed the records search using records housed at San Diego State University. Mr. Shepetuk and Staff Archaeologist Doug Kazmier, B.A. completed the field survey.

METHODS

Research

South Coastal Information Center staff performed the records search using San Diego State University records for the current project. This archival research reviewed the status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within the project site boundaries and within a 0.5-mile radius. Additional resources reviewed included the National Register, the California Register, the Built Environmental Resource Directory (BERD), and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Field Survey

An intensive-level cultural resources field survey of the project site was conducted on June 26, 2023. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across the project site. Digital photographs were taken at various points within the project site.

RESULTS

Research

Data from the South Central Coastal Information Center (SCCIC) revealed that 23 previous cultural resource studies have taken place resulting in 14 cultural resources identified within the 0.5-mile research radius. Five previous studies have assessed the project site for cultural resources, and three cultural resources (one prehistoric archaeological site and two historic-period structures) have been identified within its boundaries. One of the previously recorded resource (PMA2301-H-1) was not on file at the South Coastal Information Center and was

instead identified in a previous report provided by the applicant (Gallegos and Harris 1999). The records search results are summarized in Table A, and a bibliography is provided in Appendix E.

Table A. Cultural Resources and Reports Within One Half-Mile of the Project Site

USGS Quad	Cultural Resources	Studies
Valley Center, California (1975)	P-37-1050: Prehistoric Artifact Scatter (0.4 Miles SW) P-37-1053: No Data Available (0.4 Miles NE) P-37-1058: Prehistoric Artifact Scatter (0.2 Miles NW) P-37-1059: Prehistoric Artifact Scatter (0.3 Miles N) P-37-4942: Prehistoric Bedrock Milling Site (0.3 Miles NW) P-37-4943: Prehistoric Bedrock Milling Site (0.4 Miles NW) P-37-12545: Prehistoric Habitation Site (0.25 Miles W) P-37-12546: Prehistoric Bedrock Milling Site (0.4 Miles WNW) P-37-12547: Unspecified Historic Resource (0.4 Miles NW) P-37-12548: Prehistoric Bedrock Milling Site (0.25 Miles E) P-37-15103: No Data Available (0.5 Miles ESE) P-37-17523: Prehistoric Bedrock Milling Slicks* P-37-30889: Vista Irrigation District Bench Flumes* P-37-36304: Historic-Period Trash Scatter (0.3 Miles ESE)	SB-73, 1404, 1586, 2648*, 3605, 4172*, 4306, 4818, 5712, 6796, 8018, 8588*, 8596, 8874, 8909, 9205, 10308, 12655*, 13702, 15420, 16390, 19096, 19097

*Within Project Site

Field Survey

During the field survey BCR Consulting archaeologists identified three previously recorded resources and two newly recorded resources. The previously-recorded resources include one prehistoric archaeological site (a bedrock milling site designated P-37-17523), the historic-period Vista Irrigation District Bench Flumes alignment (designated P-37-30889), and a pre-1948 residence and ancillary structures (designated PMA2303-H-1). The two newly-recorded resources include a historic-period electrical distribution alignment (designated PMA2303-H-2) and a historic-period steel irrigation valve hatch (designated PMA2303-H-3). These resources are described in detail below. They are recorded on DPR523 forms in Appendix A and locations are depicted in Appendix G. The project has been subject to mechanical clearing and grading, construction of the historic-period structures and building, agricultural activity, offroad vehicle traffic, sheetwashing, and aeolian deflation. Vegetation in the surrounding area was characterized by a coastal sage scrub habitat. Surface visibility within the project site varied from zero to 100 percent with an average of approximately 30 percent. Sediment varied between reddish-brown sandy loam and yellowish-brown coarse sand with high levels of decayed granite gravel.

P-37-17523. This resource was originally recorded by N. Harris and L. Tift in 1998 as a large bedrock outcrop containing more than seven milling slicks, a mano, and a single flake. The site was revisited by J. L. Hahnlen in 2017, at which time they did not re-record the previously described features, but instead recorded a bedrock milling slick and a single mano approximately 84 meters to the east as a new locus of the current site. Hahnlen excavated three STPs around the feature to the east and findings were negative for intact buried resources.

BCR Consulting archaeologists revisited the site on June 26, 2023 and were unable to identify any of the features or artifacts previously recorded. This could be the result of weathering or exfoliation of the bedrock that formerly contained milling slicks. The locus recorded by Hahnlen was outside of the project area and a fence has been built since 2017 which restricts access to it.

P-37-30889. This resource was originally recorded by S. Van Wormer in August of 2009 as the Vista Irrigation District Bench Flumes. The flumes were above ground canals with domed covers and were constructed of gunite sprayed on welded wire mesh. Van Wormer surveyed and recorded a 10-mile portion of the flume between Dixon Reservoir and Pechstein Reservoir. It was recommended eligible for listing in the National Register of Historic Places (National Register) under criteria A and C for association with important events and distinct construction method and design. L. Piek and M. DeCarlo rerecorded an unspecified portion of the flume on April 3, 2015. They found it in place as previously described.

BCR Consulting revisited the portion of the resource that crosses the project site on June 26, 2023 (depicted in Figure 1). It remains in place as described by Van Wormer in 2009.

PMA2301-H-1. This resource was originally identified in July of 1999 by Gallegos and Harris as a clapboard house constructed prior to 1948 with modern room additions, sheds, and other associated buildings. BCR Consulting revisited the house and found it to remain as previously described. However, the three associated structures have since been demolished, leaving only their concrete pads and/or footings. BCR recorded the house, and three foundations approximately 100 feet to the northwest which consisted of two concrete pads and one concrete strip foundation. The house is vernacular style with clapboard siding, and exhibits an irregular floor plan and low-pitched gabled roof with eaves. The northeast extension of the house has exterior walls which feature an uncut stone masonry base between two and three feet in height and clapboard siding that matches the rest of the building. The roof features composite shingles. Based on historic aerial photographs, the house was constructed between 1939 and 1947 (United States Department of Agriculture 1939, 1947). The concrete foundations that contained former structures were constructed between 1953 and 1963. The structures were demolished between 2003 and 2005.

PMA2301-H-2. This resource comprises a segment of a historic-period electrical distribution alignment that contains five wood utility poles with inspection nails ranging in age from 1945 to 1960. The segment connects with another electrical distribution alignment that runs along the north side of Rincon Avenue. This line appears to extend underground from the westernmost pole in its alignment which is located approximately 400 feet to the west of the entrance to 1365 Rincon Avenue. The eastern terminus of the alignment lies approximately 0.63 miles to the east, where it diverts onto private properties. Topography varies from gentle slopes with a northwestern aspect on the north end of the alignment, to slopes of up to 35 degrees with variable aspect on the south end. Vegetation is characterized by a coastal sage brush community. Sediment varies between reddish-brown sandy loam and yellowish-brown coarse sand with high levels of decayed granite gravel. Visibility varied considerably with an average of approximately 30 percent.

PMA2301-H-3. This resource is a steel irrigation valve hatch. The hatch has been subject to corrosion and is rectangular in shape. It measures six by two feet, oriented northwest by southeast. An access handle is placed on its southeast edge. The handle is approximately seven-inches-long and about an inch in diameter. It is secured by a padlock. Vegetation is characterized by coastal sage scrub community. Sediment varies between reddish-brown sandy loam and yellowish-brown coarse sand with high levels of decayed granite gravel. Visibility was zero percent in the immediate vicinity.

SIGNIFICANCE EVALUATIONS

During the field survey five cultural resources (one prehistoric and four historic-period) were identified. CEQA (PRC Chapter 2.6, Section 21083.2 and CCR Title 145, Chapter 3, Article 5, Section 15064.5) calls for the evaluation and recordation of historic and archaeological resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the *CEQA Guidelines* and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance.

California Register Significance Criteria

California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
2. It is associated with the lives of persons important to local, California, or U.S. history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.
Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Significance Threshold Criteria

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;
c) Disturb any human remains, including those interred outside of formal cemeteries.

California Register Evaluations

The five cultural resources identified during the records search and field survey are evaluated for California Register listing eligibility below.

P-37-17523. This site consists of a series of bedrock milling slicks and associated lithic artifacts. The site is not associated with important events or individuals (California Register Criteria 1 and 2). Such a site is not indicative of the distinctive characteristics of a type, period, region, or method of construction, and does not represent the work of a master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (California Register Criterion 3). Buried archaeological deposits may be intact at this site. As such this site exhibits potential to yield information important to the prehistory or history of the local area, California, or the nation (California Register Criterion 4). Because of the resource's potential ability to meet California Register Criterion 4, BCR Consulting recommends that it is potentially eligible for the California Register, and as such is recommended a potential historical resource under CEQA.

While a buried component could add to the current body of knowledge, this site does not appear to be a unique archaeological resource. Specifically, it does **not**:

- appear to have potential to answer important scientific research questions,
- exhibit potential for a special and particular quality such as being the oldest of its type or the best available example of its type,
- indicate potential association with a scientifically recognized important prehistoric or historic event or person.

P-37-30889. This site consists of a portion of the historic-period Vista Irrigation District Bench Flumes. BCR Consulting has conducted substantial research regarding this resource and has found the recommendations made in previous site records to be appropriate. Gallegos and Harris (1999) recommended that this historic-period flume was associated with events that have made significant contributions to the broad patterns of history relating to the development

of Escondido (California Register Criterion 1). That research has failed to indicate that the resource is associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to the resource (California Register Criterion 2). Gallegos and Harris (1999) also recommended that this resource featured a unique design and construction techniques and therefore embodied the distinctive characteristics of a type and method of construction (California Register Criterion 3). Finally, the resource does not appear to exhibit any further data potential, and it is not likely to yield information important to the history of the region (California Register Criterion 4). Although this study has not observed the portions of this resource that are outside the project boundaries, the segment identified remains intact as described by Gallegos and Harris. Therefore, this resource appears to remain eligible for the California Register under criteria A and C.

PMA2301-H-1. This historic-period house has not been evaluated for California Register listing eligibility. As such, it is considered potentially eligible for California Register listing.

PMA2301-H-2. This resource consists of a portion of a historic-period utility alignment. BCR Consulting has conducted substantial research regarding this resource and has found that it is not associated with important events or individuals (California Register Criteria 1 and 2). It is not indicative of the distinctive characteristics of a type, period, region, or method of construction, and does not represent the work of a master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (California Register Criterion 3). The site does not exhibit any further data potential, and it is not likely to yield information important to the history of the region (California Register Criterion 4). Furthermore, this site does not appear to be a unique archaeological resource. Specifically, it does not:

- appear to have potential to answer important scientific research questions,
- exhibit potential for a special and particular quality such as being the oldest of its type or the best available example of its type,
- indicate potential association with a scientifically recognized important prehistoric or historic event or person.

Because of the resource's failure to meet California Register criteria, combined with its lack of uniqueness, it is not recommended a potential historical resource under CEQA.

PMA2301-H-3. This site consists of an historic-period irrigation valve hatch. BCR Consulting has conducted substantial research regarding this resource and has found that it is not associated with important events or individuals (California Register Criteria 1 and 2). It is not indicative of the distinctive characteristics of a type, period, region, or method of construction, and does not represent the work of a master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (California Register Criterion 3). The site does not exhibit any further data potential, and it is not likely to yield information important to the history of the region (California Register Criterion 4). Furthermore, this site does not appear to be a unique archaeological resource. Specifically, it does not:

- appear to have potential to answer important scientific research questions,
- exhibit potential for a special and particular quality such as being the oldest of its type or the best available example of its type,
- indicate potential association with a scientifically recognized important prehistoric or historic event or person.

Because of the resource's failure to meet California Register criteria, combined with its lack of uniqueness, it is not recommended a potential historical resource under CEQA.

RECOMMENDATIONS

BCR Consulting completed a cultural resources assessment of the Temple and Residential Project in the City of Escondido. The records search and field survey identified five cultural resources within the project site boundaries, three updated from previous studies and two newly recorded. The previously-identified resources include one prehistoric archaeological site (a bedrock milling site designated P-37-17523), the historic-period Vista Irrigation District Bench Flumes alignment (designated P-37-30889), and a pre-1948 residence and ancillary structures (designated PMA2303-H-1). Two additional cultural resources were documented during the field survey. These include a historic-period electrical distribution alignment (designated PMA2303-H-2) and a historic-period steel irrigation valve hatch (designated PMA2303-H-3). Each of the resources within the project boundaries is summarized in the following table and described in detail in California DPR 523 forms which have been appended to this report. Recommendations for additional work are provided after the table.

Table B. Cultural Resources within the Project Site

Resource Designation	Description	California Register Eligibility Recommendation	Additional Work Recommended
P-37-17523	Prehistoric Bedrock Milling Site	Potentially Eligible	Avoidance or Archaeological Test Excavation
P-37-30889	Historic-Period Vista Irrigation District Bench Flumes	Eligible	Preservation
PMA2303-H-1	Historic-Period Residence	Potentially Eligible	Preservation or Eligibility Evaluation
PMA2303-H-2	Historic-Period Electrical Distribution	Not Eligible	None
PMA2303-H-3	Historic-Period Steel Irrigation Valve Hatch	Not Eligible	None

Non-significant Resources. The historic-period electrical distribution alignment (PMA2303-H-2) and the historic-period steel irrigation valve hatch (PMA2303-H-3) are recommended not eligible for California Register listing and as such are not significant historical resources under CEQA. These two resources do not require any further consideration.

Significant or Unevaluated Resources not Subject to Project-Related Impacts. The historic-period Vista Irrigation District Bench Flumes alignment (P-37-30889) has been previously recommended eligible for National Register of Historic Places (National Register; Van Wormer 2009). As such it is eligible for California Register listing and is a significant historical resource under CEQA. The historic-period residence (PMA2303-H-1) has not been

evaluated for California Register listing. It is considered potentially-significant. Preservation is the preferred manner of treatment for significant or potentially-significant resources. The concrete foundations near the house are not considered significant or potentially significant. A review of project plans show that P-37-30889 and the historic residence at PMA2303-H-1 are outside the proposed impact area. Since they will not be subject to impacts, no further consideration is required. Should the project description change to include impacts to either resource, further evaluation and/or analysis would be necessary.

P-37-17523. The prehistoric bedrock milling site designated P-37-17523 is considered potentially eligible for the California Register due to potential significance. Preservation in place is the preferred manner of treatment for archaeological/historical resources. If preservation is not feasible, California Register eligibility evaluations will be necessary for this potentially eligible resource. Evaluations would take place in consultation with the applicant, the City, and with any consulting Native American entities. Evaluations would likely involve:

- Preparation of a research design
- Surface collection of artifacts
- Mapping of artifacts and features
- Systematic test excavations
- Artifact tool and source analysis
- Preparation of a technical report to present evaluation results.

Any resources that are determined eligible would require mitigation of significant impacts. Mitigation options for historical resources typically include the following:

- Preservation in place is the preferred approach to mitigate effects to historical resources.
- If preservation in place is not feasible, then a Phase III data recovery plan, which provides for adequately recovering scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any undertaking or project-related excavation.

Due to the presence of a prehistoric archaeological site located within the project site boundaries and a high number of prehistoric archaeological sites in the vicinity, the area is considered sensitive for buried archaeological resources. Therefore, any proposed ground disturbing activities should be monitored by a professional archaeologist working under the direct supervision of a cultural resource professional that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology (the qualified archaeologist). In the event of a suspected cultural resource discovery, the monitor would be authorized to temporarily stop or divert construction in the area of the find until it could be evaluated for significance by the qualified archaeologist. Significant or potentially significant resources would be subject to preservation or eligibility evaluation in consultation with the applicant, the City, and with any participating Native American entities.

Findings were negative during the Sacred Lands File search with the NAHC (see Appendix C). The City will initiate Assembly Bill (AB) 52 Native American Consultation for the project. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during

the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would "directly or indirectly destroy a unique paleontological resource". The Paleontological Overview provided in Appendix D has recommended that:

> The geologic units underlying the project area are mapped primarily as Pleistocene aged old alluvial flood-plain deposits at the northern end of the project and Cretaceous monzogranite elsewhere (Kennedy, Tan, Bovard, Alvarez, Watson, and Guitierrez 2007). Monzogranite units are considered to be paleontologically sensitive. On the other hand, Pleistocene alluvial units are considered to be fossiliferous and highly paleontologically sensitive. The Western Science Center does not have any localities within the project area or within a 1 mile radius, although we do have localities from similarly mapped units from across Southern California.
>
> Any fossil specimens recovered from the Proposed Temple and Residential Project would be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils from the study area.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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1978 Tipai-Ipai. In *California*, edited by R.F. Heizer. Handbook of North American Indians, Vol. 8, pp. 592-609. W.C. Sturtevant, general editor, Smithsonian Institution.

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1963 The Escondido Story. *The Journal of San Diego History*, *San Diego Historical Society Quarterly*, 9(3).

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APPENDIX A

CONFIDENTIAL DEPARTMENT OF PARK AND RECREATION 523 FORMS

APPENDIX B

PROJECT PHOTOGRAPHS

Photo 1: PMA2301-H-1, Feature F2 in Foreground with Features F3 and F4 in Background

Photo 2: PMA2301-H-1, 1365 Rincon Ave; View SW

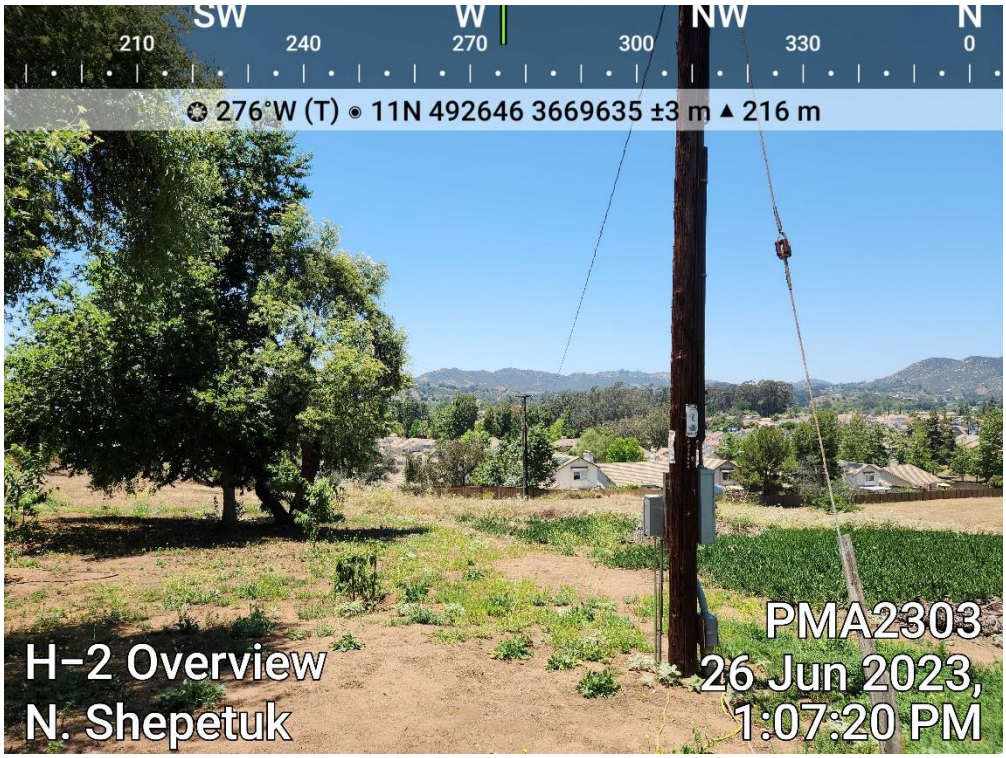

Photo 3: PMA2301-H-2 Overview from N End of the Alignment

Photo 4: PMA2301-H-3 Top of Hatch

Photo 5: P-37-17523 Overview of Location of Mapped Slicks

Photo 6: Vista Irrigation District Bench Flume (P-37-30889) in Background (View ESE)

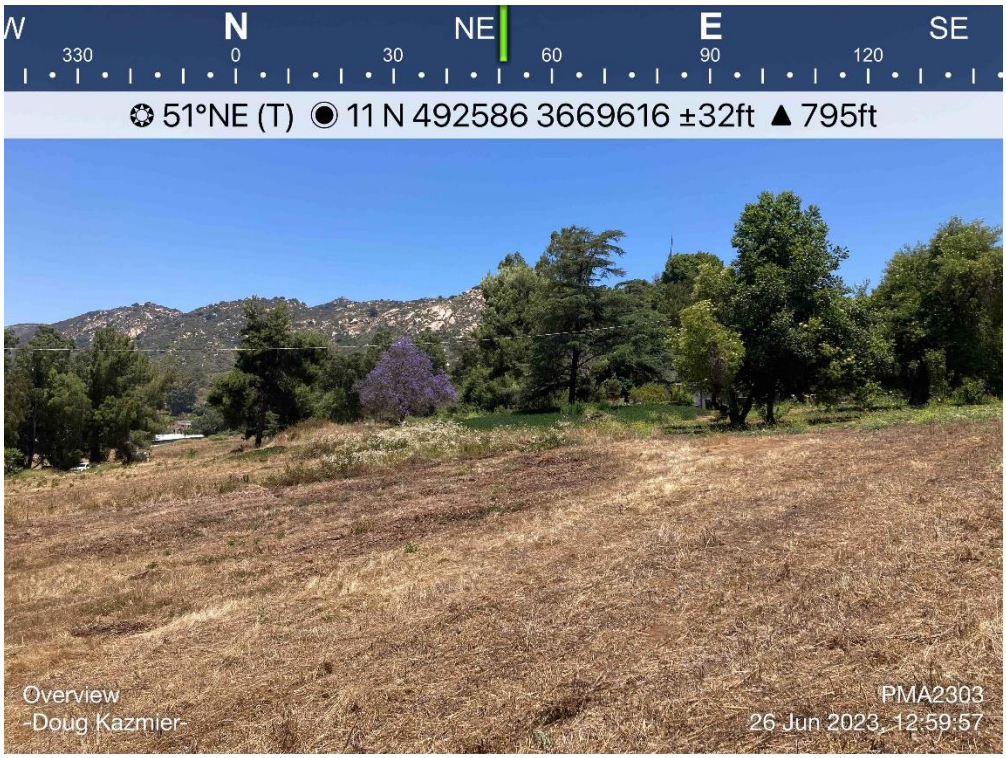

Photo 7: Project Overview from Central Portion of W Boundary

Photo 8: Project Overview from Center

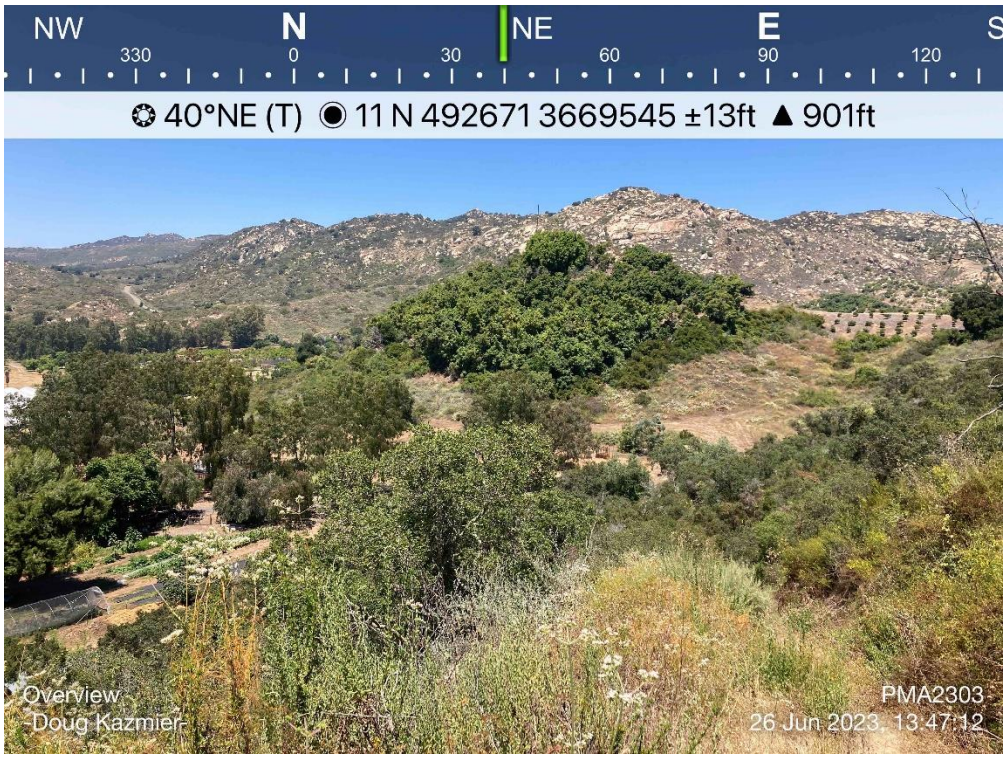

Photo 9: Project Overview from SW Portion

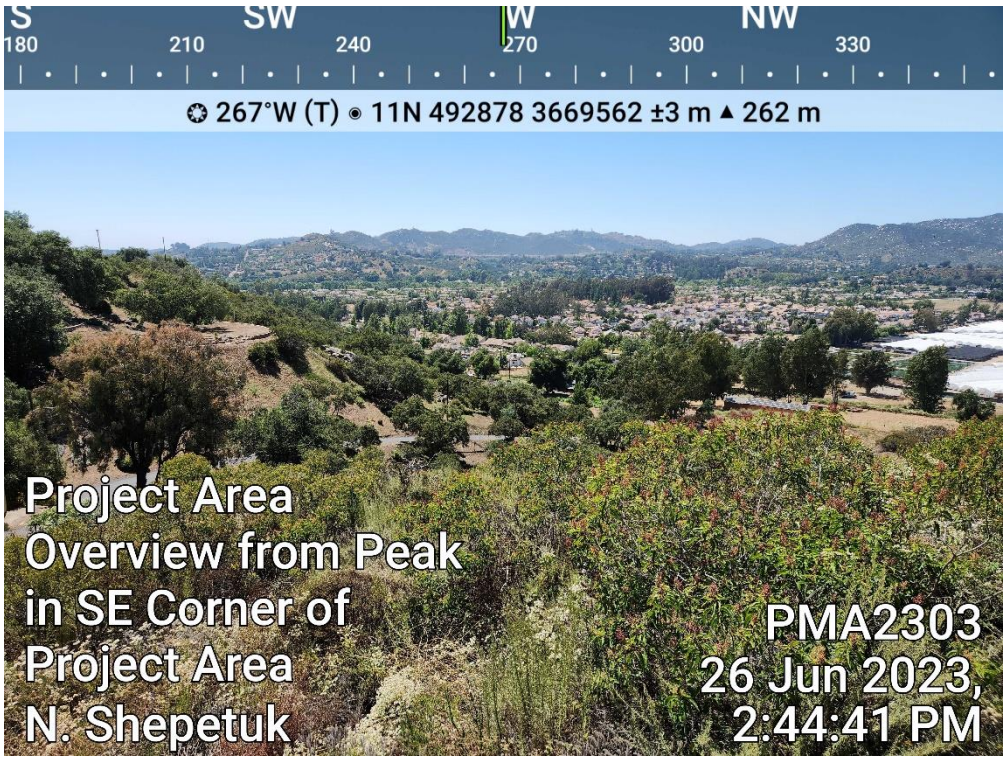

Photo 10: Project Overview

APPENDIX C

NATIVE AMERICAN HERITAGE COMMISSION CORRESPONDENCE

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

June 29, 2023

Joseph Orozco
BCR Consulting LLC

Via Email to: bcrllc2008@gmail.com

Re: Proposed Temple and Residential Project, San Diego County

Dear Mr. Orozco:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Diego County
6/29/2023
*Federally Recognized Tribe

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Campo Band of Diegueno Mission Indians
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Ewiiaapaayp Band of Kumeyaay Indians
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Iipay Nation of Santa Ysabel
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Iipay Nation of Santa Ysabel
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Jamul Indian Village
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La Jolla Band of Luiseno Indians
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La Posta Band of Diegueno Mission Indians
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Temple and Residential Project, San Diego County.

Native American Heritage Commission
Native American Contact List
San Diego County
6/29/2023
*Federally Recognized Tribe

La Posta Band of Diegueno Mission Indians
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Pala Band of Mission Indians
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Quechan Tribe of the Fort Yuma Reservation
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Temple and Residential Project, San Diego County.

Native American Heritage Commission
Native American Contact List
San Diego County
6/29/2023
*Federally Recognized Tribe

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Soboba Band of Luiseno Indians
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Temple and Residential Project, San Diego County.

Sycuan Band of the Kumeyaay Nation
Kristie Orosco, Kumeyaay Resource Specialist
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 6917

Sycuan Band of the Kumeyaay Nation
Cody Martinez, Chairperson
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
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Viejas Band of Kumeyaay Indians
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1 Viejas Grade Road Kumeyaay
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rteran@viejas-nsn.gov

Viejas Band of Kumeyaay Indians
Ernest Pingleton, THPO
1 Viejas Grade Road Kumeyaay
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epingleton@viejas-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Temple and Residential Project, San Diego County.

APPENDIX D

PALEONTOLOGICAL RESOURCES OVERVIEW

WESTERN SCIENCE CENTER

July 13th, 2023

BCR Consulting, LLC
Joseph Orozco
505 W. 8th St.
Claremont, CA 91711

Dear Mr. Orozco,

This letter presents the results of a record search conducted for the Proposed Temple and Residential Project in the census-designated place of Escondido, San Diego County, CA. The project site is located south of Rincon Avenue and west of Conway Drive on Township 12 South, Range 2 West, Section 3 of *Valley Center, CA* USGS 7.5 minute quadrangle.

The geologic units underlying the project area are mapped primarily as Pleistocene aged old alluvial flood-plain deposits at the northern end of the project and Cretaceous monzogranite elsewhere (Kennedy, Tan, Bovard, Alvarez, Watson, and Guitierrez 2007). Monzogranite units are not considered to be paleontologically sensitive. On the other hand, Pleistocene alluvial units are considered to be fossiliferous and highly paleontologically sensitive. The Western Science Center does not have any localities within the project area or within a 1 mile radius, although we do have localities from similarly mapped units from across Southern California.

Any fossil specimens recovered from the Proposed Temple and Residential Project would be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils from the study area.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

Proposed Temple and Residential Project

project area + 1 mile radius

Legend

- 1 Mile Radius
- grMz: Mesozoic granitic rocks, unit 3 (Sierra Nevada, Death Valley area, Northern Mojave Desert and Transverse Ranges) (Permian to Tertiary; most Mesozoic)
- J: Jurassic marine rocks, unit 4 (Peninsular Ranges and Western Transverse Ranges) (Paleozoic(?) to Late Jurassic)
- Proposed Temple and Residential Project

Belle Marie Winery
JESMOND DENE
DALEY RANCH
Daley Ranch
Rincon Ave
Reidy Creek Golf Course
Dixon Lake
NORTH BROADWAY
Centre City Parkway
N Nutmeg St
N Iris Ln
Valley Center Rd
Mayflower Dog P
COUNTRY CLUB
Survey
Google Earth
1 mi
N

APPENDIX E

RECORDS SEARCH BIBLIOGRAPHY

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SD-02648	NADB-R - 1122648; Voided - SMITHB 097	1990	SMITH, BRIAN F.	AN ARCHAEOLOGICAL SURVEY OF THE MALONE LOT SPLIT PROJECT ESCONDIDO, COUNTY OF SAN DIEGO	BRIAN F. SMITH AND ASSOCIATES	
SD-04172	NADB-R - 1124172; Voided - GALLEGO207	1999	GALLEGOS, DENNIS R. and NINA HARRIS	CULTURAL RESOURCE SURVEY FOR ISKCON CULTURAL CENTER ESCONDIDO, CALIFORNIA	GALLEGOS AND ASSOCIATES	
SD-08588	NADB-R - 1128588; Voided - CITYESC03	1980	CITY OF ESCONDIDO	DRAFT ENVIRONMENTAL IMPACT REPORT FOR EXPANSION OF WASTEWATER TREATMENT FACILITY	CITY OF ESCONDIDO	
SD-12655	NADB-R - 1132655; Voided - ROBBINS296	2009	ROBBINS-WADE, MARY, ANDREW GILETTI, and STEPHEN VAN WORMER	HISTORIC AND ARCHAEOLOGICAL RESOURCES SURVEY, VISTA FLUME STUDY, VISTA, SAN MARCOS, AND ESCONDIDO SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	37-030889
SD-16390	NADB-R - 1136390	2015	ROBBINS-WADE, MARY	HIDDEN VALLEY ESTATES PROJECT, TM 932; CULTURAL RESOURCES UPDATE STUDY	HELIX Environmental Planning	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SD-00073	NADB-R - 1120073; Voided - APEC 06	1980	American Pacific Environmental Consultants, Inc.	An Archaeological Test Excavation at Oak Creek.	American Pacific Environmental Consultants Inc.	37-001057, 37-004942, 37-004943, 37-004944
SD-01404	NADB-R - 1121404; Voided - ECKHARDW05	1977	Eckhardt, William T.	Archaeological Investigations of the Von Seegern Annexation Project Escondido, California.	WESTEC Services, Inc.	37-001057, 37-004942, 37-004943, 37-004944
SD-01586	NADB-R - 1121586; Voided - SUTTON 9	1978	Sutton, Mark Q.	The Archaeology of Escondido Woods SDi-4942 and SDi-4943	Paul G. Chace & Associates	37-004942, 37-004943
SD-02648	NADB-R - 1122648; Voided - SMITHB 097	1990	SMITH, BRIAN F.	AN ARCHAEOLOGICAL SURVEY OF THE MALONE LOT SPLIT PROJECT ESCONDIDO, COUNTY OF SAN DIEGO	BRIAN F. SMITH AND ASSOCIATES	
SD-03605	NADB-R - 1123605; Voided - PIGNIOLO47	1999	PIGNIOLO, ANDREW R. and MICHAEL BAKSH	CULTURAL RESOURCE INVENTORY OF THE PROPOSED ESCONDIDO CHURCH AND SCHOOL PROJECT CITY OF ESCONDIDO, CALIFORNIA	RUDY VERDIN, APOSTOLIC ASSEMBLY OF ESCONDIDO	
SD-04172	NADB-R - 1124172; Voided - GALLEGO207	1999	GALLEGOS, DENNIS R. and NINA HARRIS	CULTURAL RESOURCE SURVEY FOR ISKCON CULTURAL CENTER ESCONDIDO, CALIFORNIA	GALLEGOS AND ASSOCIATES	
SD-04306	NADB-R - 1124306; Voided - WESTEC54	1976	WESTEC SERVICES and RICHARD CARRICO	ARCHAEOLOGICAL SURVEY OF THE DALEY RANCH NORTH OF ESCONDIDO, SAN DIEGO COUNTY	WESTEC SERVICES, INC.	37-001051, 37-001053, 37-001059, 37-001060
SD-04818	NADB-R - 1124818; Voided - BEDDOW25	2002	BEDDOW, DONNA	NEGATIVE CULTURAL RESOURCES SURVEY REPORT FOR THE CHUBBIC TENTATIVE PARCEL MAP; TPM 20699; LOG NO. 02-08-055; APN 187-360-68	DONNA BEDDOW	
SD-05712	NADB-R - 1125712; Voided - ANDERSON 1	1993	ANDERSON, SHANNA	ARCHAEOLOGICAL SURVEY FOR ESCONDIDO MASTER PLAN CORRECTION OF DISCREPANCY FOR PARCEL P11, SITE EPS-30H/CA-SDI-12547H	OGDEN	37-012547
SD-06796	NADB-R - 1126796; Voided - TUMA 01	2001	TUMA, BRIAN	AN ARCHAEOLOGICAL SURVEY FOR THE HIDDEN VALLEY RANCH PROJECT ESCONDIDO CALIFORNIA	BRIAN F. SMITH & ASSOC.	37-012548
SD-08018	NADB-R - 1128018; Voided - TUMA 11	2002	TUMA, MICHAEL W.	AN ARCHAEOLOGICAL SURVEY FOR THE BROOKSIDE II PROJECT, ESCONDIDO, CALIFORNIA	BRIAN F. SMITH AND ASSOCIATES	
SD-08588	NADB-R - 1128588; Voided - CITYESC03	1980	CITY OF ESCONDIDO	DRAFT ENVIRONMENTAL IMPACT REPORT FOR EXPANSION OF WASTEWATER TREATMENT FACILITY	CITY OF ESCONDIDO	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SD-08596	NADB-R - 1128596; Other - KEA JOB NO. 91-25; Voided - KELLER03	1992	KELLER ENVIRONMENTAL ASSOCIATES, INC	APPENDICES-RECLAIMED WATER DISTRIBUTION SYSTEM PROJECT: DRAFT ENVIRONMENTAL IMPACT REPORT	KELLER ENVIRONMENTAL ASSOC.	
SD-08874	NADB-R - 1128874; Voided - ECKHARDW22	1977	ECKHARDT, WILLIAM T.	ARCHAEOLOGICAL INVESTIGATIONS OF THE VON SEGGERN ANNEXATION PROJECT, ESCONDIDO, CALIFORNIA	WESTEC SERVICES, INC	37-001050, 37-001051, 37-001052, 37-001054, 37-001055, 37-001056, 37-001057, 37-001058, 37-001059, 37-001060, 37-001063, 37-003625, 37-004561, 37-004905, 37-004942, 37-004943, 37-004944
SD-08909	NADB-R - 1128909; Voided - BREECE02	1978	BREECE, WILLIAM H.	Archaeological Survey for Escondido Woods Escondido, California	William H. Breece	37-001058, 37-004942, 37-004943
SD-09205	NADB-R - 1129205; Voided - KYLE269	2004	KYLE, CAROLYN	CULTURAL RESOURCE SURVEY FOR A PARCEL LOCATED ON LEHNER AVENUE, CITY OF ESCONDIDO, CALIFORNIA	KYLE CONSULTING	
SD-10308	NADB-R - 1130308; Voided - KYLE322	2006	Kyle, Carolyn	CULTURAL RESOURCE SURVEY FOR APPROXIMATELY 13 ACRES LOCATED IN THE CITY OF ESCONDIDO, CALIFORNIA	Kyle Consulting	
SD-12655	NADB-R - 1132655; Voided - ROBBINS296	2009	ROBBINS-WADE, MARY, ANDREW GILETTI, and STEPHEN VAN WORMER	HISTORIC AND ARCHAEOLOGICAL RESOURCES SURVEY, VISTA FLUME STUDY, VISTA, SAN MARCOS, AND ESCONDIDO SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	37-030889
SD-13702	NADB-R - 1133702; Voided - WHITJ83	2009	WHITAKER, JAMES E.	CULTURAL RESOURCES REVIEW FOR THE REPLACEMENT OF SIX DISTRIBUTION POLES IN ESCONDIDO, ETS #7901	E2M	
SD-15420	NADB-R - 1135420	2012	Mary Robbins-Wade	Vista Verde Reservoir Cultural Resources Survey	HELIX Environmental Planning	
SD-16390	NADB-R - 1136390	2015	ROBBINS-WADE, MARY	HIDDEN VALLEY ESTATES PROJECT, TM 932; CULTURAL RESOURCES UPDATE STUDY	HELIX Environmental Planning	
SD-19096	NADB-R - 1139096	2016	HECTOR, SUSAN and JOSHUA A. TANSEY	ARCHAEOLOGICAL MONITORING FOR THE SDG&E HIDDEN VALLEY OVERHEAD REMOVAL, ESCONDIDO, SAN DIEGO COUNTY, CALIFORNIA (SDG&E ETS #32618)	NWB ENVIRONMENTAL SERVICES, LLC	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SD-19097	NADB-R - 1139097	2016	HECTOR, SUSAN and JOSHUA A. TANSEY	ARCHAEOLOGICAL SURVEY FOR THE SDG&E, HIDDEN VALLEY OVERHEAD REMOVAL, ESCONDIDO, SAN DIEGO COUNTY, CALIFORNIA (SDG&E ETS #32618)	NWB ENVIRONMENTAL SERVICES, LLC	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-37-017523	CA-SDI-015357	Other - M-S-1				1999 (Gallegos & Associates)	SD-16781
P-37-030889		Other - VID Bench Flumes; Resource Name - Vista Irrigation District Bench Flumes; Resource Name - Vista Irrigation District Bench Flumes	Structure	Historic	HP11 (Engineering structure); HP20 (Canal/aqueduct)	2009 (Stephen Van Wormer, Affinis); 2015 (Lucas Piek, Matthew DeCarlo, ASM Affiliates, Inc.)	SD-12655, SD-13025, SD-13239, SD-13530, SD-14668, SD-17576, SD-18182

Resource List

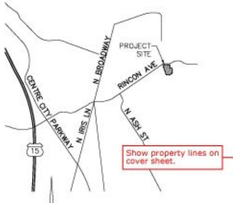
Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-37-001050	CA-SDI-001050						SD-00438, SD-08874
P-37-001053	CA-SDI-001053						SD-04306
P-37-001058	CA-SDI-001058						SD-08874, SD-08909
P-37-001059	CA-SDI-001059						SD-04306, SD-08874
P-37-004942	CA-SDI-004942						SD-00073, SD-01404, SD-01586, SD-04771, SD-08874, SD-08909
P-37-004943	CA-SDI-004943						SD-00073, SD-01404, SD-01586, SD-08874, SD-08909
P-37-012545	CA-SDI-012545						
P-37-012546	CA-SDI-012546						
P-37-012547	CA-SDI-012547						SD-05712
P-37-012548	CA-SDI-012548						SD-06796, SD-14790
P-37-015103							SD-11977
P-37-017523	CA-SDI-015357	Other - M-S-1				1999 (Gallegos & Associates)	SD-16781
P-37-030889		Other - VID Bench Flumes; Resource Name - Vista Irrigation District Bench Flumes; Resource Name - Vista Irrigation District Bench Flumes	Structure	Historic	HP11 (Engineering structure); HP20 (Canal/aqueduct)	2009 (Stephen Van Wormer, Affinis); 2015 (Lucas Piek, Matthew DeCarlo, ASM Affiliates, Inc.)	SD-12655, SD-13025, SD-13239, SD-13530, SD-14668, SD-17576, SD-18182
P-37-036304	CA-SDI-022005	Other - Canyon Grove Stire HIST-1; IC Informal - RNID-3148	Site	Historic	AH04 (Privies/dumps/trash scatters) - Historic Trash Scatter	2017 (Jillian L. Hahnlen, Brian F. Smith & Associates, Inc.)	SD-16781

APPENDIX F

PROJECT PLANS

LEGAL DESCRIPTION

PARCELS A AND B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. SUB14-0004, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. SUB14-0017, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 7, 2014 AS DOCUMENT NO. 2014-0487232 OF OFFICIAL RECORDS



VICINITY MAP
NO SCALE

OWNER / APPLICANT DEVELOPER:

ISKCON OF ESCONDIDO, INC.
ATTN: DHIRU TANTOD
10707 EL CABALLO AVENUE
SAN DIEGO, CA, 52127
(858) 344-0892

I (WE) HEREBY CERTIFY THAT I (WE) AM (ARE) THE RECORD OWNER OF THE PROPERTY SHOWN ON THE TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS ALL MY (OUR) CONTIGUOUS OWNERSHIP IN WHICH I (WE) HAVE ANY DEED OR TRUST INTEREST. I (WE) UNDERSTAND THAT MY (OUR) PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS-OF-WAY.

(SIGNTURE)

SITE ADDRESS:

1315 & 1356 RINCON AVENUE ESCONDIDO, CA 92026

ASSESSOR'S PARCEL NO.:

224-100-84, 224-100-85

ZONING:

EXISTING: RE-20
PROPOSED: RE-20

SCOPE OF WORK:

PROPOSED SUBDIVISION OF EXISTING PARCELS INTO ELEVEN (11) PARCELS WITH TEN (10) LOTS FOR SINGLE FAMILY DWELLINGS WITH DRIVEWAY ACCESS, AN ACCESS ROAD AND CUL-DE-SAC. AND ONE (1) LOT FOR THE PROPOSED NEW DEVELOPMENT INCLUDING THE CONSTRUCTION OF A RELIGIOUS TEMPLE, HALL WITH LIVING AREA, PATIO, DETACHED RESTROOMS, PARKING LOT, AND DRIVEWAY.

GRADING QUANTITIES

CUT	30,000 CY	MAX CUT = 17.4'
FILL	30,000 CY	MAX FILL = 25.1'
NET	BALANCE	

TOPO SOURCE

TOPOGRAPHIC CONTOURS PROVIDED BY REC CONSULTANTS DATED 6-16-2022

SEWER NOTE

ALL LOTS ARE TO BE ON THE PROPOSED SANITARY SEWER SYSTEM THAT SHALL CONNECT TO THE EXISTING PUBLIC SEWER MAIN.

PROJECT AREA CALCULATIONS:

	RESIDENTIAL	TEMPLE
PARCEL AREA:	182,961 SF	885,575 SF
EXISTING PERVIOUS AREA:	181,046 SF	885,575 SF
EXISTING IMPERVIOUS AREA:	1,915 SF	0 SF
PROPOSED PERVIOUS AREA:	164,616 SF	821,300 SF
PROPOSED IMPERVIOUS AREA:	18,345 SF	64,275 SF
PROPOSED BUILDING AREA:	N/A	9,293 SF
ASSEMBLY AREA:	N/A	8,784 SF

PARKING INFORMATION (RESIDENTIAL):

REQUIRED: 2 CAR GARAGE OR CARPORT REQUIRED FOR EACH UNIT PER SINGLE FAMILY RESIDENCE
PROPOSED: 10 LOTS X 2 SPACES = 20 SPACES

PARKING INFORMATION (TEMPLE):

REQUIRED: PER CITY OF ESCONDIDO ORDINANCE, 1 PARKING SPACE FOR EVERY 100 S.F. OF ASSEMBLY AREA
PROPOSED: 8,784 S.F. OF ASSEMBLY AREA / 100 SF = 87.84 ~ 88 PARKING SPACES

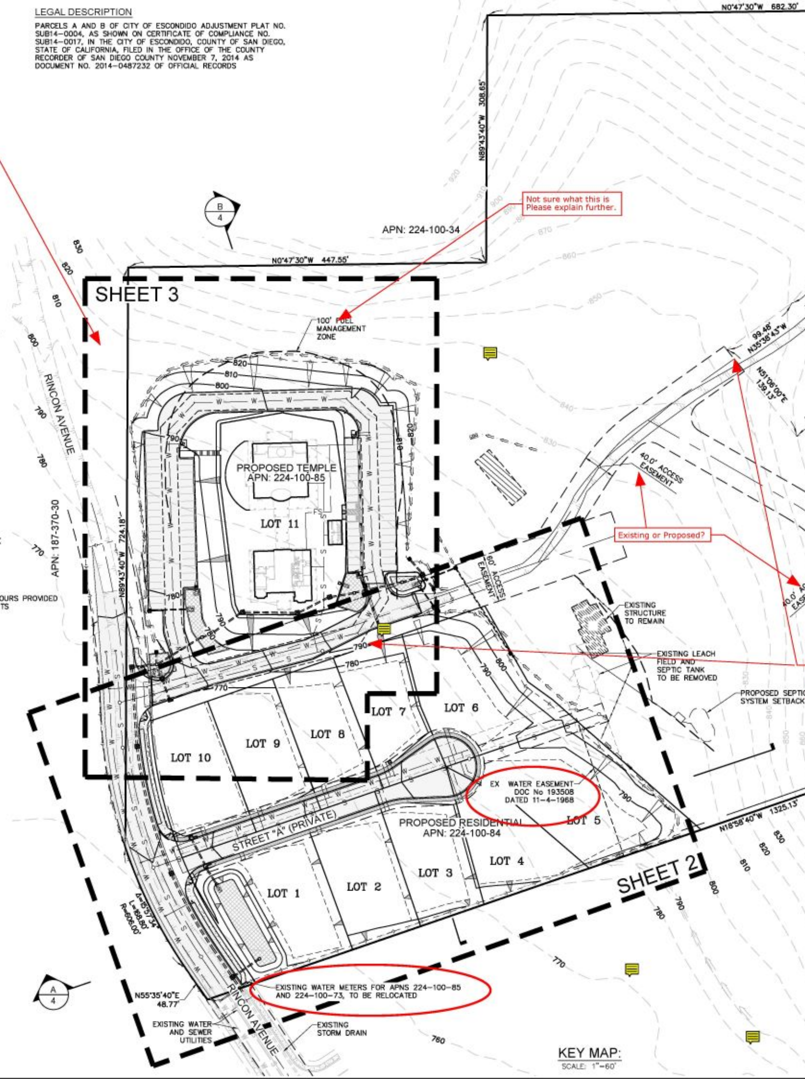
FOR EXISTING IMPROVEMENTS, UTILITIES, AND ALIGNMENT STATIONING, SEE CITY OF ESCONDIDO DWG. NO. P-1755, P-1865

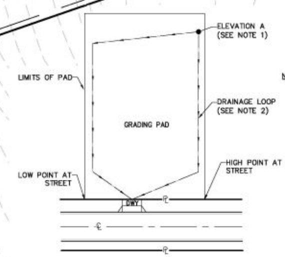
REGISTERED PROFESSIONAL ENGINEER JONATHAN RAAB RYDEEN RCE - 64811 CIVIL STATE OF CALIFORNIA

ENGINEER

JONATHAN RAAB RYDEEN

SCALE: 1" = 60'





1 TYPICAL RESIDENTIAL PAD DRAINAGE
NOT TO SCALE

NOTES:

1. ELEVATION "A" IS LOCATED AT THE MOST REMOTE CORNER OF THE PAD FROM THE DRIVEWAY.
2. MINIMUM 1% SWALE TO STREET OR OTHER DISCHARGE POINT.
3. ALL SLOPE SURFACES SHALL BE PROTECTED BY APPROVED EROSION CONTROL MATERIAL.
4. ALL PADS TO BE BERMED TO PREVENT RUN-OFF TO ADJACENT PADS.

ESCONDIDO City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 2-19-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: TM - SITE PLAN

PROJECT: KRISHNA RESIDENTIAL
ISKCON OF ESCONDIDO.INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 4 SHEETS

APPENDIX G

CONFIDENTIAL CULTURAL RESOURCE LOCATIONS

APPENDIX D

Preliminary Geotechnical Investigation

October 29, 2004
Job No.: 99-020
DCN: 04R-183

ISKCON Cultural Center
1806 Missouri Street
San Diego, CA 92109

ATTENTION: SWAMY BADRINARAYANA DASA

SUBJECT: ADDITIONAL GEOTECHNICAL INVESTIGATIONS (PHASE 2)
PROPOSED SRI RADHA-KRISHNA TEMPLE, SRI BALAJI TEMPLE AND ISKCON CULTURAL CENTER
1365, 1391, & 1491 RINCON AVENUE
CITY OF ESCONDIDO, CALIFORNIA

Dear Swamiji:

In accordance with your authorization, we have completed additional geotechnical investigations for the subject site. We have attached two copies of the report that describes the work performed, our conclusions and our suggestions for carrying out grading and other work related to the geotechnical engineering aspects of the project. If you have any questions or comments on the contents of this report please do not hesitate to contact the undersigned.

We are grateful for the opportunity you have given to us for working on this project.

Thank you.

Sincerely yours,

Dr. Balakrishna Rao, RCE, RGE

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1. INTRODUCTION

Apex Geotechnology, Inc. carried out a preliminary geotechnical investigation program for the subject site and prepared a report entitled "Preliminary Geotechnical Investigation, Proposed ISKCON Cultural Center, Escondido, California", dated November 15, 1999. That report (referenced here as the Phase 1 report) described the subsurface conditions of the site and presented the parameters required for the foundation design. The same phase 1 report also presented the anticipated site grading requirements.

During the design phase of the project, and from discussions with the project engineer it appeared prudent to verify the consistency and uniformity of the subsurface conditions in greater detail so that the grading requirements could be more clearly defined for this site. Therefore, additional explorations were proposed for this project to develop recommendations for carrying out the grading work. Also, these investigations provided an opportunity for us to review and make necessary changes to our previous recommendations. This report provides only supplemental information. Therefore, it is necessary to use the recommendations provided in the Phase 1 report in conjunction with the recommendations developed in this report.

This report describes the additional work carried out in the field and provides more specific guidelines for carrying out the site grading work. The nature of subgrade soils present at this site is granular. Therefore, additional laboratory testing work to determine the strength and deformation characteristics of the soil was not considered to be necessary. Standard penetration tests were carried out to determine the relative density and competence of granular subsurface soils. A limited number of gradation tests were performed to verify the nature of the subgrade soils present in different borings and at different depths. Additional tests were also performed to qualitatively identify the potential for settlement of the site soils (usually referred as the soil collapse) resulting from its saturation caused from rain and irrigation water.

The present investigations were carried out primarily to identify the material that need to be removed during site grading. Such materials include top soil and near surface loose to medium dense terrace deposit and colluvium.

2. SCOPE OF WORK

The present supplemental subsurface investigation program included advancing a limited number of borings around and within the foot-print of the building. The work included carrying out standard penetration tests in various borings at different depths and obtaining a limited number of drive samples using California Sampler.

A limited number of somewhat unconventional laboratory tests were performed as a part of this work. These tests were intended to provide a qualitative feel for the magnitude of settlement that could occur from soil saturation and collapse of the soil structure.

The scope of work also included the preparation of this summary report outlining the procedures used in the investigations, analyses of boring logs, and laboratory test results, providing recommendations for site grading and for the design of structural foundations. The conclusions and recommendations presented are based on the analyses of data obtained from the Phase 1 and the current Phase 2 exploratory borings, laboratory tests and our experience with similar soils.

3. SITE LOCATION AND DESCRIPTION OF THE PROJECT

The proposed structures are to be constructed on the south side of Rincon Road in Escondido on an undeveloped parcel that slopes gently to the North and West (see Vicinity Map, Figure 1). A residential development borders the western property line. The eastern property-line borders a small hill covered with avocado trees. Currently there is one residential structure on the lot

4. PHASE 2 GEOTECHNICAL INVESTIGATIONS

The geotechnical investigations were performed on this property on August 31, 2004. This work consisted of advancing 5 borings to depths that ranged from 13 feet to 19.5 feet. Three of these borings (Borings B-1, B-2 and B-3) were advanced in the southwest, southeast and northeast corners of the foot-print of the proposed structures. The fourth boring (B-4) was located in the vicinity of the center of the proposed foot-print. The fifth boring was located approximately near the mid point of the western edge of the planned structure. These borings were logged by an experienced Certified Engineering geologist. The logs of these borings are included in Appendix A.

5. LABORATORY TESTING

Soil samples obtained in the borings were transported to our laboratory and a testing program was developed. The following tests were conducted to evaluate the subgrade soil conditions. The laboratory test results are presented in Appendix B.

5.1 **Classification:** During subsurface explorations soil samples were visually and texturally classified in accordance with the Unified Soil Classification System. Soil Classifications are indicated on the boring logs.

5.2 **Field Moisture Contents:** Soil samples were obtained in the field at various depths to determine their moisture content. The results of these tests are presented in Table B-1.

5.3 **Field Density Tests:** Dry densities of soil samples were obtained by the weight and volume measurements on ring samples recovered from California Sampler. These results are also included in Table B-2, Appendix B.

5.4 **Particle Size Distribution:** Gradation tests were performed on selected composite samples of soil obtained from different depth ranges of borings. The material was first washed through a No. 200 sieve. A sieve analysis was then performed on the oven dry material retained on the No. 200 sieve. The gradation test results are

presented on Figures B-1 through B-5.

5.5 **Unconventional Soaking Tests:** Load frames normally used for testing the consolidation characteristics of soils were used to determine qualitatively the magnitude of settlement that could occur from soil saturation. Trimmed ring samples of soils recovered from California sampler from various borings were used in these tests. These samples were retained in the original rings and were trimmed on their upper and lower faces and mounted on the consolidation apparatus. The specimens were loaded with pre-established surcharge loads. After the completion of the load induced settlement, the specimens were given access to water through the porous discs provided on the top and bottom surfaces of the ring. The test specimen showed increased displacement. The increased displacements (settlement) caused from increased saturation were monitored for a time duration of about 24 hours under the specified surcharge loads. The results obtained are summarized in Table B-3, in Appendix B. Although the test procedure we have used is not an approved standard procedure, the magnitude of settlement from saturation measured in terms of strain in the specimen seems to suggest the collapse potential of these soils.

6. SITE CONDITIONS

Information on the Surface conditions, Geologic Setting, Stratigraphy and Seismicity were described in the Phase 1 report and hence will not be repeated here. Approximate locations of the Phase 1 and Phase 2 borings are shown on Figure 2, Boring Locations. The site soils consist of near surface top soil with organic materials and roots extending down to depths ranging from 3 ft to about 4 feet from the presently existing grade. Below the top soil, layers of terrace deposit/colluvium were observed. The total thickness of these layers ranged from 6.5 feet to more than 16 feet (in Boring B-5). Weathered Granodiorite was observed below the terrace deposit/colluvium in Borings B1 through B4. Although we did not encounter weathered Granodiorite to a depth of about 20 feet in Boring B5, one would most likely encounter such a layer within a few feet below the bottom of the

boring B-5.

Approximate cross sections were developed using the information obtained from the boring logs. The cross sections are presented in Figures 3, 4 and 5.

The near surface top soils are considered to be unsuitable for the support of fills and/or structures. The less dense portion of the terrace deposit/colluvium appeared to have high porosity and was determined to be susceptible to collapse on saturation (see test results included in Appendix B). Parts of the relatively less dense terrace/colluvium in their present condition may not be suitable for support of fills and/or structures because of their potential for settlement on saturation. Therefore, these materials will require remediation in the form of excavation and re-compaction as recommended later in this report. The weathered part of the Granodiorite is sufficiently dense that it would adequately support the fills and structures planned in this project.

No ground water was encountered in the borings.

7. GEOLOGIC HAZARDS

7.1 Faulting and Seismcity:

No active faults are known to exist at this site. The distance to the nearest known active fault is about 15 miles or more. The site could be subject to moderate to strong ground shaking in the event of an earthquake. The earthquake hazard at this site is considered to be comparable to other sites in the general vicinity. The site structures could experience average ground acceleration in the range of 0.2 to 0.25g.

Absence of ground water within reasonable depths coupled with the nature of materials anticipated to be present at lower depths preclude the possibility of liquefaction at this site caused from the induced earthquake ground accelerations.

7.2 Landslides and other hazards:

Based on our visual observations of the slopes present on and adjacent to this property there are no observed features to suggest existence of landslides on this property. The near surface materials are fine and granular and are susceptible to develop erosion gullies from flow of water during and after rain storms.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 General:

1. The soil and geologic conditions observed at this site are suitable for the development of the planned project.
2. Our investigations did not show conditions that are substantially different from those reported in Phase 1 report.
3. Near surface top soils present at this site should be removed and may be hauled to waste or used as fills in landscape areas. The less dense parts of terrace deposits could be excavated and hauled to waste or could be used as fills after re-compacting to achieve the required density. Although it is a common practice to specify 90 percent minimum compaction for fills in San Diego County, since these soils are granular and can be easily compacted to 95 percent of the maximum we suggest using 95 percent compaction requirements in the specification particularly in areas where large areas of floor slabs are likely to be covered with decorative floor coverings and specialized materials. The site soils are easily compactable by the use of vibratory rollers.
4. In areas where the floor slab extends over cut and fill areas, we recommend over-excavating the cut area and back filling it with compacted soil in order to provide uniform subgrade condition to support the slab. Since the materials are granular, any soil settlement will most likely occur within few months after fill placement, compaction, and construction of the structure. Therefore, planned delayed

Installation of sensitive floor coverings would reduce the potential for occurrence of distress features.

8.2 Soil and Excavation Characteristics:

It is most likely that the soils contained within the upper 10 feet from the natural grade could be excavated with low or moderate effort using heavy-duty grading equipment. Materials from lower depths extending in the Granodiorite layer could require heavy effort with conventional heavy-duty equipment and with potential for occasional use of rock breakers.

We have not carried out any chemical tests to identify the corrosion potential of these soils on the buried metals and concrete. Similarly we have not determined the soluble sulfate contents of the soils to recommend the type of cement to be used in the construction. During or near the completion of site grading work, chemical tests should be performed. The services of a corrosion engineer familiar with the interpretation of the results of these chemical tests should be used to assess the corrosion potential and develop recommendations for mitigating the potential hazards from corrosion of buried utility lines. Apex Geotechnology, Inc. does not have the expertise to recommend the requirements to avert corrosion potential.

8.3 Seismic Design Criteria:

The lower Granodiorite soil is characterized as soil type Sc. The upper material in the terrace deposit or colluvium could be categorized as Sd. The following table may be used for the seismic design criteria in accordance with the requirements specified in the UBC 1997:

SEISMIC DESIGN PARAMETERS

Parameter	Factor	UBC Reference
Zone	0.4	Table 16-1
Profile	Sc and Sd	Table 16-J
Coefficient Ca	0.4 to 0.44 Na	Table 16-Q
Coefficient, Cv	0.56 t0 0.64 Nv	Table 16-R
Near Source Factor, Na	1.00	Table 16-S
Near Source Factor, Nv	1.00	Table 16-T
Seismic Source	B	Table 16-U

8.4 GRADING:

All of the earthwork requirements specified in the preliminary geotechnical engineering report (dated November 15, 1999) are applicable.

Grading should be performed in accordance with the requirements specified by the City of Escondido. Earthwork should be observed and fills tested for adequacy of compaction by the consulting Geotechnical Engineer. Prior to grading, a pre-construction meeting should be held with the project engineer, the grading contractor, civil engineer and the geotechnical engineer. Special soil handling requirements can be discussed at that time.

Initial grading work should begin with the removal of top soil, vegetation, buried utility lines and other construction materials that could be present. The depth of this excavation will extend till the exposed cut areas soils are relatively free from organic materials. The material generated in this process should be preferably wasted off-site unless directed otherwise by the project engineer.

The depth of removal of soil below the organic rich soil layer should extend down to

the base of the finish grade as shown in the grading plan. Additional excavation will be required below limited areas adjacent to the cut/fill lines shown in order to provide uniform support conditions for the floor slabs as described earlier in this report (see approximate cross sections shown on Figures 3, 4 and 5). Acceptable parts of the material excavated from the terrace deposits could be reused as fill by proper compaction of the fill material.

After removal of unsuitable soils and completion of the required excavation, the site could be backfilled in thin lifts not exceeding 8 inches in thickness (of loose materials), moisture conditioned to 1 to 3 percent above optimum and compacted to 95 percent of the maximum determined in accordance with ASTM D 1557-02. The magnitude of relative compaction requirement may be relaxed by the approval of the project engineer and the consulting geotechnical engineer. However, the relative compaction requirement will not be less than the 90 percent of the maximum. The moisture content of the in-place soil is expected to be very low. There is a potential for generation of considerable dust during the excavation. Therefore, the contractor should anticipate the need for providing the volume of water required to control the dust and moisture condition the soil during excavation and compaction.

In order to reduce the potential for differential settlement the cut portion of the cut/fill transition areas of the pad should be under cut to a depth of 3 feet below the cut area of the rough grade elevation.

Although our investigations did not show evidence of large amounts of boulders and cobbles, based on the geologic description of the material we anticipate that there could be oversized materials present within the proposed excavation. The contractor should make his own determination about the presence of hard lumps and rocks that are greater than 8 inches in diameter. If substantial quantities of rocks and boulders are encountered, the project engineer in consultation with the geotechnical engineer will provide recommended placement or export requirements for the over-sized materials.

8.5 Excavation Slopes and Shoring Requirements:

Temporary slopes in terrace deposits may be excavated no steeper than 1:1 to a height of about 15 feet without shoring. Loose cobbles and boulders should be removed from the face of the slope. OSHA codes and regulatory guidelines should be used where applicable. All safety related matters will be the responsibility of the Contractor. The geotechnical engineer is not responsible for monitoring the safety requirements in this project.

Steeper excavation slopes would require support by shoring. Temporary cantilevered shoring may be used to laterally support the excavation walls. The shoring will have to be designed for the conditions observed during the excavation. Continuous support of the excavation face may be achieved by the provision of soldier piles and wood lagging. Since the proposed excavations are of limited area and the site is situated in an open area, the site does not seem to restrict excavation of flatter side slopes. Therefore, it would be possible to take advantage of the flatter slopes in lieu of the shoring required to support the excavation.

8.6 Permanent Slopes:

Permanent cut or fill slopes should be no steeper than 2 horizontal to 1 vertical. In addition, such slopes should have adequate factor of safety against failure.

Soil contained within the outer edges of the fill slopes should consist of properly compacted granular soils. The exposed soils on the slope would need protection by Jute mesh or Enkamat or equivalent manufactured fabrics to minimize erosion damage to the slope face during run offs from heavy rains until adequate vegetation can be established.

Fill slopes should be initially overbuilt by at least 3 feet and cut back to the final slope condition. Back rolling of fill slopes may be required. Proper drainage swales should be

provided parallel to the edge of the slope. Erosion problems could be significant at this site because of the non-cohesive nature of the in-place soil.

The recommendations for the extent of grading beyond the foot print of the structure was specified in the preliminary report dated November 1999.

9. CONDITIONS AND LIMITATIONS

The recommendations presented in this report are specifically intended for the proposed temples and the ISKCON Cultural Center in Escondido, California. Our office should be notified of any changes in the proposed development for further recommendations, if necessary, based on our review. As grading and foundation plans are developed we should have an opportunity to review the anticipated magnitudes of loads on individual column footings and on the perimeter foundations to ensure conformance to our recommendations. We also recommend that our office review any other plans which may affect the geotechnical conditions on-site such as landscaping, irrigation, plumbing, or other similar type plans. A soil engineer should be retained to review any future development plans including building additions in order to develop specific recommendations for proposed construction.

The conclusions and recommendations presented in this report are based on our evaluation of the subsurface materials encountered on-site during our investigation, our understanding of the proposed development, and our general experience in the field of geotechnical engineering. If significant variations in geotechnical conditions are encountered during construction our office should be consulted for further recommendations.

The satisfactory performance of the site is also dependent on proper maintenance. Proper maintenance includes, but is not limited to, providing and maintaining good drainage away from structures and slopes, establishing good vegetation cover on slopes, and

avoiding excess irrigation.

Significant variations in geotechnical conditions may occur with the passage of time due to natural processes or the works of man on this or adjacent properties. In addition, changes in the state of the practice may occur as a result of legislation or the broadening of knowledge. Accordingly, the conclusions and recommendations presented in this report should be reviewed during construction for changed conditions, and updated, if necessary.

Our services consist of professional opinions and recommendations made in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied.

Sincerely yours,

Scott Rugg, RG, CEG
Consulting Engineering Geologist

Dr. Balakrishna Rao, RCE, RGE
Principal Geotechnical Engineer

APPENDIX A

REPORT OF THE SEISMIC REFRACTION SURVEY

(PREPARED BY: SUB SURFACE SURVEYS)

APEX GEOTECHNOLOGY, INC.

Sub Surface Surveys
215 So. Highway 101, Suite 203 ♦ Solana Beach, CA 92075
Phone (619)481-8949 ♦ Fax (619)481-8998

September 18, 1999

ISKCON CULTURAL CENTER
1806 Missouri Street
San Diego, CA 92109

Project Number: 99237
Job Number 99-020

Attn: **Robert Merrill** re: Seismic refraction survey, ISKCON Cultural Ctr, Escondido, CA

This brief letter report is to present the findings of a seismic refraction survey at the Iskcon Temple and Cultural Center at Rincon Avenue just east of Creek Hollow Place in Escondido, California (Fig. 1) on September 7, 1999. The survey was carried out in the mostly open area of the Temple site. Six lines were shot; consisting of one spread each. All lines were 250 feet long, except line 5, which was 200 feet long. Purpose of the survey was to determine depth to bedrock, weathered and unweathered, and its rippability. These values were determined utilizing seismic refraction methodology.

A Bison 9024, 24 channel seismograph system was applied to the task. This instrument has DIFP, digital instantaneous floating point. This translates into a computer-controlled seismograph that records incoming signals at all instrument settings, and these are analyzed by the computer, which then outputs optimum, balanced traces with maximum informational content.

Survey Design - Locations of the six seismic lines, numbered 1 through 6, are illustrated (Fig. 2). It is seen that each of the lines is located so that it is both on and off the building footprint, with some lines off on both sides of the building. Spread lengths are 250 feet from off end shot to off end shot. Geophone interval was 10 feet, and there was a 10 foot offset from off end shots to nearest geophone. There was also a 20 foot gap between geophones 12 and 13 where the split spread shot was fired. The exception, line 5, had a geophone interval of eight feet with eight foot off end shot offsets and a 16 foot gap between geophones 12 and 13 where the split spread shot was fired. The reason for the shortened geophone interval on line 5 was that a topographic and flora barrier to the south effectively prevented further expansion in that direction. These spread lengths allow for an investigation to depths of approximately 75 feet, and 60 beneath line 5. This is significantly deeper than any planned cut slopes. The spreads were shot forward, split spread and reverse. This redundancy aids in determining dip and undulations in layer boundaries.

Source was a heavy duty sledge hammer equipped with an inertial trigger. The accelerated weight drop source was available but was not needed. Vertical stacking was carried out as a noise abatement strategy, and to build energy. Elevations for all shot and geophone locations were surveyed in, as relative elevations, arbitrarily setting the forward end at 100 feet. Then by registration with a detailed topographic map furnish by the client, these relative elevations were

Sub Surface Surveys

SITE LOCATION MAP

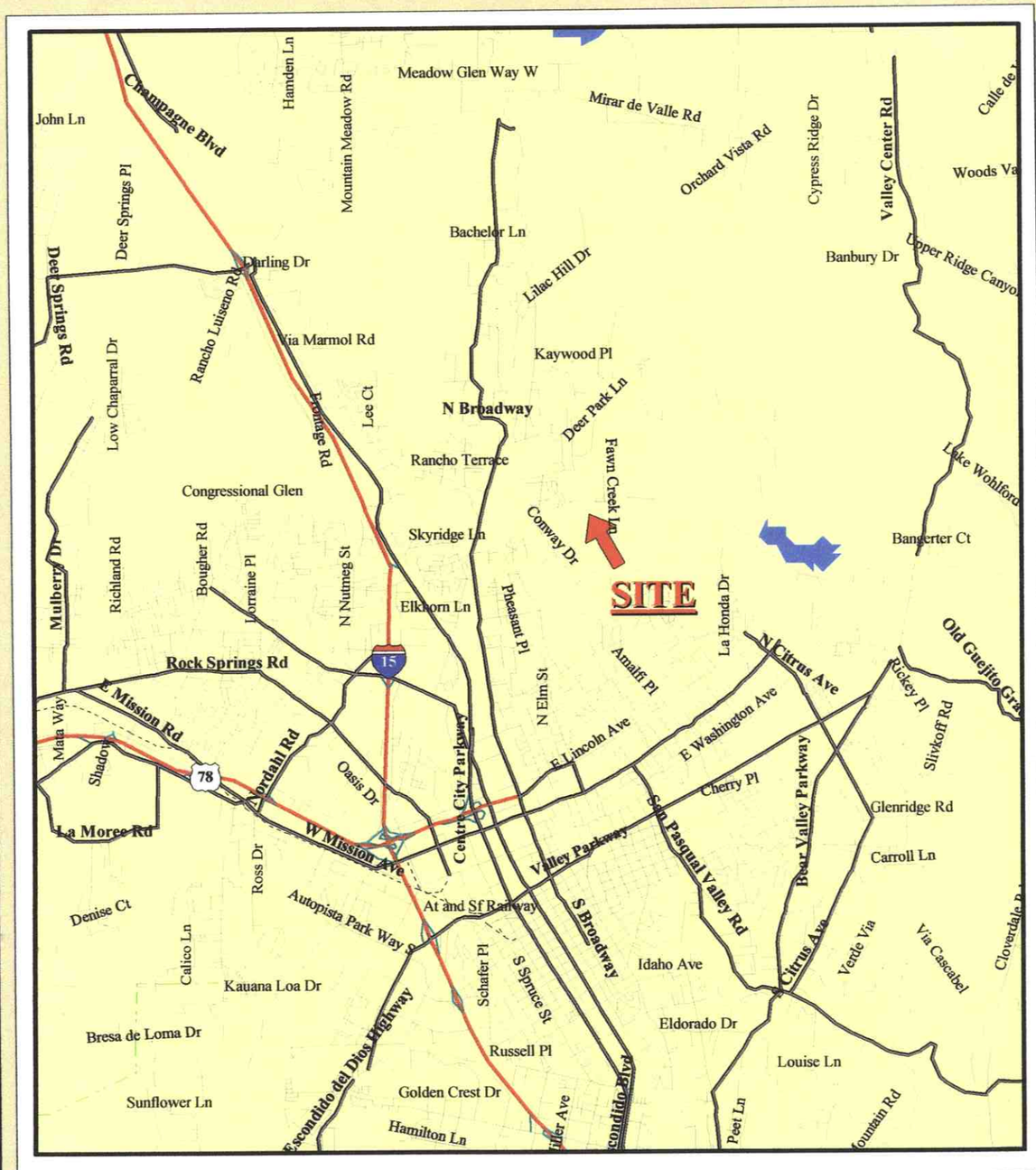


FIGURE 1

Sub Surface Surveys

LINE LOCATION MAP

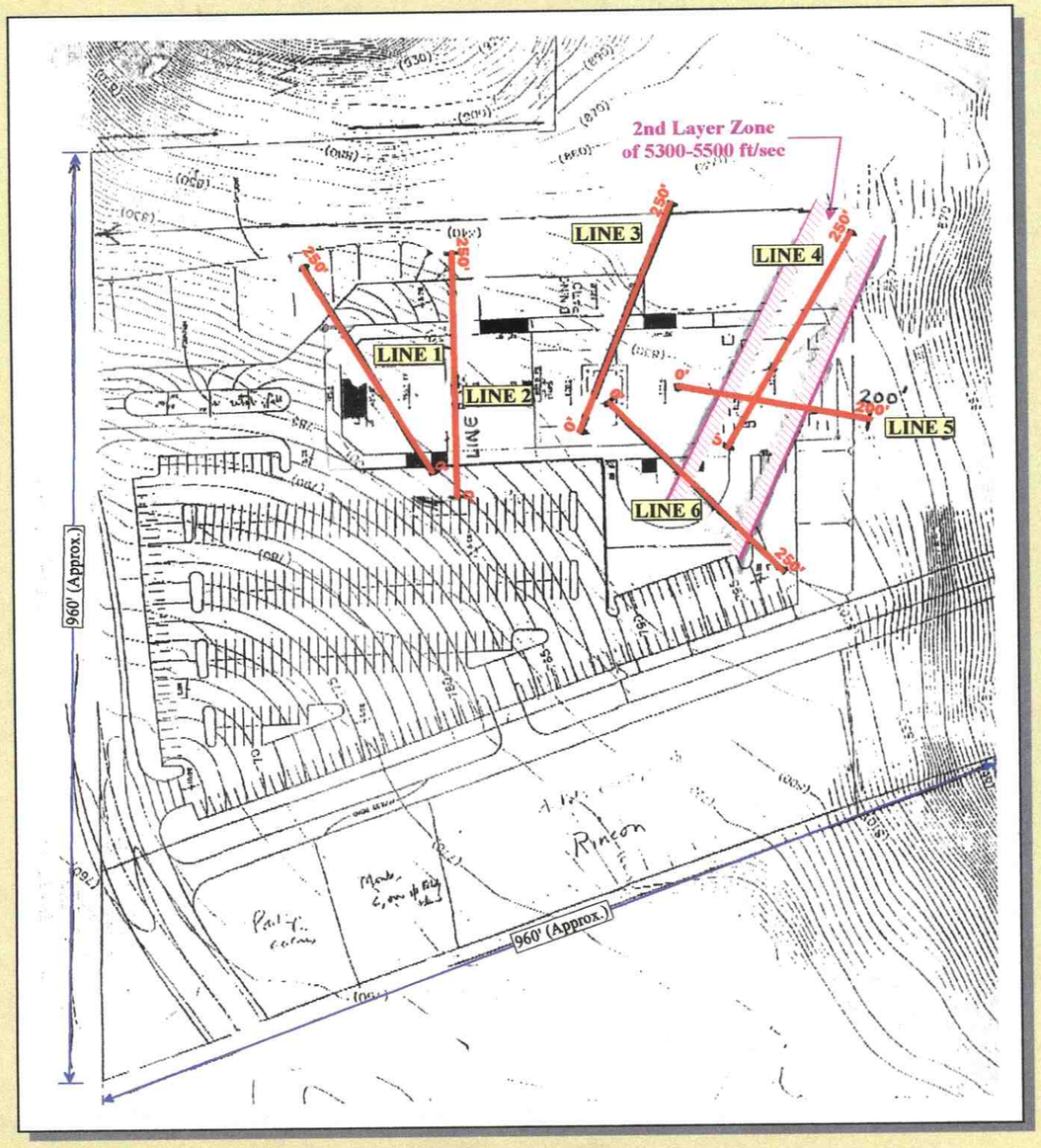


FIGURE 2

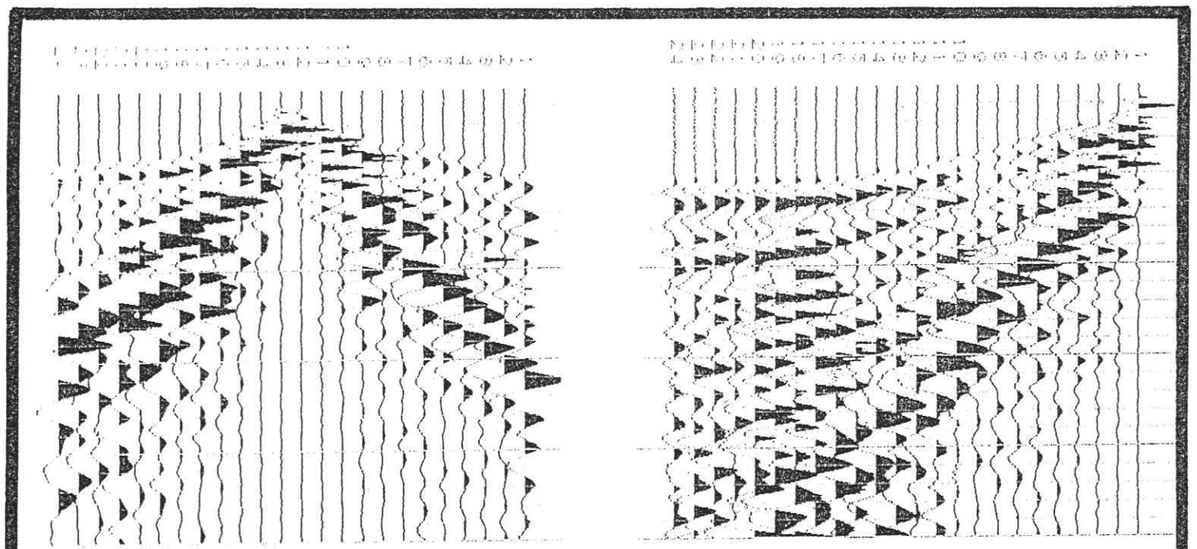


FIGURE 3

converted to absolute.

The site was away from freeways and busy streets; consequently, traffic noise was usually low. Wind noise was no more than a minor problem. Hence, good records were acquired.

Geologic Setting - The site is on the Peninsular Ranges Batholith, consisting of a composite of individual Mesozoic intrusive bodies, mostly granitic clan rocks. Metamorphosed host rocks, Jurassic in age are locally found surrounding edges of intrusive granite bodies and in roof pendants, are found here and there among the granities. Abundant outcrops nearby appear to indicate that the site is entirely on granitic clan rocks, with local veneers of Quaternary alluvium and soil/colluvium. The crystalline rocks are effectively without intergranular porosity.

Seismic surveys in this crystalline rock setting have virtually always revealed a three-layer case in the refraction data. The topmost layer is commonly thin and is composed dominantly of soil and colluvium. The second layer is weathered crystallines and the deepest layer is unweathered crystalline rocks, granitics in this instance.

Brief Description of the Geophysical Method Applied - Seismic refraction investigates the subsurface by generating arrival time and offset distance information to determine the path and velocity of an elastic disturbance in the ground. The disturbance is created by shot, hammer, weight drop or some comparable method of putting impulsive energy into the ground. Detectors are laid out at regular intervals in a line to measure the first arrival energy and the time of its arrival. The data are plotted in time-distance graphs, from which velocity of, and depth to, layers can be calculated. This is possible because rays (a continuum point on an expanding wave front) of the disturbance wave follow a direct route, and are refracted across layer boundaries where there is a difference in elastic and density properties. The critically refracted ray travels along the layer interface, at the speed of the lower layer, and continuously "feeds" energy back to the surface, to be successively detected by the line of geophones.

Shots are normally reversed from one end of the line to the other, to determine whether or not the layering is horizontal or dipping. And a split spread shot adds redundancy to improve the interpretation. The acquired data are computationally intense. A ray-tracing computer program, SIPT2 in this instance, is used to iteratively honor all refracting surfaces, velocities, and to be able to consider a large number of layers, where they are present. A first energy arrival picking program, with such features as zoom, filtering, time stretching, separation of traces, AGC and balancing of traces, is also applied.

Interpretation - Monitor records are produced in the field with each shot. These are prints of the raw data as it comes in to the recorder. They show the quality of the data, so that the operator can determine whether or not the data are pickable, or shots need to be repeated. Two representative monitor records, one a split spread shot from line 1 and a forward shot from the same line (Fig. 3) are illustrated.

First energy arrivals are seen to be quite sharp on the raw records, although some very minor wind noise is coming in mostly on the far offset traces. This is not uncommon for off end shot records. Even so, with use of a computer picking program, with zoom, filtering, etc., there was no difficulty in picking the first energy arrivals. There should not be significant variation in picked arrival times should first breaks be picked by several persons independently.

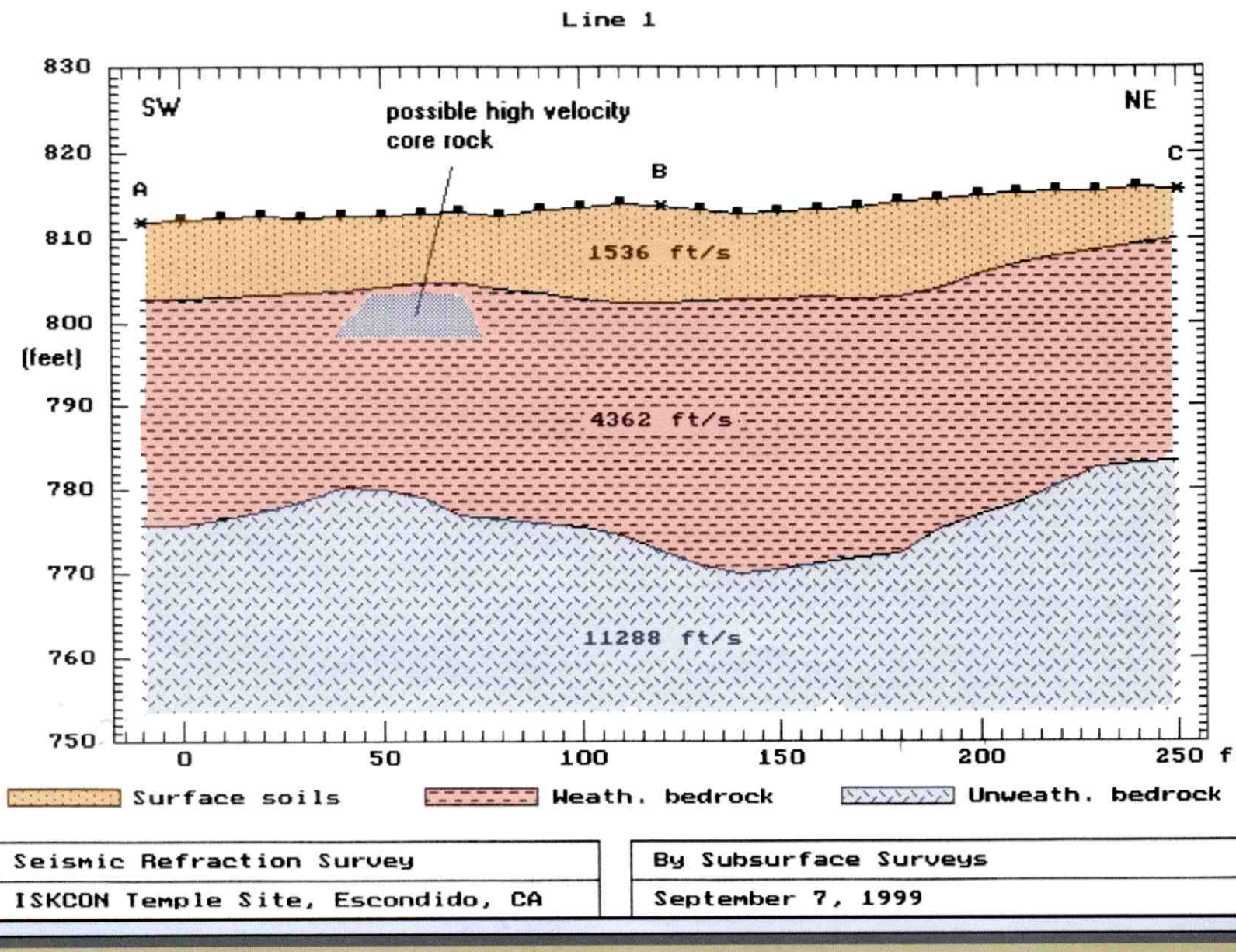


FIGURE 9

SITE PHOTOGRAPHS

FIGURE 5

FIGURE 6

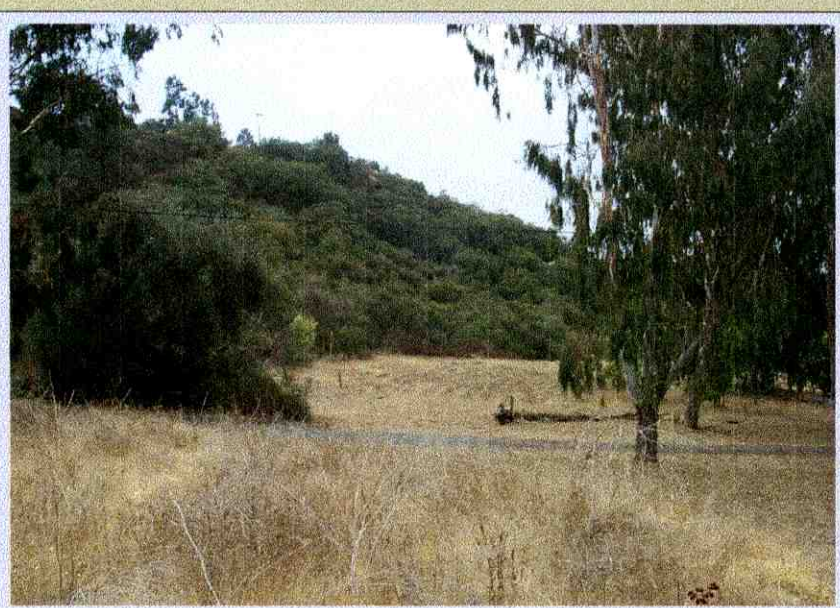


FIGURE 7

FIGURE 8

SITE PHOTOGRAPHS

FIGURE 5

FIGURE 6

FIGURE 7

FIGURE 8

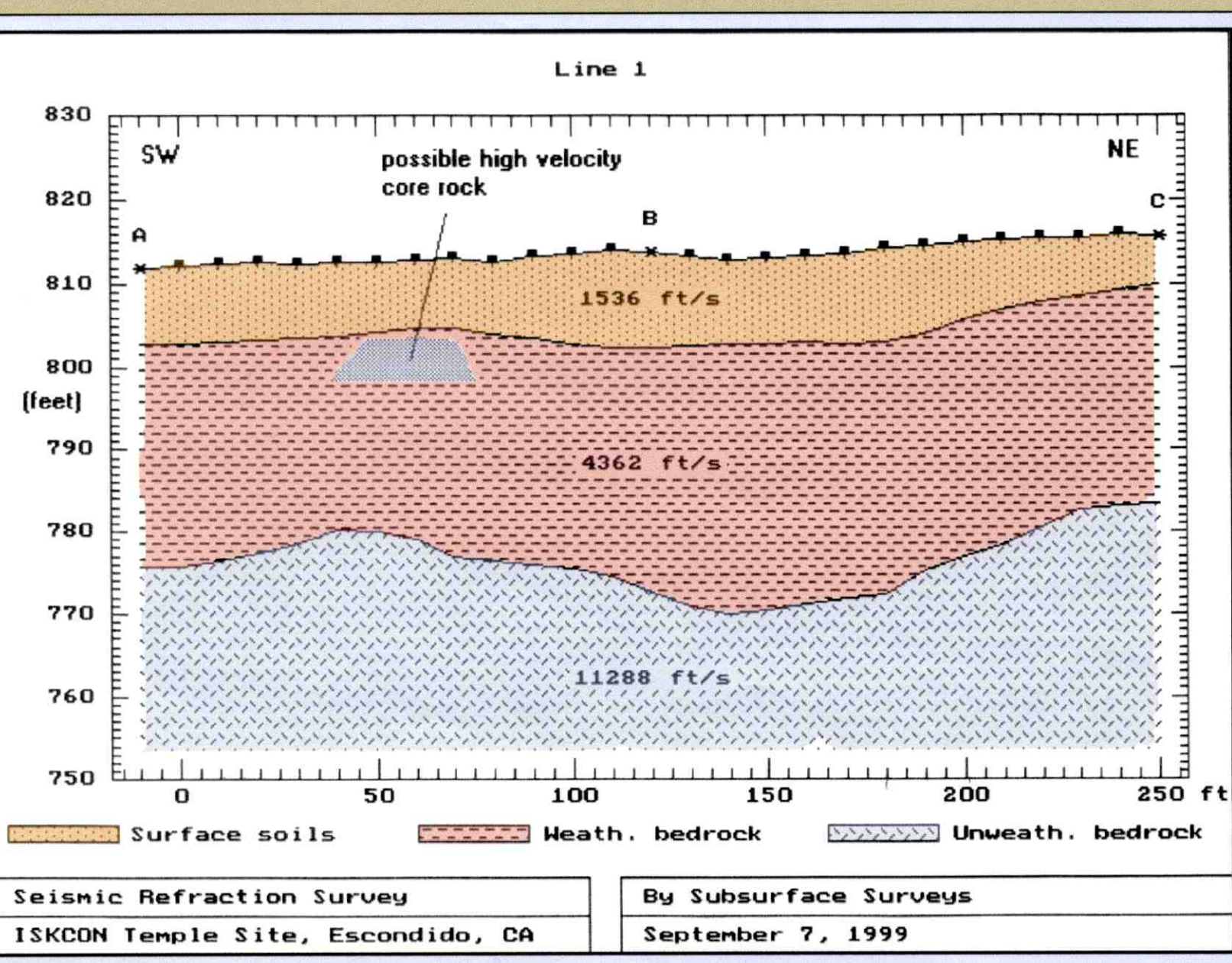


FIGURE 9

Subsurface Surveys

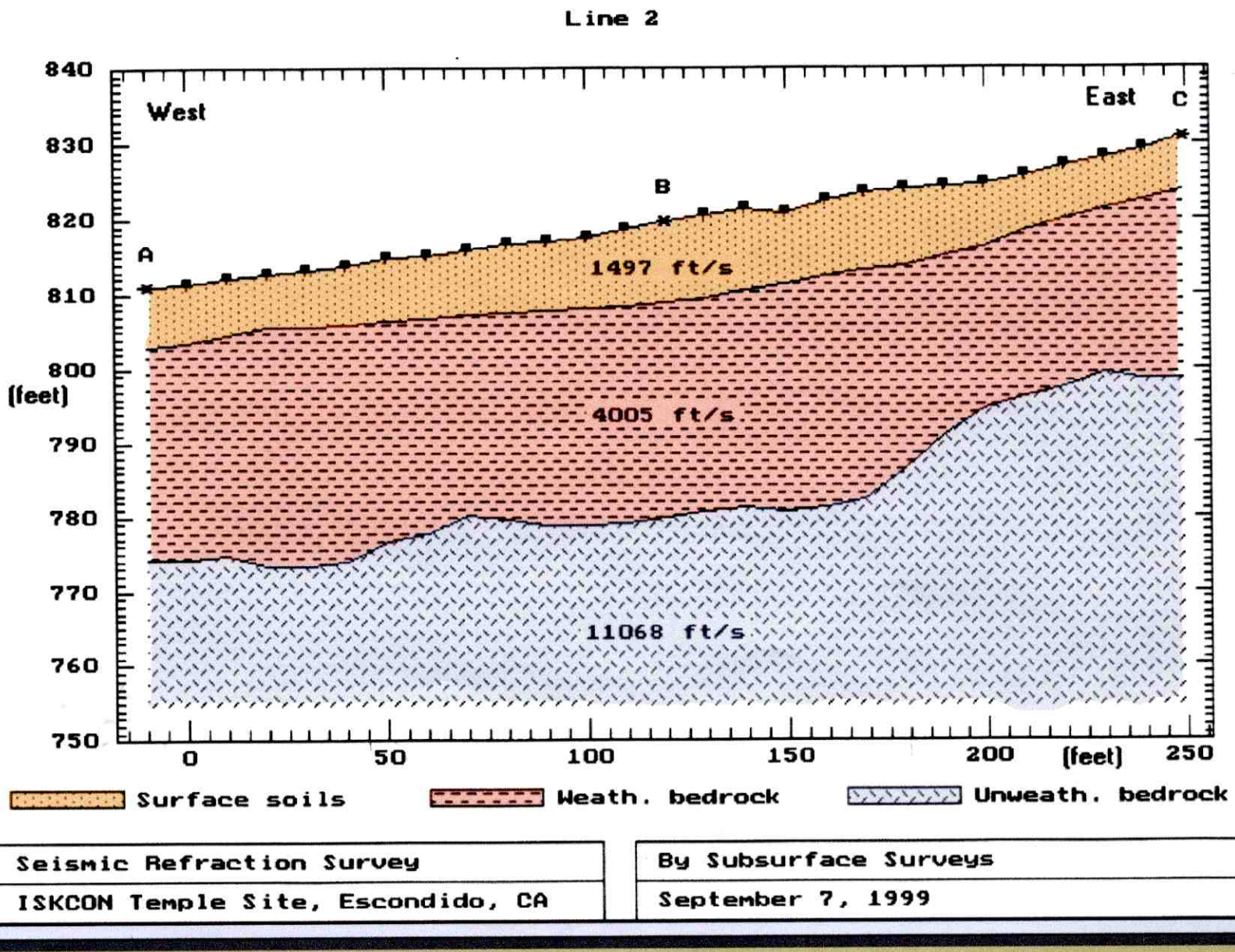


FIGURE 10

Subsurface Surveys

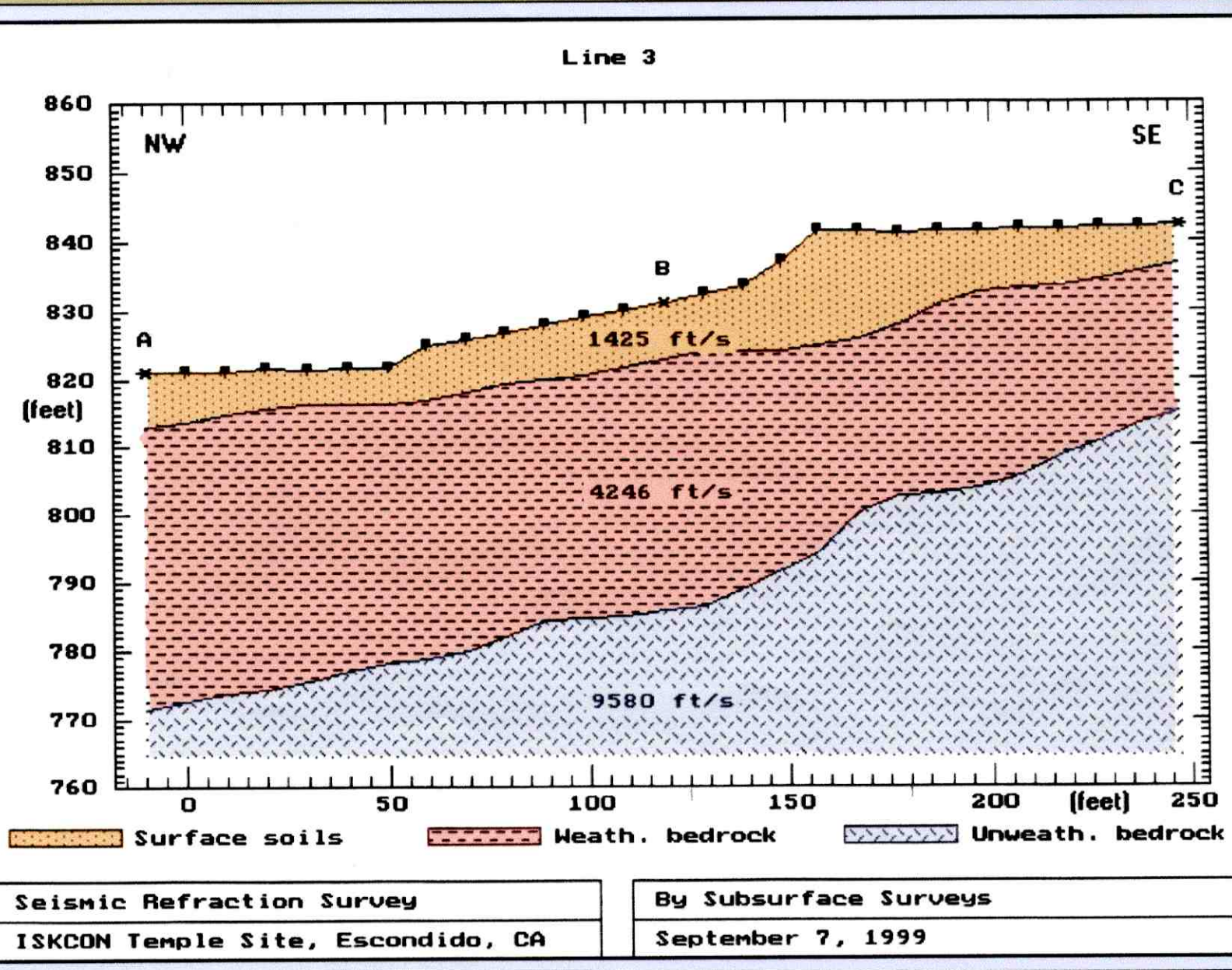


FIGURE 11

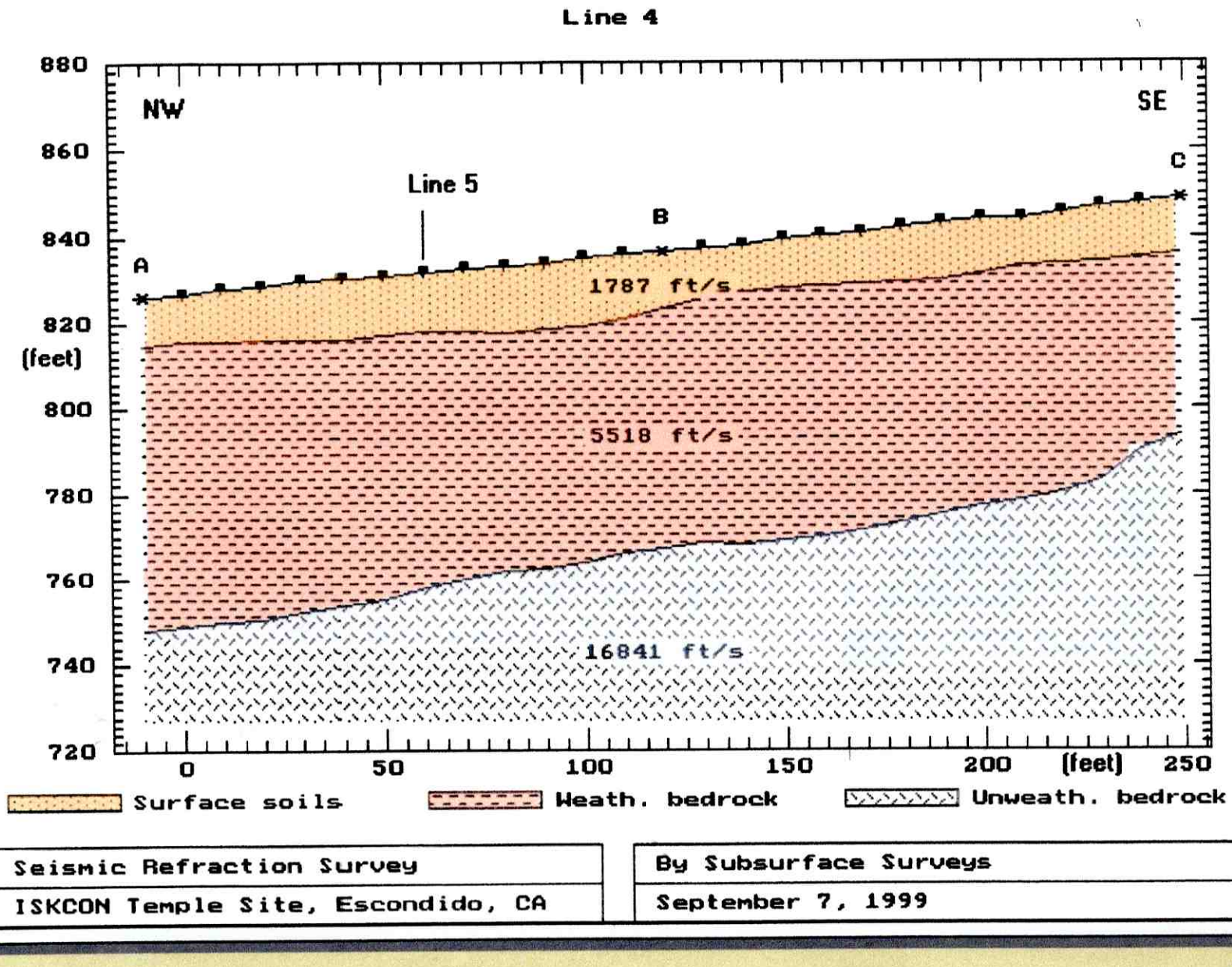


FIGURE 12

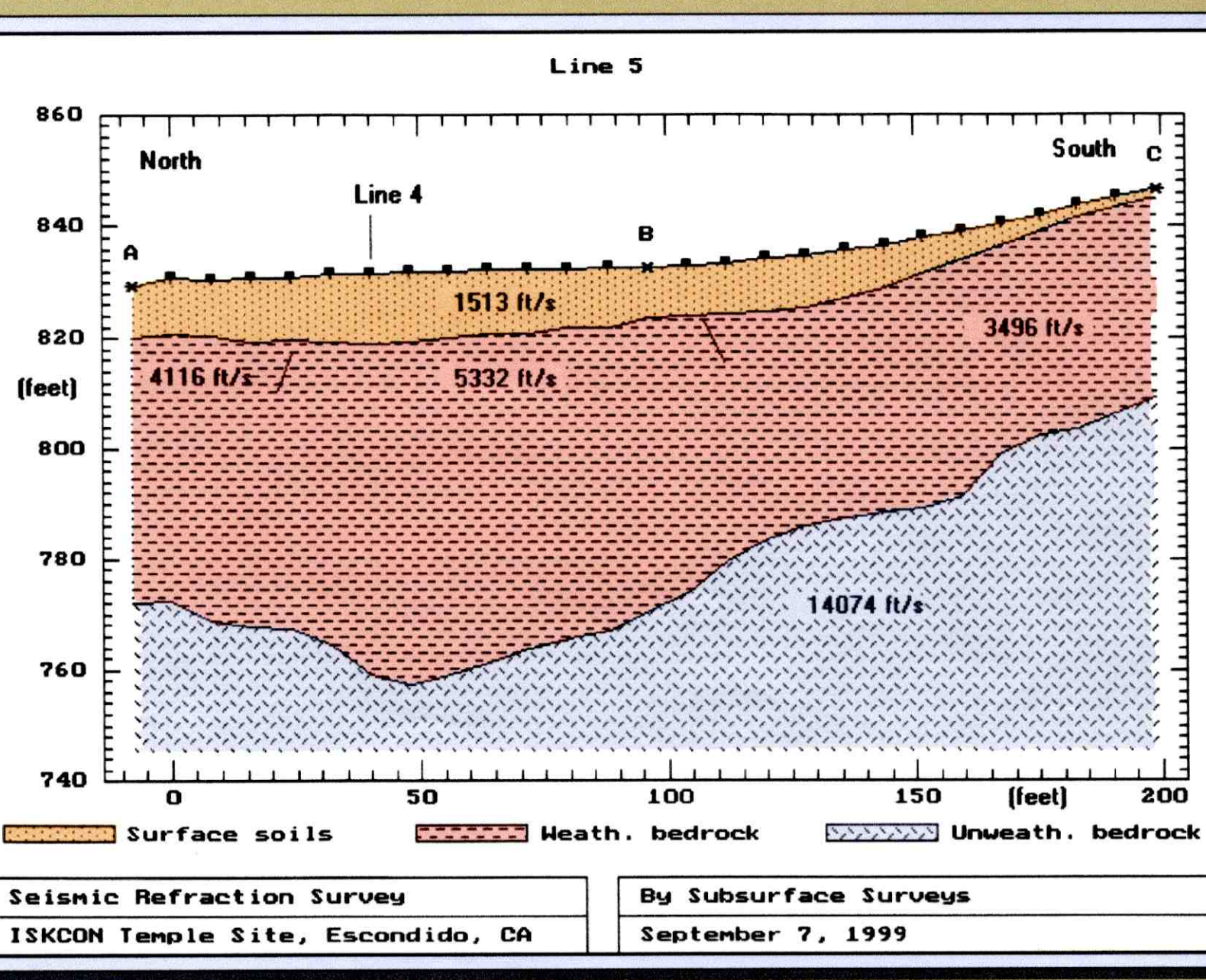


FIGURE 13

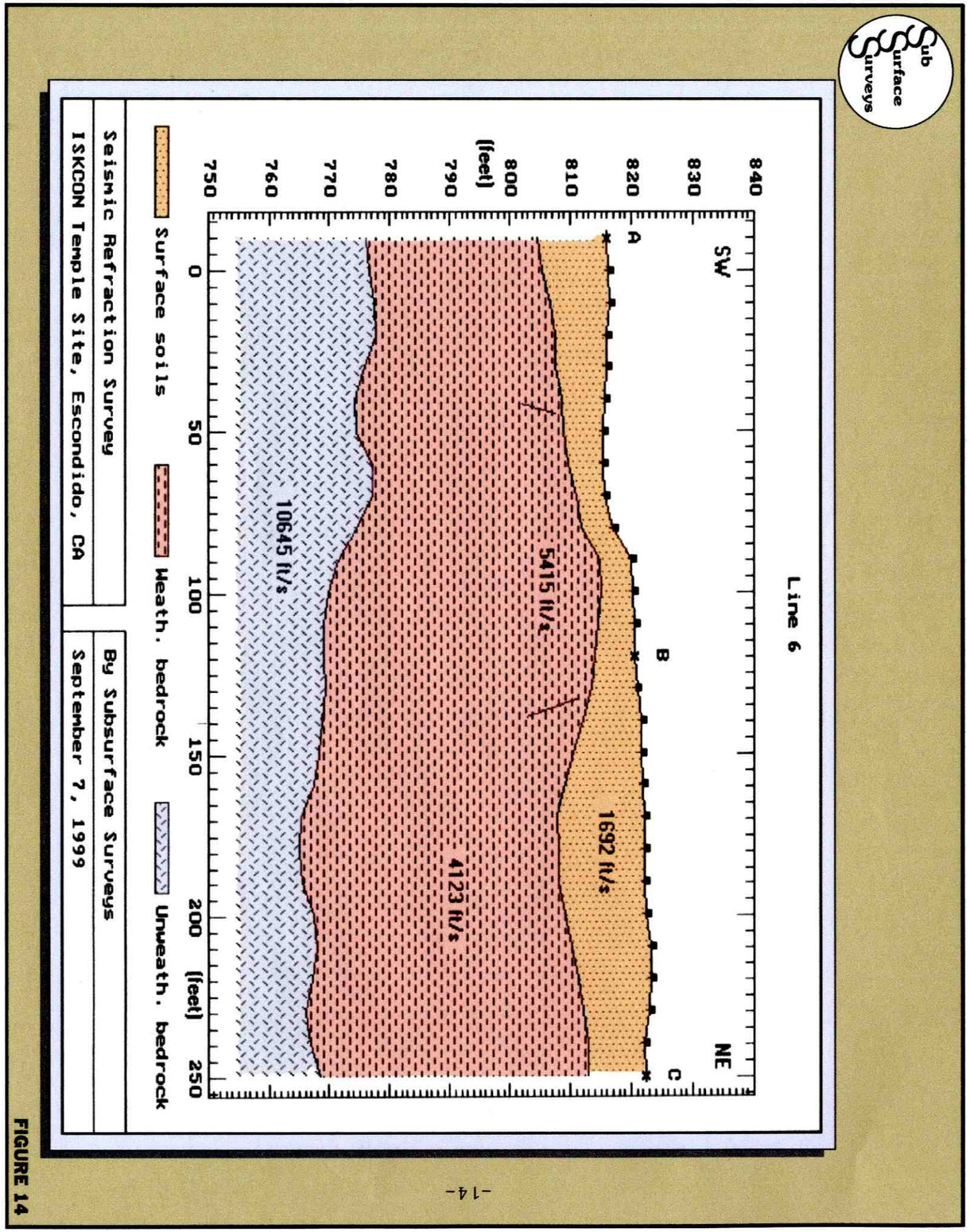


FIGURE 14

modeling program averaged velocities under these lines, and part of lines 5 & 6 are off this zone. The zone is depicted by color on the line location map (Fig. 2). Line 4, totally within the zone, more closely defines the zone's velocity properties; the velocity analysis of lines 5 & 6 approximately defines its edges.

Although existing geologic maps do not show any unusual rock type in this location, but detailed mapping has not been carried out here. Chemical makeup of the crystalline rock intrusives in these batholithic ranges also tends to be bimodal, although not evenly distributed bimodal. Small bodies of basic intrusives are mapped here and there within the batholith. It seems likely that there is a fairly wide basic rock dike present in the approximate position shown on the line location map. Even so, this is academic in regard to the objective of the seismic investigation. All of the layer three rocks are non-rippable.

The Caterpillar Rippability chart is illustrated (Fig. 15) and is the basis for determining rippability of the rocks encountered in the survey. The chart is empirical, but is based on thousands of field and laboratory samples. It is seen that layers 1 and 2 are easily rippable everywhere sampled. Layer 2 is definitely rippable, but probably not with "backhoe-sized" equipment. Layer 3, to the extent of sampling, should be considered non-rippable, even with heaviest equipment. Its closest distance from the surface is approximately 25 feet under line 2. Everywhere else, where sampled, it is deeper from the surface. Thus, it appears that non-rippable rock will not be encountered in the foundation work for the Temple and Cultural Center.

There is a very local relatively high velocity zone under line 1 (See Fig. 9). This could be another small dike. There is also a possibility that it is a core rock, but these usually do not occur alone. At any rate it appears to be rippable with heavy equipment.

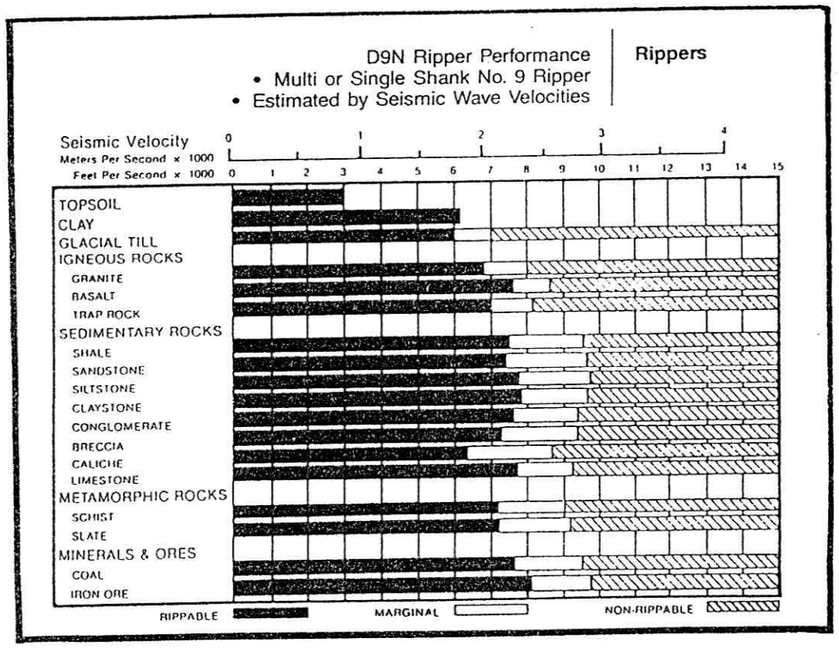


Figure 15. Caterpillar rippability chart

APPENDIX B

BORING LOGS

Conclusions - The shallow subsurface structure, imaged by seismic refraction information, is generally 3 layers typical of the Peninsular batholithic terrain. The velocities determined, however, are on the higher side of "normal" for the crystalline rock terrain. This is apparently explained by a bimodal velocity distribution. Careful analysis indicates that this is very likely a dike occurrence with high velocity basic rock intruding the granites locally under lines 4, 5 & 6. The first two layers are rippable, and the deepest layer revealed is non-rippable, even with heaviest equipment. Inasmuch as these non-rippable rocks come to only within 25 feet of the surface locally, to the extent sampled, they may be a non-factor in planning construction operations.

All data generated on this project are in confidential file in this office, and are available for review by authorized persons at any time. The opportunity to participate in this investigation is very much appreciated. Please call, if there are questions.

Gary W. Crosby

Gary W. Crosby, PhD, GP960

GWC:arr

BORING LOG

LOGGED BY : S.R. | DATE DRILLED : 10/13/99 | ELEV.: 801 ft. | BORING NO. BH-1

DRILL RIG: MOBILE B-60 | BORING DIA.: 8" HSA | HAMMER WEIGHT: 140 #

LOCATION: Approximately 60 feet south of the NW corner of the Cultural Center, 10 feet due west from its west wall

DEPTH, FT.	SAMPLE NO.	SAMPLE TYPE	BLOW COUNTS (30" drop)	BLOWS/FOOT	GROUND WATER	DESCRIPTION	REMARKS
0						0 - 3.5 ft.: TOPSOIL dry, medium brown, fine to medium grained, loose, silty sand (SM)	contains rootlets
	1	CA	6/6/7				
						3.5 to 10.5 ft.: COLLUVIUM dry to moist, light reddish brown, fine to coarse grained, dense, silty sand (SM)	
5	2	SPT	12/19/26	45			many pinhole voids
	3	CA	40/50 for 5"				
10	4	SPT	23/30/36	66		10.5 to 18.5 ft.: WEATHERED GRANITICS dry, light brown to gray, medium grained, dense to very dense, silty sand (SM)	
	5	CA	50 for 6"				
15	6	SPT	50 for 3"	>100			minor pinhole voids
	7	SPT	50 for 3"	>100			
20	8	SPT	50 for 3"	>100		18.5 to 20.5 ft.: SLIGHTLY WEATHERED GRANITICS dry to moist, medium gray, very dense, silty sand (SM)	
						Bottom of Boring: 20.5 ft. No groundwater encountered	
25						CA: California Sampler SPT: Standard Penetration Test	
						Bulk samples taken at: 3'-5', 5'-10', and 15'-17' depth intervals	
30						——— Well defined soil horizon boundary —?—	

Descriptions on this boring log applies to the specified boring at the time the boring was made. The descripions on this log are not warranted to be representative of subsurface conditions at other locations.

PROJECT NO.: 99-020 | PROJECT: ISKCON CULTURAL CENTER | FIGURE: B-1

APEX GEOTECHNOLOGY, INC.--ENGINEERS AND GEOLOGISTS

BORING LOG

LOGGED BY : S.R. | DATE DRILLED : 10/13/99 | ELEV.: 829 ft. | BORING NO. BH-2

DRILL RIG: MOBILE B-60 | BORING DIA.: 8" HSA | HAMMER WEIGHT: 140 #

LOCATION: Approximately 190 feet south of the NE corner of the Cultural Center along its east wall

DEPTH, FT.	SAMPLE NO.	SAMPLE TYPE	BLOW COUNTS (30" drop)	BLOWS/FOOT	GROUND WATER	DESCRIPTION	REMARKS
0						0 to 4.5 ft.: TOPSOIL/COLLUVIUM dry to moist, medium brown, fine to medium grained, medium dense, silty sand (SM)	
	1	CA	7/9/16				
						4.5 to 15.5 ft.: COLLUVIUM moist, medium brown, fine to medium grained, slightly micaceous, subrounded grains up to 1/4" max size, dense, silty sand (SM)	
5	2	SPT	18/17/15	32			
	3	CA	10/12/15				
10	4	SPT	8/8/8	16			
	5	CA	16/18/24				
15	6	SPT	6/6/19	25		15.5 to 20.5 ft.: WEATHERED GRANITICS moist, light brown to gray, medium grained, very dense, silty sand (SM)	quartzite clasts up to 2.5" max size
	7	SPT	50 for 2"	>100			
20	8	SPT	50 for 5"	>100			
						Bottom of Boring: 20.5 ft. No groundwater encountered	
25						CA: California Sampler SPT: Standard Penetration Test	
						Bulk samples taken at: 2.5'-5', 5'-10', 10'-12', and 17'-19' depth intervals	
30						——— Well defined soil horizon boundary —?— Soil horizon boundary unclear	

Descriptions on this boring log applies to the specified boring at the time the boring was made. The descripions on this log are not warranted to be representative of subsurface conditions at other locations.

PROJECT NO.: 99-020 | PROJECT: ISKCON CULTURAL CENTER | FIGURE: B-2

APEX GEOTECHNOLOGY, INC.--ENGINEERS AND GEOLOGISTS

APPENDIX C

RESULTS OF LABORATORY TESTS

BORING LOG

LOGGED BY : S.R.	DATE DRILLED : 10/13/99	ELEV.: 829 ft.	BORING NO. BH-3
DRILL RIG: MOBILE B-60	BORING DIA.: 8" HSA	HAMMER WEIGHT: 140 #	

LOCATION: Approximately 75 feet due north of the SW corner of the Cultural Center along its west wall

DEPTH, FT.	SAMPLE NO.	SAMPLE TYPE	BLOW COUNTS (30" drop)	BLOWS/FOOT	GROUND WATER	DESCRIPTION	REMARKS
0						0 to 3.5 ft.: TOPSOIL dry, medium to dark brown, fine to medium grained, loose, silty sand (SM)	contains small rootlets
	1	CA	6/6/16			— —?— — —?— — —?— — —?— —	many pinhole voids
5	2	SPT	10/10/9	19		3.5 to 11.5 ft.: COLLUVIUM dry, reddish brown, fine to medium grained, medium dense, silty sand (SM)	1/2" thick lenses of interbedded clayey sand
	3	CA	18/21/26				
10	4	SPT	12/15/17	32			
	5	CA	23/37/50			11.5 to 17.5 ft.: WEATHERED GRANITICS moist, light brownish gray, medium grained, very dense, silty sand (SM)	
15	6	SPT	50 for 5"	>100			hard drilling conditions
20						Bottom of Boring: 17.5 ft. No groundwater encountered	
25						CA: California Sampler SPT: Standard Penetration Test Bulk samples taken at: 2'-4', 4'-8', and 10'-12' depth intervals ——— Well defined soil horizon boundary —?— Soil horizon boundary unclear	
30							

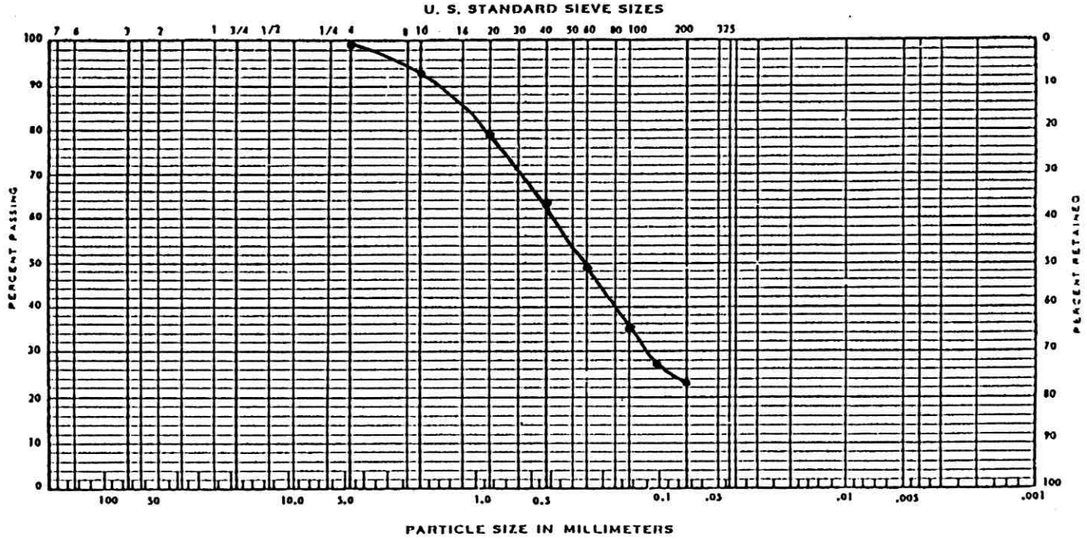
Descriptions on this boring log applies to the specified boring at the time the boring was made. The descripions on this log are not warranted to be representative of subsurface conditions at other locations.

PROJECT NO.: 99-020	PROJECT: ISKCON CULTURAL CENTER	FIGURE: B-3

APEX GEOTECHNOLOGY, INC.--ENGINEERS AND GEOLOGISTS

UNIFIED SOIL CLASSIFICATION SYSTEM

(ASTM D 422-72)



KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	ELEV. (feet)	UNIFIED SOIL CLASSIFICATION SYMBOL	SAMPLE DESCRIPTION
•	BH-1	0 to 5	—	SM	SILTY SAND

APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	GRADATION TEST DATA			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn by	Figure
	99-020	OCT. 1999	B.R.	C-1

TABLE C-1

NATURAL MOISTURE CONTENT

DEPTH FT.	SAMPLE TYPE	MOISTURE CONTENT, % BH-1	BH-2	BH-3
2.5	CA	2.82	--	3.52
5.0	SPT	3.63	6.64	3.62
7.5	CA	4.66	8.76	--
10	SPT	2.04	9.57	5.99
15	SPT	3.59	4.20	12.78
17.5	SPT	6.61	2.56	--
20	SPT	3.47	3.32	--

TABLE C-2

DRY DENSITY OF RING SAMPLES

BORING NO.	DEPTH FT.	DRY DENSITY IN PCF
BH-1	2.5	93
BH-1	7.5	108
BH-2	7.5	101
BH-3	2.5	96

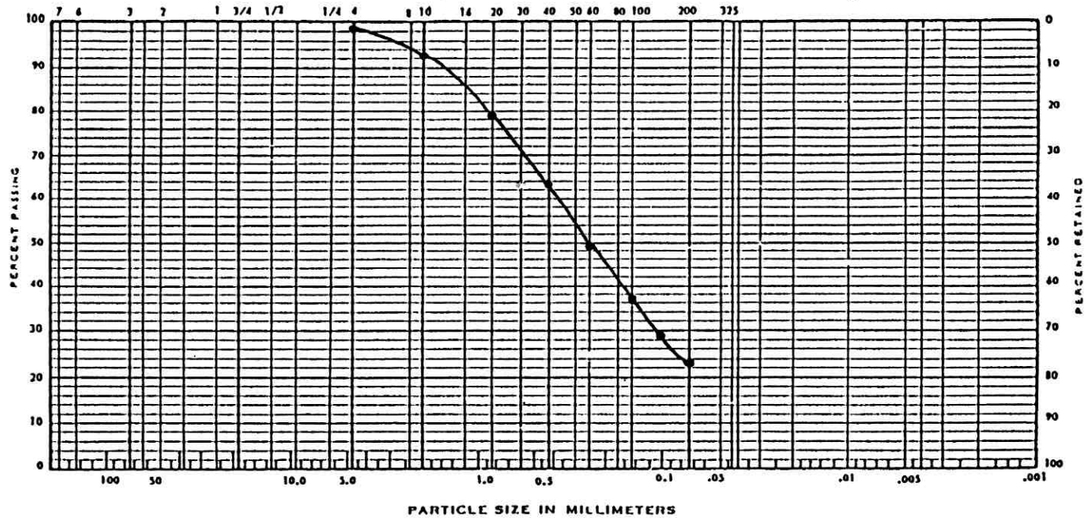
TABLE C-3

RESULTS OF COMPACTION TESTS

BORING NO.	DEPTH RANGE FT.	OPTIMUM M.C. %	DRY DENSITY PCF
BH-1	3.0-5.0	10.0	123.5
BH-2	2.5-5.0	10.0	120.0
BH-2	5.0-10.0	9.5	125.0

UNIFIED SOIL CLASSIFICATION SYSTEM

(ASTM D 422-72)



COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	ELEV. (feet)	UNIFIED SOIL CLASSIFICATION SYMBOL	SAMPLE DESCRIPTION
•	BH-2	5 to 10	—	SM	SILTY SAND

APEX
GEOTECHNOLOGY, INC.
GEOTECHNICAL CONSULTANTS

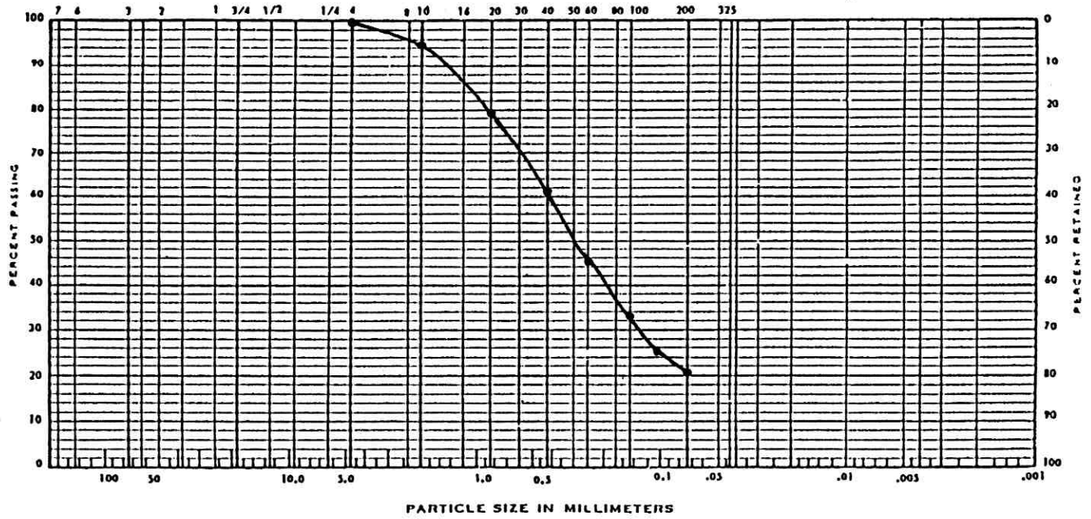
GRADATION TEST DATA

ISKCON CULTURAL CENTER

Job No.	Date	Drawn by	Figure
99-020	OCT. 1999	B.R.	C-3

UNIFIED SOIL CLASSIFICATION SYSTEM

(ASTM D 422-72)



COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

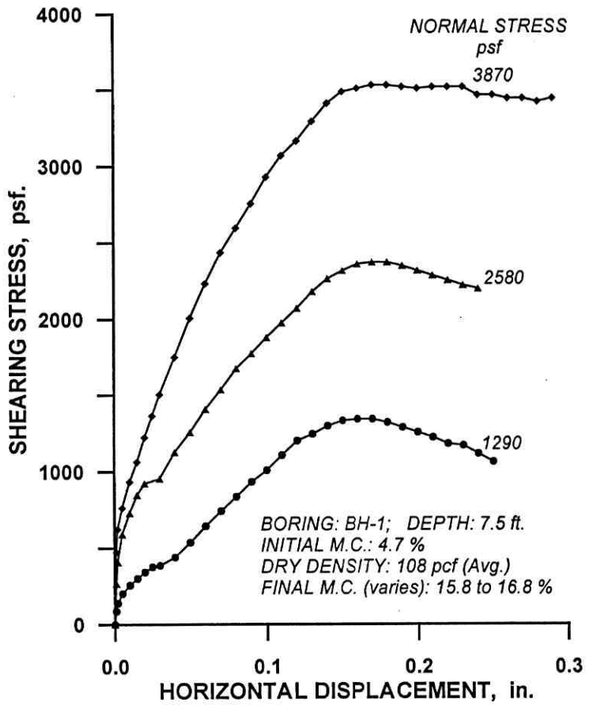
KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	ELEV. (feet)	UNIFIED SOIL CLASSIFICATION SYMBOL	SAMPLE DESCRIPTION
•	BH-2	0 to 5	—	SM	SILTY SAND

APEX
GEOTECHNOLOGY, INC.
GEOTECHNICAL CONSULTANTS

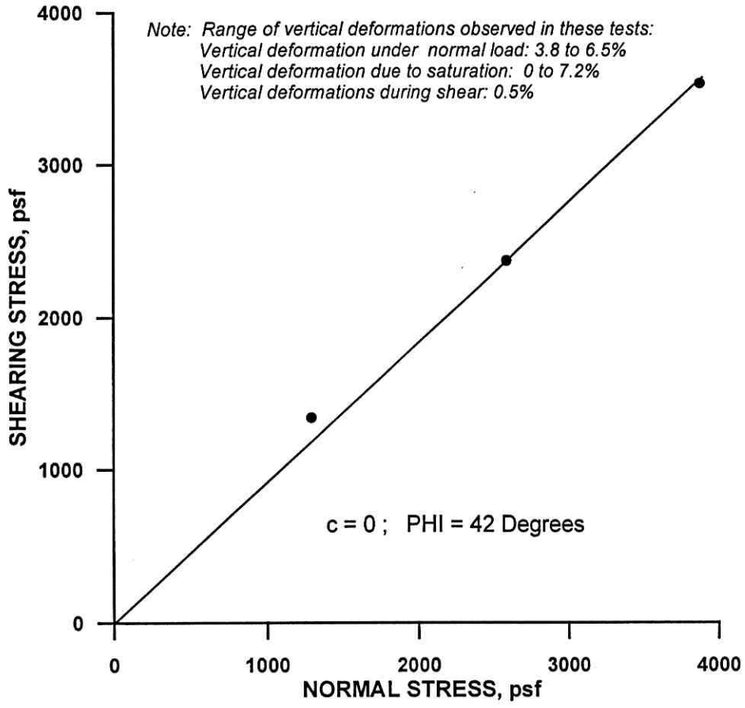
GRADATION TEST DATA

ISKCON CULTURAL CENTER

Job No.	Date	Drawn by	Figure
99-020	OCT. 1999	B.R.	C-2

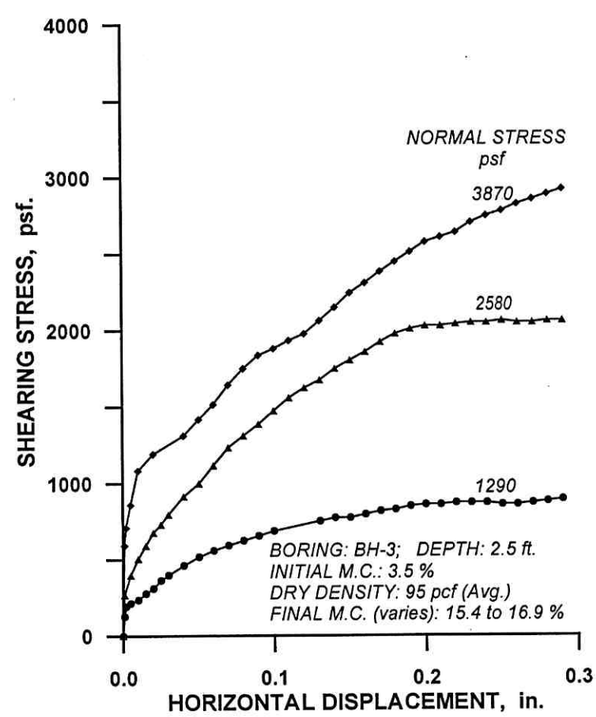


a) SHEARING STRESS / DISPLACEMENT CURVES

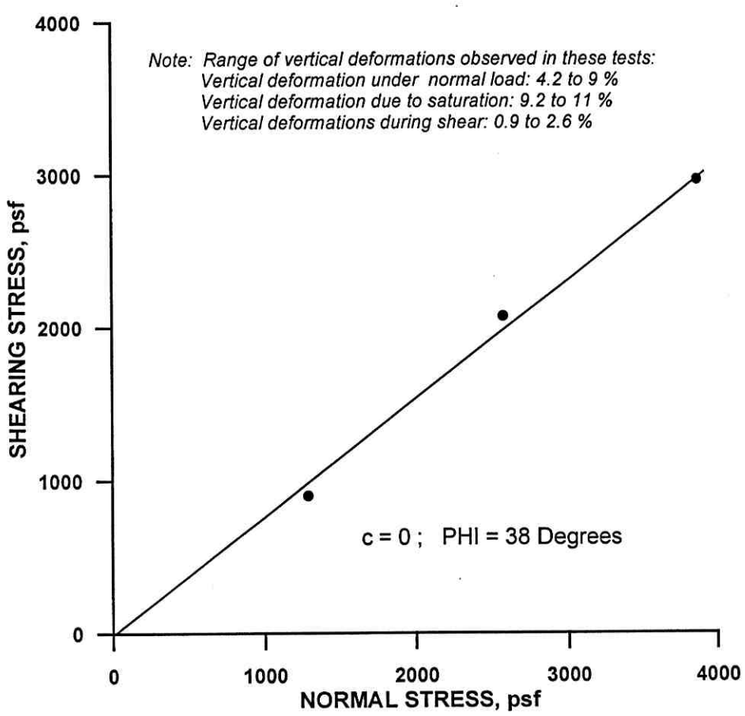


b) STRENGTH ENVELOPE

APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF DIRECT SHEAR TESTS			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	OCT. 1999	B.R.	C-5



a) SHEARING STRESS / DISPLACEMENT CURVES

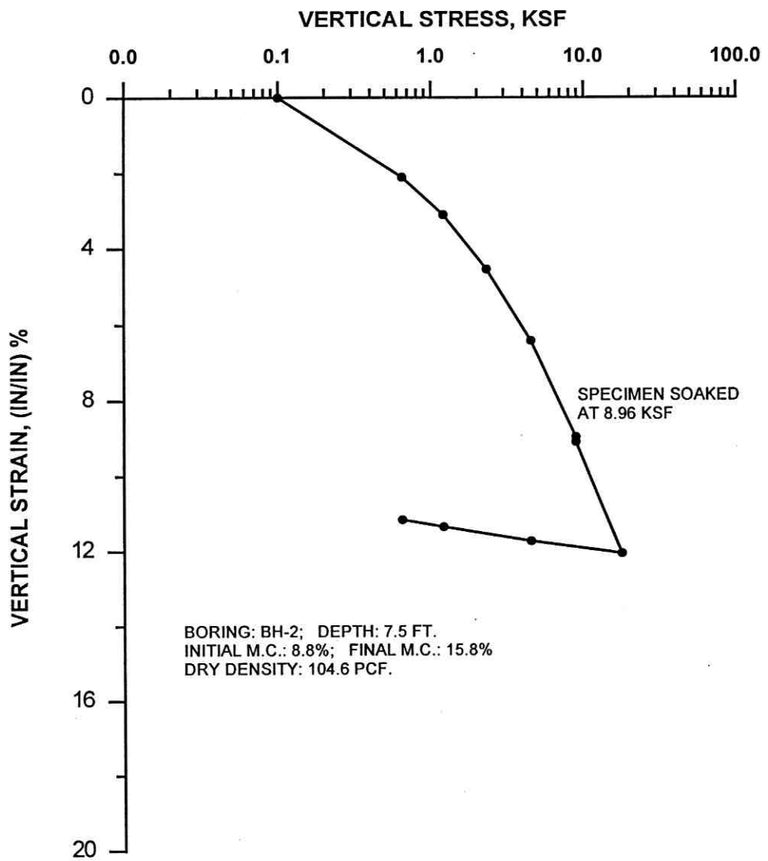


b) STRENGTH ENVELOPE

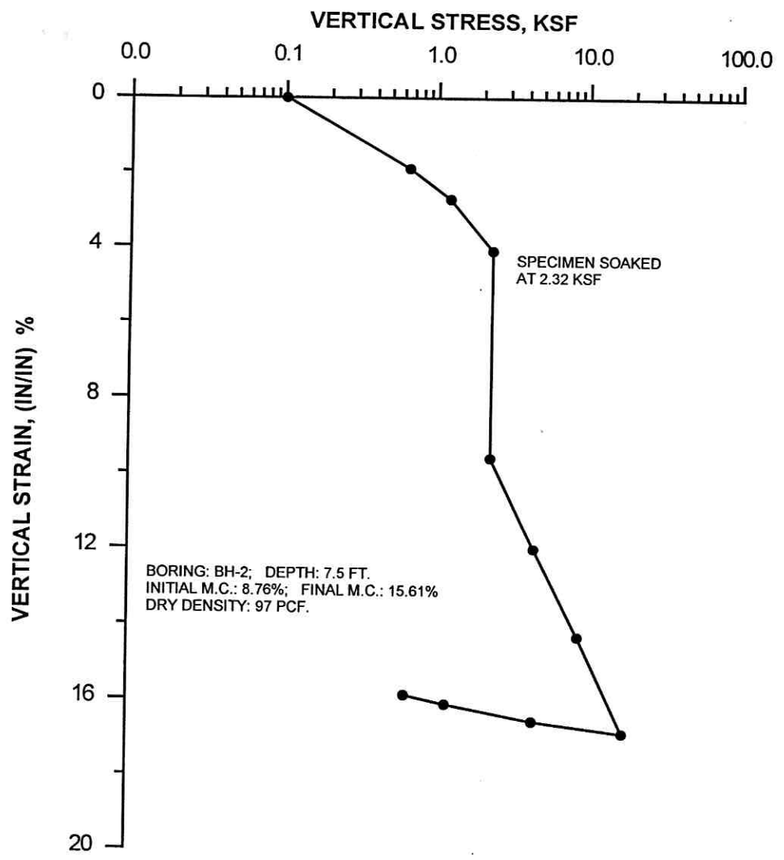
APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF DIRECT SHEAR TESTS			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	OCT. 1999	B.R.	C-4

APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF 1-D COMPRESSION TEST			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	NOV. 1999	K.R.	C-7

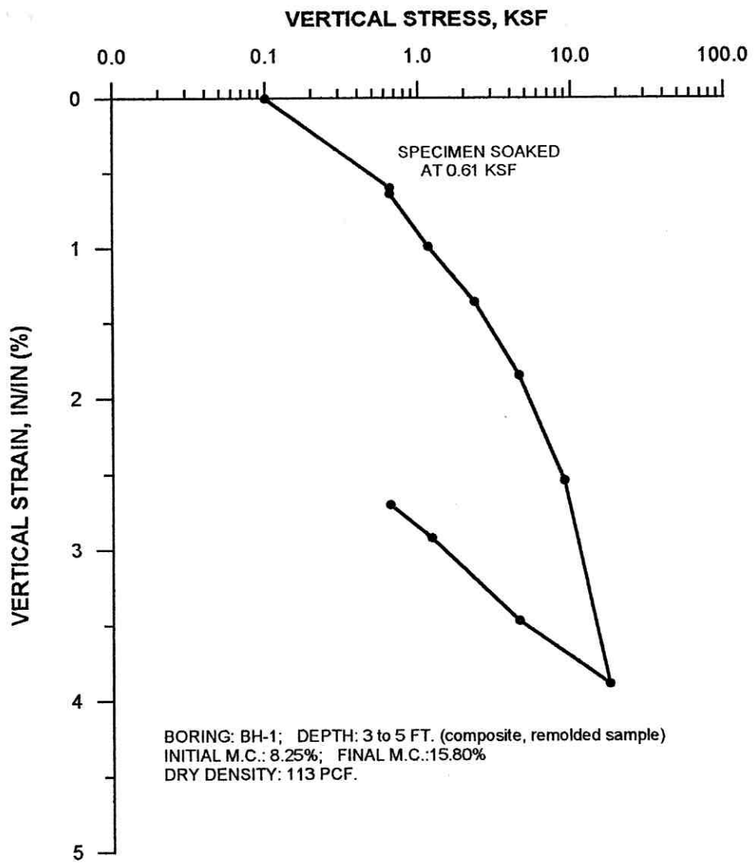
APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF DIRECT SHEAR TESTS			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	NOV. 1999	K.R.	C-6



APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF 1-D COMPRESSION TEST			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	NOV. 1999	K.R.	C-9



APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF 1-D COMPRESSION TEST			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	NOV. 1999	K.R.	C-8



BORING: BH-1; DEPTH: 3 to 5 FT. (composite, remolded sample)
INITIAL M.C.: 8.25%; FINAL M.C.:15.80%
DRY DENSITY: 113 PCF.

APEX GEOTECHNOLOGY, INC. GEOTECHNICAL CONSULTANTS	RESULTS OF 1-D COMPRESSION TEST			
	ISKCON CULTURAL CENTER			
	Job No.	Date	Drawn By	Figure
	99-020	NOV. 1999	K.R.	C-10

APPENDIX E

Phase I Environmental Assessment

TA-GROUP DD, LLC

Diligent Diligence

PHASE I ENVIRONMENTAL SITE ASSESSMENT

24-ACRE MIXED USE PROPERTY

1315 and 1365 Rincon Avenue
APN 224-100-84 and -85
City of Escondido, County of San Diego, California

Prepared For:

ISKCON Escondido of CA, Inc.
2987 NW Fairway Heights Drive
Bend, OR 97703

June 23, 2023

Project 0523002

Corporate: 1938 Kellogg Avenue, Suite 103, Carlsbad, CA 92008 www.TA-GroupDD.com

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Prepared for:
ISKCON Escondido of CA, Inc.
2987 NW Fairway Heights Drive
Bend, OR 97703

Subject Property:
24-Acre Mixed Use Property
APN 224-100-84 and -85
1315 & 1365 Rincon Avenue
City of Escondido, County of San Diego, California

Prepared and edited by:

Timothy A. Lester
Managing Principal

TA-Group DD, LLC
1938 Kellogg Avenue, Suite 103
Carlsbad, California 92008
(760) 431-3747

Project 0523002

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Appendix E – Property Owner/User Provided Questionnaires
Appendix F – Résumé of Environmental Professional

GENERAL SUBJECT PROPERTY INFORMATION

Project: 0523002

Subject Property:
24-Acre Mixed Use Property
APN 224-100-84 and -85
1315 and 1365 Rincon Avenue
City of Escondido, County of San Diego, California

Client Information:
ISKCON Escondido of CA, Inc.
2987 NW Fairway Heights Drive
Bend, OR 97703

Consultant Information:
TA-Group DD, LLC
1938 Kellogg Avenue, Suite 103, Carlsbad, California 92008
Phone: (760) 473-0645
E-mail Address of Environmental Professional:timothy.lester@TA-GroupDD.com

Site Access Contact: Mr. Raab Rydeen ; email: Raab@rec-consultants.com

Inspection Date: June 13, 2023, **Report Date:** June 23, 2023

Site Assessor: Timothy Lester – Managing Principal

Environmental Professional (EP) Certification: I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 (**Resume, Appendix F**).

Timothy Lester
Managing Principal

AAI Certification: We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Timothy Lester
Managing Principal

EXECUTIVE SUMMARY

At the request and authorization of the ISKCON Escondido of CA, Inc. (Client), TA-Group DD, LLC (TAGDD) conducted a Phase I Environmental Site Assessment (ESA) for an approximately 24-acre property located in northwest Escondido, with an address of 1315 and 1365 Rincon Avenue, Escondido, San Diego County, California. The purpose of this Phase I ESA was to assess the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (i.e., *recognized environmental condition* as delineated in ASTM International *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E1527-13 and E1527-21 [ASTM E1527-13/21]).

The following bulleted items summarize the information obtained during the preparation of this ESA:

- The subject property is located roughly 0.26-miles southeast of the intersection of Conway Drive and Rincon Avenue, in the City of Escondido, San Diego County, California (**Figure 2**). The subject property is comprised of approximately 24-acres of mixed-use property, and encompasses two parcels, identified by Assessor's Parcel Numbers (APNs) 224-100-84 and -85 (**Appendix B**). The subject property has physical addresses of 1315 and 1365 Rincon Avenue.

- In general, the subject property is in a rural area of northeast Escondido and is surrounded by a combination of rural residential and agricultural development and master planned single family residential development. Rincon Avenue bounds the property to the north; with a combination of agricultural and residential bounding the east, west, and south. A large residence at the southern central portion of the subject property is not a part. According to the City of Escondido's online parcel map identification program https://www.escondido.org/parcel-lookup.aspx the subject property's existing land use is zoned as "Residential Estates" (RE-2).

- Based on historical records such as aerial photographs, topographic maps and city directories, the subject property was undeveloped until sometime between 1942-1953, when several small structures/sheds were present. By 1953 Rincon Road was present at the northern border, and an east-west dirt road and/or canal (?) was present at the southern end, at the current location of the "Vista Canal". Remnants of orchards are present at the northwest and southeast corners. By 1963 the entry drive was relocated to the northwest corner, a residence was constructed in the northwest quadrant, and several small sheds/structures were in the north half. A residence may also be present near the southwest corner. By 1967 the northern access driveway has been relocated on to the center of the northern property line; by 1974 a second residence has been constructed at the northwest corner; and by 1980 outbuildings/sheds have been constructed. By 1996 a third residence has been built in the northwestern quadrant. Between 1002-2004 two of the three northern residences are removed. Between 2014-2022 the only subject property changes were the locations and numbers of sheds/structures in the northern portion of the subject property.

- On June 13, 2023, TAGDD personnel conducted a reconnaissance of the subject property to physically observe the property and adjoining properties for conditions indicating a potential environmental concern. Concerns would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon staining, waste drums, illegal dumping, or improper waste storage and/or handling. With the exception of some minor petroleum storage issues, no evidence of environmental concerns above the *De Minimis* threshold was noted on the subject property during our site reconnaissance.

- TAGDD performed a Vapor Encroachment Screen (VES) for the subject property, in accordance with ASTM E2600-15. The purpose was to evaluate whether sites (e.g., gas stations, dry cleaners, or other listings of environmental concern) that store or dispose of potential chemicals of concern or have documented releases, may migrate as vapors onto the property, as a result of contaminated soil and/or groundwater which may be present on or near the property (i.e., a potential Vapor Encroachment Condition or pVEC). Based on the results of a Tier 1 VES, TAGDD concluded that a VEC can be ruled out for the subject property, because of the lack of known or suspected contaminated properties within the Area of Concern (AOC).

Findings and Opinions

Based on the information obtained in this ESA, TA-Group DD has the following findings and opinions:

- *Known or suspected RECs* – are defined by the ASTM E1527-13/21 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

  This assessment has revealed the following evidence of *known or suspected RECs* in connection with the subject property:

  The northwest corner of the subject property (APN 224-100-84), where single family residential is planned, was previously developed with orchards from sometime between 1939 and 1963. *Based on this historical use, agricultural pesticides would be expected. This is considered a REC.*

- *Controlled RECs (CRECs)* – are defined by the ASTM E1527-13/21 as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a NFA letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *CRECs* in connection with the subject property.

- *Historical RECs (HRECs)* – are defined by the ASTM E1527-13/21 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *HREC's* in connection with the subject property.

- *De Minimis* Conditions – include environmental concerns identified which may warrant discussion but do not qualify as RECs, as defined by the ASTM E1527-13/21.

  This assessment has revealed the following evidence of a *de minimis* condition in connection with the subject property:

Small quantities of used oil and/or petroleum products were noted in our site reconnaissance in 2 locations (outdoor storage sheds. Based on the small quantities and absence of staining, we consider these areas to be DeMinimus. Owner should properly store such materials in the future to prevent spillage:

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13/21 of APNs 224-100-84 and -85, the *subject property*. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report.

This assessment has revealed evidence of *recognized environmental conditions* in connection with the *subject property, consisting of the potential presence of agricultural pesticides at a former orchard location at the northwest corner of the subject property. We recommend limited agricultural pesticide sampling in the former orchard area, which is to be developed as residential.*

Non-ASTM issues:

At least one water well was observed on the subject property. If not used in future development, the well should be properly abandoned under permit.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) was to assess the possible presence of *recognized environmental conditions* for the approximately 24-acre property located 0.6-miles southeast of the intersection of Conway Drive and Rincon Avenue, in the City of Escondido, San Diego County, California (**Figure 1**). *Recognized environmental conditions (RECs)* include property uses that may indicate the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term *REC* is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment, and that would not be subject to enforcement action by a regulatory agency.

This ESA was performed in general conformance with the ASTM International *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E1527-13 and E1527-21 (ASTM E1527-13/21).

1.2 Scope of Services

The following scope of services was conducted by TA-Group DD, LLC (TAGDD):

- A review of readily available documents which included topographic, geologic, and hydrogeologic conditions associated with the subject property.
- A review of readily available maps, aerial photographs, and other documents relative to historical subject property usage and development.
- A review of previous environmental reports and regulatory file information pertaining to both existing and historic property conditions.
- A review of readily available federal, state, county, and city documents and database files concerning hazardous material storage, generation and disposal, active and inactive landfills, existing environmental concerns, and associated permits related to the subject property and/or immediately adjacent sites.
- A site reconnaissance to ascertain current conditions on the subject property.
- Interviews with person(s) knowledgeable of the subject property, if readily available.
- The preparation of this report which presents our findings, conclusions, and recommendations.

1.3 Reliance

This ESA has been prepared for the use of ISKCON Escondido of CA, Inc. (Client), and may also be relied upon by The City of Escondido and the County of San Diego. This assessment should not be relied upon by other parties without the express written consent of TAGDD and Client. Any use or reliance upon this assessment by a party other than the Client; therefore, shall be solely at the risk of such third party and without legal recourse against TAGDD, its employees, officers, or director regardless of whether the action in which recovery of damages is brought or based upon contract, tort, statute or otherwise.

This assessment should not be interpreted as a statistical evaluation of the subject property, but rather is intended to provide a preliminary indication of onsite impacts from previous property usage and/or the release of hazardous materials. If significant indicators of the presence of hazardous materials and/or petroleum contamination are not encountered during our research, such substances may still be present. The findings in this report are based upon published geologic and hydrogeologic information, information (both documentary and oral) provided by the Client, various local, state and federal agencies, Environmental Risk Information Services (ERIS) (i.e., agency database search), and TAGDD's field observations. Some of these data are subject to change over time. Some of these data are based on information not currently observable or measurable but recorded by documents or orally reported by individuals.

2.0 PHYSIOGRAPHIC SETTING

2.1 Subject Property Description

In general, the subject property is in a rural area of northeast Escondido and is surrounded by a combination of rural residential and agricultural development and master planned single family residential development. Rincon Avenue bounds the property to the north; with a combination of agricultural and residential bounding the east, west, and south. A large residence at the southern central portion of the subject property is not a part (**Figure 2**). The property is comprised of approximately 24-acres and encompasses two parcels identified by Assessor's Parcel Number (APN) 224-100-84 and -85 (**Appendix B**). The subject property has physical addresses of 1315 and 1365 Rincon Avenue.

In general, the subject property is in a rural area of northeast Escondido and is surrounded by a combination of rural residential and agricultural development and master planned single family residential development. Rincon Avenue bounds the property to the north; with a combination of agricultural and residential bounding the east, west, and south. A large residence at the southern central portion of the subject property is not a part. According to the City of Escondido's online parcel map identification program https://www.escondido.org/parcel-lookup.aspx the subject property's existing land use is zoned as "Residential Estates" (RE-2).

2.2 Topography

The subject property is located on the United States Geological Survey (USGS), Valley Center, California, 7.5 Minute combined quadrangle map (USGS, 2018). The subject property has moderate topographic relief with the exception of a relatively low hill located on the south end. Based on GoogleEarth©, the elevation ranges from a low of approximately 963-feet amsl at its northwest corner to a high of 930 feet amsl on a hill located on the south end. Drainage direction variable, but primarily to the northwest over much of the parcel.

2.3 Regional and Local Geology

Major fault zones and subordinate fault zones found in the Peninsular Ranges Province typically trend in a northwest-southeast direction. Three (3) major faults zones and some subordinate fault zones are found in this province. The Elsinore Fault zone and the San Jacinto Fault zones trend northwest-southeast and are found near the middle of the province. The San Andreas Fault zone borders the northeasterly margin of the province, whereas, a fault related to the San Andreas Transform Fault System, the Newport-Inglewood-Rose Canyon Fault zone exists near the western margin and Continental Borderland Geomorphic Province (CDMG, 1977). Regional geologic maps of the subject property and vicinity

(published by the California Geological Survey (USGS) indicate the property is underlain by Cretaceous-age undifferentiated granitic rock (map symbol "gr').

Soils on the subject property have primarily been identified by the United States Department of Agriculture - Natural Resource Conservation Service (USDA-NRCS), online Web Soil Survey database as "CmrG"; the Cienba-Rock outcrop complex. In general, these soils are present on 30 to 75 percent slopes, is excessively drained, of medium runoff class, and Hydrologic Soil Group 3.

2.4 Regional and Local Hydrogeology

According to the California Regional Water Quality Control Board, San Diego Region (CRWQCB 1994), the subject property is located within the Escondido Hydrologic Sub Area (HSA), of the Escondido Hydrologic Area (HA), of the Carlsbad Hydrologic Unit (HU-904.62). Designated beneficial uses of groundwater in the San Marcos HA are for municipal and domestic supply, agricultural supply, and industrial service supply (CRWQCB, 1994).

Based on topography, and general knowledge of the hydrogeology in the site vicinity, groundwater is estimated to flow generally towards the west - southwest. Groundwater depth and flow direction beneath the site may vary due to proximity to creeks and streams, local irrigation practices, seasonal precipitation.

TA-Group DD reviewed the California Department of Water Resources Sustainable Groundwater Management Act (SGMA) Data Viewer (https://sgma.water.ca.gov/webgis/?appid=SGMA_DataViewer#gwlevels) on June 7, 2023 for information pertaining to groundwater and water supply wells on or close to the subject property. According to the website, there are no water supply wells located on or in the immediate vicinity of the subject property. The closest water well (State Well No. 12S02W03M001S) is located over a mile to the west of the subject property and was last gaged in May 1987, and recorded groundwater at an elevation of roughly 740-feet amsl.

2.5 Hydrologic Flood Plain Information

On June 7, 2023 TAGDD reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) online database (FEMA, 2021) to determine if the subject property was in a flood zone. According to Panel No. 06025C0812G - effective May 16, 2012, the subject property is located within flood Zone X. FEMA defines Zone X as an area of minimal flood hazard, usually depicted on FIRMs as outside the 500-year flood plain. A copy of the FIRM is included in **Appendix B**.

3.0 SUBJECT PROPERTY BACKGROUND

3.1 Subject Property Ownership

Information regarding the ownership of the subject property, identified as 1315 and 1365 Rincon Avenue, Escondido, California, was obtained from 2 Preliminary Title Reports (PTR) prepared by Chicago Title Insurance Company, dated February 6, 2023. According to the PTR, the owner of the APN 224-100-85 portion of the subject property is "Iskcon of Escondido, Inc a California Corporation". The APN 224-100-84 portion is owned by "Vamsi Vasireddy, a married man as his sole and separate property'" A copy of the PTRs with detailed parcel and legal descriptions is included in **Appendix B**. TAGDD notes that the E1527-21 ASTM standard generally wants title searches extending to 1980, to expose potential hazardous owner information (Activity and Use Limitations, or AUL). However, DTSC provides such information which is reported separately in this report.

3.2 Subject Property History

TAGDD reviewed readily available information sources to evaluate historic land use in and around the subject site. These information sources include aerial photographs, United States Geological Survey (USGS) maps, and city and/or county records. The information sources are reviewed in the following sections.

3.2.1 Historical Aerial Photograph and Topographic Map Review

Historical aerial photographs and topographic maps were reviewed to identify historical land development and any surface conditions which may have impacted the subject property. Photographs (1939-2021) and historical topographic maps (1893-2022) were obtained and reviewed from ERIS®. An aerial photograph was also obtained from Google Earth® and used to prepare **Figure 1** (Aerial Site Map).

Table 1 summarizes the results of the aerial photograph review. Reviews were made at approximate 5-year jumps on recent maps to lessen repetitive data. Copies of all aerial photographs and historical topographic maps provided by ERIS® are included in **Appendix C**.

TABLE 1
Summary of Historical Aerial Photograph and Topographic Map Review

Year	Source and Scale	Comments
1893-1942	USGS / 15' Topographic	At this scale no pertinent information was noted.
1939	Fairchild	The subject property is undeveloped. Rincon Avenue appears present as an unpaved road at the north end, changing to a pathway that drops into the subject site's northeast corner. Another path is present at the south end running east-west. Orchards are present immediately to the south; vacant properties to the north, east, and west appear to be cleared.
1953	ASCS 1" = 500'	Rincon Avenue is now present along much of the northern boundary, Two small structures (sheds?) are present at the center and western center. Remnants of orchards are present near the northwest corner and northeast end. Another unpaved drive is located at the south end, at the location of the current canal feature. A residence, driveway, and orchards are present adjacent west. Orchards have been developed on the hill adjacent to the northeast corner. The surrounding area remains mostly vacant with the exception of the aforementioned orchards and residence.
1948-1975	USGS / 7' Topographic	In 1948 through 1975 a residence/building appears in the center of the overall property. Starting in 1968 a "flume" is identified on the southern portion.
1963	CAS Aerial 1" = 500'	A driveway enters the northwest corner and winds down to the southeast corner, where a residence and outbuildings are apparent. Another residence, adjacent to an orchard, is present within the northwest quadrant, and 3 smaller buildings/sheds? Are present along the driveway. Two graded flat areas are present centrally along the drive. The flume feature (now "Vista Canal") is prominent at the south end of the subject property. There may be a residence or building south of the canal at the southwest corner. The surrounding area, especially at a distance to the north and to the southeast, is infilling with rural residential and ag development.
1967	USGS Aerial 1" = 500'	Subject property and adjacent generally as above. Driveway now located central from Rincon. Orchard at northwest corner gone.
1974	Private Aerial 1" = 500'	A second residence is present in the northwest quadrant. Residences infilling north of Rincon Avenue to the northeast. Otherwise, subject property and adjacent generally as above.

TABLE 1
Summary of Historical Aerial Photograph and Topographic Map Review

Year	Source and Scale	Comments
1980	USGC Aerial 1" = 500'	Garage/outbuildings added to residences at northwest quadrant. Vegetation/trees more mature. Adjacent properties as above. More infill development to the southwest and northeast.
1985	USGS 1" = 500'	No apparent changes to subject. Property adjacent north across Rincon now appears to be a nursery and outbuildings. Aerial has red overlays (thermal?) covering much of the surrounding area. Surrounding otherwise as above.
1996	USGS 1" = 500'	Another residence (now 3) has been added to the northwest quadrant. Subject otherwise as above. Property adjacent northwest and northwest across Rincon have been developed with single family housing. Surrounding otherwise generally as above.
1996-2022	USGS / 7' Topographic	The 1996 Topo appears to show three buildings on the western end of the overall subject property (one new on north end). Topographic maps after this date do not show buildings or other details.
2002	USGS 1" = 500'	North end structure gone. Residential development with paved access road now present diagonally to southwest corner. Subject property and adjacent surrounding otherwise generally as above.
2004-12	USDA 1" = 500'	Only a single residence appears to remain on northwest quadrant. Otherwise, vacant except for "not a part" property on south half. Surrounding properties generally as above, although as of 2005 nursery to north has expanded to west.
2014-2018	USDA/USGS 1" = 500'	3 sheds/mobile homes(?) apparent; 2 along drive and one west central. Subject otherwise as above. Nursery north across Rincon now has many covered growing structures or plastic growing covers). Housing tract present adjacent south as of 2018. Otherwise surrounding generally as above.
2020-2021	USDA/Maxar 1" = 500'	Subject as above, but additional small sheds/mobile homes? Located south and southeast of north residence. As of 2021 a metal-roofed barn (?) added south of northern residence. Surrounding otherwise generally as above.

ASCS is the Agriculture and Soil Conservation Service. NAIP is the National Agriculture Inspection Program. NASA is the National Aeronautics and Space Administration. USGS is the U.S. Geological Survey. NHAP is National High-Altitude Photography. No additional pertinent information was noted.

3.2.2 City/County Directories

Directory listings associated with the 900 to 1800 blocks of Rincon Avenue, and all of Witherby Lane, were obtained from ERIS®, an environmental information/database retrieval service.

Directories dating between 1970 and 2022 were researched by ERIS. The 1315 address was initially listed in 1975 as a residence (Hans Jergensoen). 1365 was noted in 1991 but only as "xxxx". In 2001 the 1365 listing was residential listed as "David Booth". In 2012 the 1965 listing was also residential as "Regmi Dagomar". There were no other address listings after this date, and no listings at all for Witherby. No gas stations, cleaners or other occupants of potential environmental concern were identified on the subject property, adjacent or nearby properties. A copy of the City Directory Report is provided in **Appendix C**.

3.2.3 Fire Insurance Maps

TAGDD researched available Fire Insurance Maps of the subject property. Fire Insurance Maps provide detailed information on site structures, uses, and occupancies and were typically utilized by insurance companies to evaluate potential fire risk. TAGDD requested a Fire Insurance Map search from ERIS, an environmental information/database retrieval service. According to ERIS,

there is no fire insurance map coverage for the subject property or surrounding area. A copy of the Fire Insurance Map report indicating the subject property is unmapped is included in **Appendix C**.

3.2.4 Summary of Property History

Based on historical records such as aerial photographs, topographic maps and city directories, the subject property was undeveloped until sometime between 1942-1953, when several small structures/sheds were present. By 1953 Rincon Road was present at the northern border, and an east-west dirt road and/or canal (?) was present at the southern end, at the current location of the "Vista Canal". Remnants of orchards are present at the northwest and southeast corners. By 1963 the entry drive was relocated to the northwest corner, a residence was constructed in the northwest quadrant, and several small sheds/structures were located in the north half. A residence may also be present near the southwest corner. By 1967 the northern access driveway has been relocated on to the center of the northern property line; by 1974 a second residence has been constructed at the northwest corner; and by 1980 outbuildings/sheds have been constructed. By 1996 a third residence has been built in the northwestern quadrant. Between 1002-2004 two of the three northern residences are removed. Between 2014-2022 the only subject property changes were the locations and numbers of sheds/structures in the northern portion of the subject property.

3.3 Regulatory Database Review

TAGDD subcontracted an electronic database report from ERIS®, an environmental information/database retrieval service. Facilities were identified by county, state, or federal agencies that generate, store, or dispose of hazardous materials or which have or have had releases from underground storage tanks, industrial uses, or related sites. A copy of the full ERIS® report is provided in **Appendix D,** along with a description of the individual databases. **Table 2** identifies sites found based on proximity, including database source:

3.3.1 Subject Property

No listings were identified for the subject property.

3.3.2 Adjacent Properties (within 1/8th Mile Radius Distance (660 feet)

Listings 1-6 are associated with this search radius:

Listing 1 (**1300 Rincon** Avenue) is located immediately north of the subject property, and identified as Altman Specialty Plants; Pacific Paradise Nursery, and Waterwise Botanicals. A total of 5 notations are present. All notations are for regulatory/compliance (FINDS/FRS; HAZ San Diego; CERS Haz; Geotracker Irrigated Lands Program; and Haz Gen) listings related to the use of pesticides/hazardous materials and a program notification. Without evidence of a release, such compliance/permit notations are not considered REC.

Listing 2 (**1426 Rincon Avenue**), appears to be a compliance repeat of the Waterwise notation listed above.

Listing 3 (**1565 Rincon Avenue**), Ash Street and Rincon Groves, located adjacent to the northeast, is also a Geotracker Irrigated Lands Program. Without evidence of a release, such compliance/permit notations are not considered REC.

Listing 4 (**1208 Sunrise Mtn Drive**) is identified as Escondido Greenhouses and is located roughly 450 feet north-northeast. The listing has a single HAZ San Diego notation for a unified facility permit. Without evidence of a release, such compliance/permit notations are not considered REC.

Listing 5 (**1617 Rincon Avenue**), located >530-feet northeast, is another Ash Street and Rincon Groves listing. The property has a Geotracker Irrigated Lands Program notation. Without evidence of a release, such compliance/permit notations are not considered REC.

Listing 6 (**1630 Rincon Avenue**), located >630-feet northeast, is another Ash Street and Rincon Groves listing with 5 notations. All are Geotracker Irrigated Lands Program notations. Without evidence of a release, such compliance/permit notations are not considered REC.

3.3.3 Surrounding Area; 1/8 to 1/4 Miles Radius Distance (660-1,320 feet)

Listings 7-8 are associated with this search radius:

Listing 7 (**1661 Lake**), located 1,000 feet to the west, is a T-Mobile listing with a single HAZ San Diego permit notation for a San Diego Unified Permit program permit.

Listing 8 (**2212 Conway Drive**), located >1,100-feet west-southwest, is identified as Rancho Rincon. The listing has 4 notations, 3 of which (HHSS; HIST TANK; and UST SWEEPS are related to the presence of an historical 550-gallon agricultural underground storage tank (UST), dating to 1974. Based on distance, down gradient location, and lack of a release Without evidence of a release, such compliance/permit notations are not considered REC.

3.3.4 Surrounding Area; 1/4 to 1/2 Miles Radius Distance (1,320-2,640 feet)

No listings were identified in this search radius.

3.3.5 Surrounding Area; 1/2 to 1.0 Miles Radius Distance (2,640-5,280 feet)

There is one (1) listing associated with this search radius:

Listing 9 (**2797 N. Broadway**) is a DTSC School evaluation site: Springtime/Reidy Creek Elementary, located >3,000-feet to the northwest. Two notations are present which document a Preliminary Endangerment Assessment and DTSC review and closure. Without evidence of a release, such compliance/permit notations are not considered REC.

3.3.6 Orphan / Unplottable Sites

The ERIS database search report lists 2 unplottable notations, both of which are located many miles to the south, in Chula Vista.

TABLE 2 Database Search ID with Results	No. of Reported Notations	Search Radius (Miles)
ONE HALF to ONE MILE (.05-1.0) RADIUS	2	0.5-1.0
ONE QUARTER to ONE HALF MILE (0.25-0.5) RADIUS	0	0.25-0.5
ONE EIGTH TO ONE QUARTER MILE (0.125-0.25) RADIUS	5	0.125-0.25

TABLE 2 Database Search ID with Results	No. of Reported Notations	Search Radius (Miles)
SUBJECT TO ONE EIGHTH MILE (0.125) Radius	14	0-0.125
SUBJECT SITE	0	SUBJECT

3.4 Regulatory Agency Review and Interviews

3.4.1 County of San Diego

On July 9, 2023 we also opened a public record act request with the County of San Diego's Planning & Development Services' (PDS) website for "Any permits related to building permits / septic / fuel tanks / Fire Dept responses and/or hazmat storage or releases" associated with the subject property. On June 12, 2023 Arda Hoke, a student assistant at PDS, indicated that the County had no responsive records.

TA-Group DD also submitted a records request on July 9, 2023, to the County of San Diego Department of Environmental Health (CSDDEH) deh.publicrecords@sdcounty.ca.gov as well as the Land & Water Quality Records division LWQduty.deh@sdcounty.ca.gov concerning any septic/well record, permit, inspection, AST, UST, or cleanup information available for the subject property. On July 9, 2023 Atieh Khalili of the DEHS indicated no records were found. On July 9, 2023 Chris Zermeni of the Land and Water Quality Division also indicated no records were found. We also searched their online library (https://www.sandiegocounty.gov/content/ sdc/deh/doclibrary/) based on the subject property APN. No listings were found for the subject APN, however, a property located nearby (1643 Rincon) did have historical records for a septic system. A 2015 well drilling record for a well with a 30-foot annular seal, agricultural well was also noted for APN 224-100-77, which appears to be located immediately east of the subject property.

3.4.2 City of Escondido

On June 14, 2023 TA-Group DD contacted the City of Escondido (Cityclerk@escondido.org) using their online public record request service (https://cityofescondidoca.nextrequest.com/requests/23-338) and requested records for any permit, well/septic, inspection, fuel UST, or hazmat storage/cleanup information available for the subject property (APN and addresses). The City responded on June 19, 2023 with copies of two 2017 permits (B17-0581 and B17-490) related to air conditioner/HVAC repairs at 1415 Rincon Avenue (not a part). Personnel from the department also indicated that all building department records regarding hazardous materials and USTs are held with the County Certified Unified Program Agency (CUPA), which is the County of San Diego Department of Environmental Health Hazardous Materials Division. The identified permit copies are not included as they are not related to environmental issues and can be researched if needed by the permit numbers referenced.

3.4.3 State Water Resources Control Board

On June 9, 2023 TAGDD reviewed the online database GeoTracker https://geotracker.waterboards.ca.gov/ which provides records on Leaking Underground Storage Tanks (LUSTs) and Spills, Leaks, Investigation and Cleanup (SLIC) sites, which is maintained by the State Water Quality Control Board. The subject property and adjacent property were not listed on any of

the GeoTracker databases. Based on the results of our database review and related information, interviews with SWRCB agency officials were not performed.

Geotracker® also includes a database with Activity and Use Limitations (AUL) for sites in California. TAGDD reviewed that database, and no AUL were noted. Based on the rural use of the subject property, it is TAGDD's opinion that further investigation of AUL are not required. Based on the results of our database review, the rural nature of the property, and related information, interviews with SWRCB agency officials were not performed.

3.4.4 California Department of Toxic Substances Control

On June 7, 2023 TAGDD reviewed the online database EnviroStor, which provides records on: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites, which are maintained by the California Department of Toxic Substances Control. The subject property and immediately adjacent properties were not listed on the database. The closest facility noted was closed DTSC school investigation roughly 0.75-miles to the west (Reidy Creek Elementary). Based on the absence of nearby listings, the results of our database review and related information, interviews with DTSC agency officials were not considered necessary.

3.4.5 California Department of Conservation Geologic Energy Management Division

Oil and gas wells were not observed at the subject property during our site reconnaissance. A June 10, 2023 review of the California Department of Conservation, Geologic Energy Management Division website (https://maps.conservation.ca.gov/doggr/wellfinder/) for oil and gas fields in California and Alaska did not indicate the presence of oil and gas wells on or in the vicinity of the subject property.

3.4.6 National Pipeline Mapping System

TAGDD reviewed the National Pipeline Mapping System public viewer website on June 10, 2023 for gas transmission pipelines and hazardous liquid trunk lines on or close to the subject property. According to the website, no pipelines or trunk lines were located on or within the immediate vicinity of the subject property. The closest line, a gas transmission pipeline running north-south, is located roughly 0.44-miles to the east, near Dixon Lake.

3.5 Interview with Current Property Owner

The Owner representative, Mr. Robert Morrell completed questionnaires for the subject property dated June 17, 2023. A summary of the information provided is documented below. Copies of questionnaires are included in **Appendix E**.

3.5.1 Past or Present Uses Indicating Environmental Concern

Mr. Morrell stated that the subject property was vacant and/or residential. No past or present uses which indicate an environmental concern, including the presence of underground or aboveground storage tanks, were known.

3.5.2 Environmental Liens or Governmental Notification

Mr. Morrell stated that he was not aware of any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the subject property.

3.5.3 Presence of Hazardous Substances or Environmental Violations

Mr. Morrell stated that he was not aware of the presence of hazardous substances or environmental violations associated with the subject property.

3.5.4 Previous Assessments

Mr. Morrell stated that he was aware of a previous environmental assessment (Phase I ESA) for the subject property.

3.5.5 Legal Proceedings

Mr. Morrell was not aware of any environmental liens, unresolved notices of violation, or litigation related to a contamination issue at the subject property.

3.6 User Provided Information

Pursuant to ASTM E1527-13/21, TAGDD provided a Phase I ESA User Specific Questionnaire to the "User" (the person on whose behalf the Phase I ESA is being conducted). In this case the User is also the Owner. Mr. Morrell also completed this questionnaire. The User Specific Information provided is documented in the following sections. A list of the user specific questions per ASTM with associated responses is included in **Appendix E**.

3.6.1 Environmental Liens or Activity and Use Limitations

Mr. Morrell indicated no environmental liens or activity and use limitations (AULs) were associated with the subject property (No separate Environmental Lien Search was provided as part of this work product. The State Geotracker website AUL listings were reviewed.

3.6.2 Specialized Knowledge

Mr. Morrell stated that he had no specialized knowledge or experience related to the subject property or nearby properties (i.e., knowledge of the chemicals or processes used by a type of business) aside from its former use for agricultural purposes.

3.6.3 Valuation Reduction for Environmental Issues

Not Applicable; not a purchase.

3.6.4 Presence or Likely Presence of Contamination

Mr. Morrell stated that he was not aware of any environmental releases related to the subject property.

3.6.5 Reason for Phase I ESA

The Phase I ESA is needed for development permitting.

3.7 Other Environmental Issues

3.7.1 Asbestos-Containing Materials

Asbestos, a natural fiber used in the manufacturing of several different building materials, has been identified as a human carcinogen. Most friable (i.e., easily broken or crushed) Asbestos-Containing Material (ACM) was banned in building materials by 1978. By 1989, most major manufacturers had voluntarily removed non-friable ACM (i.e., flooring, roofing, and mastics/sealants) from the market. These materials, however, were not banned completely.

In October 1995, the Federal Occupational Safety and Health Administration (OSHA) redefined how building materials are classified regarding asbestos and the way these materials are to be handled. Under this ruling, "thermal system insulation and sprayed-on or troweled on or otherwise applied surfacing materials" applied before 1980 are considered presumed Asbestos-Containing Materials (PACM). Other building materials such as "floor or ceiling tiles, siding, roofing, transite panels" (i.e., non-friable) are also considered PACM unless tested.

TAGDD did not note PACM during our site reconnaissance. However, based on the age of residential and outbuildings on the subject property, TAGDD considers the presence of PACM to be likely. Should building demolition be planned, a PACM evaluation will be required.

3.7.2 Lead-Based Paint

Lead-Based Paint (LBP) is identified by OSHA, the Environmental Protection Agency (EPA) and the Department Housing and Urban occ Development Department (HUD) as being a potential health risk to humans, particularly children, based upon its effects to the central nervous system, kidneys, and bloodstream. The risk of Lead-Based Paint has been classified by HUD based upon the age and condition of the painted surface. This classification includes the following:

- maximum risk is from paint applied before 1950;
- a severe risk is present from paint applied before 1960;
- a moderate risk is present from paint applied before 1970;
- a slight risk is present from paint applied before 1977; and
- paint applied after 1977 is not expected to contain lead.

Based on the age of residential and outbuildings on the subject property, TAGDD considers the presence of LBP to be likely. If building demolition is planned, an LBP evaluation will be required.

3.7.3 Radon

Radon is a radioactive gas which has been identified as a human carcinogen. Radon gas is typically associated with fine-grained rock and soil, and results from the radioactive decay of radium. The U.S. EPA recommends that homeowners in areas with radon screening levels greater than 4 Picocuries per liter (pCi/L) conduct mitigation of radon gas to reduce exposure. Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed the U.S. EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. U.S. EPA's Map of Radon Zones (EPA-402-R-93-071) assigns each of the 3,141 counties in the US to one of three zones based on radon potential:

- Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L.

- Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L.
- Zone 3 counties have a predicted average indoor radon screening level of less than 2 pCi/L.

Based on such factors as indoor radon measurements; geology; aerial radioactivity; and soil permeability, the U.S. EPA has identified the County of San Diego as Zone 3 (i.e., a predicted average indoor radon screening level less than 2 pCi/L). TA-Group DD does not consider radon as a significant environmental concern at this time.

3.7.4 Emerging Contaminants

Regulatory agencies are evaluating a number of "emerging chemicals", commonly to include per- and poly-fluoroalkyl substances (PFAS), 1-4 Dioxane, and other substances. The rural nature and known residential use and history of the subject property would indicate that such chemicals would not likely be a consideration at the subject property.

4.0 SITE RECONNAISSANCE

4.1 Purpose

The purpose of our site reconnaissance was to observe the subject property, any onsite structures, and adjoining properties visually and physically for conditions indicating an existing release, past release, or threatened release of any hazardous materials/substances or petroleum products into structures on the subject property, or into soil and/or groundwater beneath the property. This would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon surface staining, waste drums, ASTs/USTs, illegal dumping, or improper waste storage/handling. Detailed information is provided in the following text.

4.2 Subject Property

On June 13, 2023, TAGDD personnel conducted a site reconnaissance to visually observe the subject property and adjoining properties for conditions indicating a potential environmental concern. TAGDD was unescorted during the site reconnaissance. Visual conditions present during the site reconnaissance are documented in the Photographic Log (**Appendix A**) and summarized in **Table 3**.

The subject property is accessible from a gate located at the center of its north end, at Rincon Avenue. In general, the north end of the subject has relatively low relief but slopes upward to the south. Topographic relief rises substantially to the east, south, and west.

TAGDD entered the property and walked through the northern end. Barbed wire fencing is present. A small utility box was located offsite the northwest corner. We followed the entrance drive to the residence area and met with Mr. Derek Carter, who was familiar with the property and had been in the residence for a decade or more.

Roughly 1/3 of the distance into the subject property, there is a residence, a barn, and several shed outbuildings. We entered the residence, which is heated by a wood burning stove. The ceilings and walls appear to be wooden and/or plaster. Newer floor tiles are present in the kitchen area. The residence exterior appears to be aluminum siding. Roofing appears to be asphalt tiles. No environmental concerns were noted.

We walked the balance of the developed area, which includes an unfinished "bag" building; a trailer; a garden area with an open shed; a new plastic shed; and a barn. The open shed southeast of the residence, adjacent to the garden, contained fuel cans and other petroleum products on shelves. The floor is unfinished bare soil. No spillage was noted. A well is located adjacent to the central access drive near the aforementioned garden. Used oil was also noted in 5-gallon buckets stored outside next to the new plastic shed located west of the residence. We note that Mr. Cater indicated that the garden was organic, and pesticides were not used on the property.

After observing the developed area, TAGDD hiked to the southeast corner of the subject property, walked the southern end to the southwest corner, and walked the balance of the more elevated portions. A former canal has been enclosed in a raised concrete wall. We noted a pole mounted transformer servicing the "not a part" residence on the southern end. No spillage was noted. The upper western quadrant is heavily covered with dense brush and is undeveloped.

With the exception of the petroleum products noted above, no evidence of contamination, distressed vegetation, petroleum-hydrocarbon surface staining, waste drums, USTs, ASTs, illegal dumping, or improper waste storage/handling was noted during our site reconnaissance.

TABLE 3 - Summary of Site Reconnaissance

Item	Concerns	Comments
General Housekeeping	No	No concerns observed w/exception of noted petroleum storage.
Surface Spills	No	No concerns observed.
Stained Surfaces	No	No concerns observed.
Fill Materials	No	No concerns observed.
Pits/Ponds/Lagoons	No	No concerns observed.
Surface Impoundments	No	No concerns observed.
ASTs/USTs	No	No concerns observed.
Distressed Vegetation	No	No concerns observed
Wetlands	No	No concerns observed.
Electrical Substations	No	No concerns observed.
Areas of Dumping	No	No concerns observed.
Transformers	No	One pole -mounted transformer observed. No sign of leakage or staining was noted.
Waste/Scrap Storage	No	No concerns observed.
Chemical Use/Storage	No	No concerns observed.

4.3 Adjacent Properties

The subject property is in an area primarily consisting of a mix of residential and agricultural development, with some undeveloped land to the east. Rincon Avenue bounds the subject property on the north; single family residences and undeveloped property bound the west; master planned residential is on the south; and undeveloped property is adjacent east. Immediately north across Rincon Avenue is a nursery.

TAGDD conducted a visual and auto reconnaissance of the adjacent nursery development and drove the immediate area to observe the potential for offsite impacts that may affect the subject property. These

would include evidence of chemical storage or usage, surface staining or leakage, distressed vegetation, or evidence of illegal dumping. We observed the adjacent nursery to the north and did not note any environmental concerns; we note the subject property is topographically higher. We drove the residential to the west and did not observe any concerns. The property to the west is fenced and a topographic high which is undeveloped except for orchards. The property to the south is primarily additional orchards and/or vacant.

No adjacent properties were identified as having environmental releases on any of the databases researched and are not considered as an environmental concern at this time. No service stations, dry cleaners, or industrial properties were located in the immediate vicinity.

5.0 VAPOR ENCROACHMENT SCREEN

ASTM Standard E2600-15 Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions was used as guidance for conducting a VES for the subject property. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern (COC) that may migrate as vapors onto a property because of contaminated soil and groundwater on or near the subject property. The screening involves a two-tiered approach to assessing VEC risk as described herein. The VES process includes a review of site conditions (e.g., aerial photographs, city directories, and environmental database information), which is information typically collected during a Phase I ESA, user provided information, and in some instances the use of a third-party vapor encroachment application. The following sections describe the VES performed on the property.

5.1 Site Conditions

The subject property has moderate topographic relief with the exception of a relatively low hill located on the south end. Based on GoogleEarth©, the elevation ranges from a low of approximately 963-feet amsl at its northwest corner to a high of 930 feet amsl on a hill located on the south end. Drainage direction variable, but primarily to the northwest over much of the parcel.

Data regarding regional groundwater was obtained from the DWR-WDL website. The closest water well (State Well No. 12S02W03M001S) is located over a mile to the west of the subject property and was last gaged in May 1987, and recorded groundwater at an elevation of roughly 740-feet amsl. Based on topography surface water drainage would be expected to be north-northwest over the majority of the subject property.

5.2 User Provided Vapor Encroachment Information

Mr. Morrell also completed a Vapor Encroachment Screen - User Questionnaire (**Appendix E**). The questionnaire provided basic information regarding the use, condition, and proposed development of the subject property.

According to Mr. Morrell, the proposed construction on the subject property will be a church and residences. Development will be wood framed, slab on grade, and heated by a combination of gas and electric. No elevators will be present. Mr. Morrell was unaware of any odor or related environmental complaints related to the subject property.

No other information about past or future gas stations, cleaners, storage tanks, odors, chemicals, or health concerns related to the subject property were reported.

5.3 Tier 1 Screening – Search Distance Test/Chemicals of Concern

A Tier 1 Screening includes the search distance test that involves a review of the regulatory database report and available historical records obtained during the Phase I ESA process to decide if any known or suspect potentially contaminated properties exist within the Area of Concern (AOC). High risk sites are typically current and former gas stations, former and current dry cleaners, manufactured gas plants, and industrial sites (Brownfields). The AOC is defined as any up-gradient sites within the ASTM E1527-13 standard search distances and any cross or down gradient sites within 1/3 mile (1745-feet) *for solvents and petroleum products. If the contamination at the known or potentially contaminated sites within the AOC consists of Chemicals of Concern (COCs), then a potential Vapor Encroachment Condition (pVEC) exists, and a Tier 2 Screening evaluation is recommended. If no known or potentially contaminated sites with COCs exist within the AOC, no further inquiry is necessary.

Based on TAGDD's Tier 1 Screening evaluation, no sites were identified within the AOC that were considered to pose a pVEC at the subject property.

5.4 Findings

Based on the results of the Tier 1 VES, TAGDD concluded that a VEC can be ruled out, because of the lack of known or suspected contaminated properties within the AOC.

6.0 DATA GAPS AND DEVIATIONS FROM ASTM PRACTICES

Section 3.2.21 (ASTM E1527-13) defines a data gap as "a lack or inability to obtain information required by the practice despite good faith effort of the environmental professional to gather such information."

6.1 Historical Data Gaps

No historical data gaps were identified during our research efforts.

6.2 Regulatory Data Gaps

No regulatory data gaps were identified during our research efforts.

6.3 Onsite Data Gaps

No onsite data gaps were identified during our research efforts.

6.4 Deviations from ASTM Practices

Section 12.10 (ASTM E1527-13/21), states that all deletions and deviations from this practice shall be listed individually and in detail, including client-imposed constraints, and all additions should be listed. TAGDD believes that there are no exceptions to, or deletions and deviations from, the ASTM E1527-13/21 Guidelines.

TAGDD does not believe any deviations from the referenced standard are present.

7.0 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13/21 of APNs: 224-100-84 and -85 the *subject property*. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report. Based on the information obtained in this ESA, TAGDD has the following conclusions and recommendations:

- *Known or suspected RECs* – are defined by the ASTM E1527-13/21 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

  This assessment has revealed the following evidence of *known or suspected RECs* in connection with the subject property:

  This assessment has revealed evidence of *recognized environmental conditions* in connection with the *subject property, consisting of the potential presence of agricultural pesticides at a former orchard location at the northwest corner of the subject property.*

- *Controlled RECs (CRECs)* – are defined by the ASTM E1527-13/21 as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a NFA letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *CRECs* in connection with the subject property.

- *Historical RECs (HRECs)* – are defined by the ASTM E1527-13/21 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *HREC's* in connection with the subject property.

- *De Minimis* Conditions – include environmental concerns identified which may warrant discussion but do not qualify as RECs, as defined by the ASTM E1527-13/21.

  This assessment has revealed the following evidence of a *de minimis* condition in connection with the subject property:

  Small quantities of used oil and/or petroleum products were noted in our site reconnaissance in 2 locations (outdoor storage sheds. Based on the small quantities and absence of staining, we consider these areas to be DeMinimus. Owner should properly store such materials in the future to prevent spillage:

8.0 REFERENCES

California Department of Conservation Division of Mines and Geology (CDMG), 2002 California Geological Survey, California Geomorphic Provinces Note 36, Electronic Copy, Revised October 2002.

California Division of Mines and Geology (CDMG), 1977, Recency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California, Special Report 131, Plate 1.

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California Department of Water Resources January 2023. (DWR), Water Data Library (WDL), Website (http://www.water.ca.gov/waterdatalibrary), aaccessed June 2023.

California Department of Conservation Geologic Energy Management Division (CDCGEMD) Website (https://www.conservation.ca.gov/calgem), accessed June 2023.

Colorado River Basin California Regional Water Quality Control Board (CRBCRWQCB): "Water Quality Control Plan Colorado River Basin - Region 7," dated February 17, 1994 (with amendments effective through January 8, 2019), California State Water Resources Control Board Publication.

Federal Emergency Management Act (FEMA), Flood Insurance Rate Map (FIRM), Website (http://msc.fema.gov), accessed June 2023.

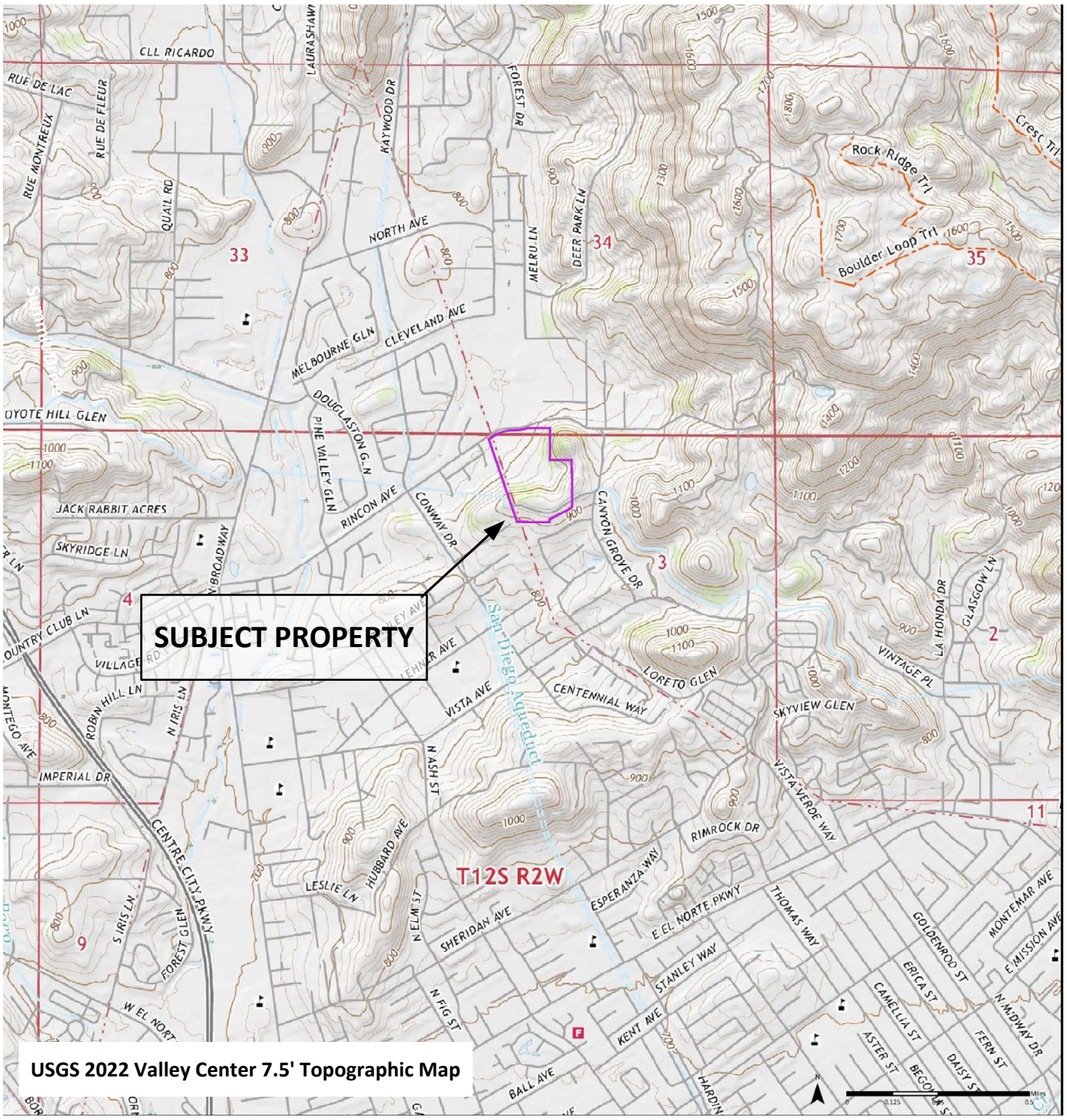
National Pipeline Mapping System (NPMS), Public Map Viewer Website, (https://www.npms.phmsa.dot.gov/PublicViewer/), accessed June 2023.

State Water Resources Control Board (SWRCB), Website, GeoTracker database, (http://www.geotracker.swrcb.ca.gov/), accessed June 2023.

United States Department of Agriculture (USDA), Natural Resources Conservation Service, Website (http://websoilsurvey.nrcs.usda.gov/app/) Web Soil Survey, accessed June 2023.

United States Geological Survey (USGS), 2018, 7.5-Minute Combined Topographic Map, Lake Elsinore, California Quadrangles.

FIGURES



USGS 2022 Valley Center 7.5' Topographic Map

Approximate Scale

VICINITY MAP

ISKON Multi-Use Property
1315 and 1365 Rincon Avenue
Escondido, San Diego County, California
Project 0523002

TA-Group DD, LLC

FIGURE 1

N

0 200 ft 400 ft

Approximate Scale

AERIAL SITE MAP

ISKON Multi-Use Property
1315 and 1365 Rincon Avenue
Escondido, San Diego County, California
Project 0523002

TA-Group DD, LLC

FIGURE 2

APPENDIX A
PHOTOGRAPHIC LOG

Photo 1 south from northwest corner

Photo 2 View south from Rincon access

Photo 3 View west from entrance off Rincon

Photo 4 View east to southeast corner

Photo 5 View West through south end

Photo 6 View east through southeast corner

Photo 7 View south from near southeast corner

Photo 8 View north along southeast side

Photo 9 View north towards Rincon from east end

Photo 10 View west through south end

Photo 11 View east through center

Photo 12 View through southwest quadrant

Photo 13 Shed w/chemicals southeast of home

Photo 14 View east through barn area

Photo 15 Well southeast of residence

Photo 16 North side residence

Photo 17 Residence Interior

Photo 18 Residence Interior

Photo 19 View east through south end residence

Photo 20 “Bag house southwest of residence

Photo 21 Trailer southeast of residence

Photo 22 Oil stored shed east of residence

Photo 23 Shed east of residence

Photo 24 View east through garden

Photo 25 View through south end (residence not a part)

Photo 26 South end channelized “canal”

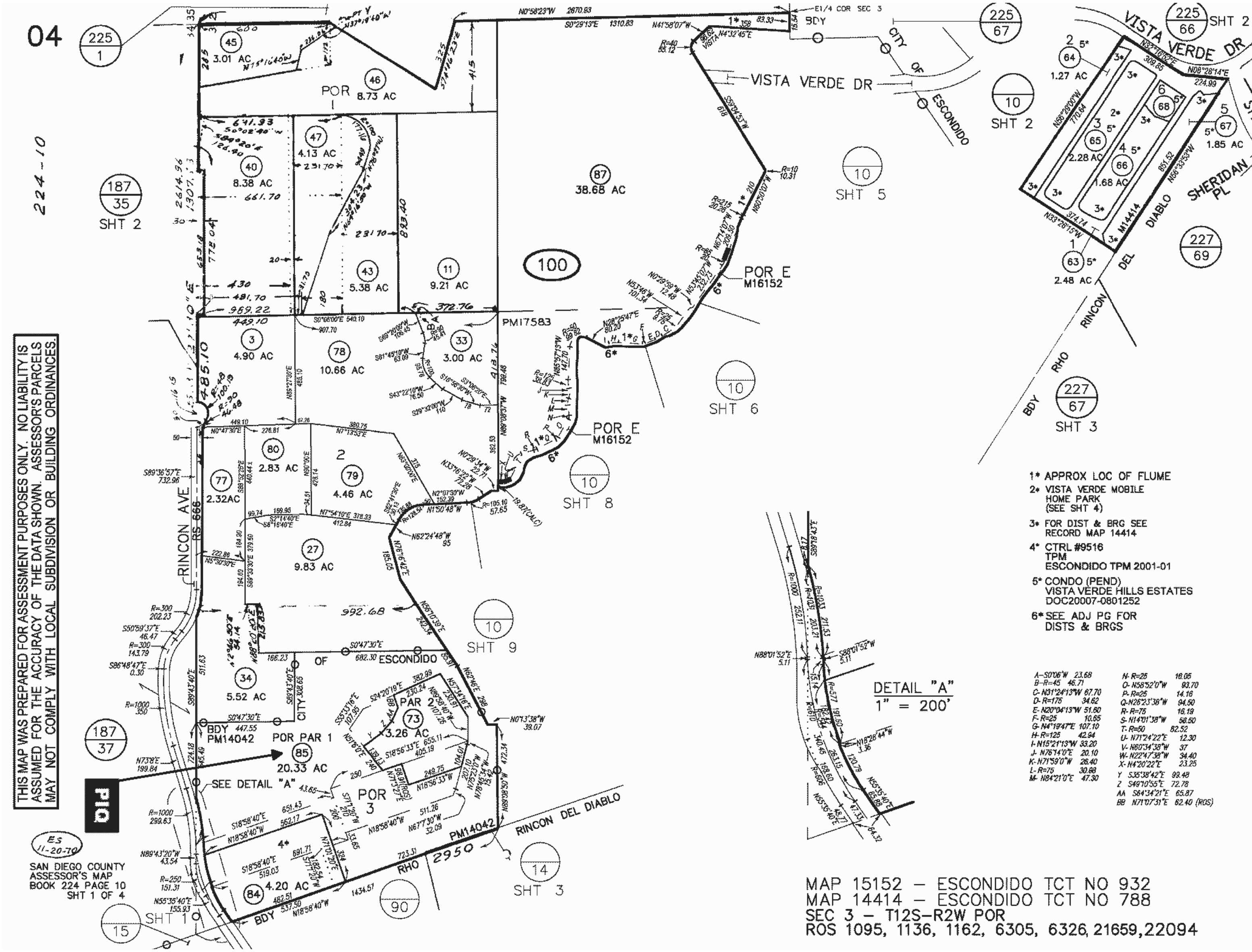
Photo 27 Southeast quadrant

Photo 28 Southwest quadrant view south

Photo 29 South end covered channel

Photo 30 View east through center subject

APPENDIX B
SUBJECT PROPERTY SUPPORTING DOCUMENTATION
Preliminary Title Report w/APN Map
FEMA Map



02/07/2019 JGD

CHANGES				
BLK	OLD	NEW	YR	CUT
100	Pick-Up	MOBILE HOMES	81	3380
	Pick-Up	MOBILE HOMES	81	3289
	Pick-Up	MOBILE HOME	82	4248
	31 & 227-122-40	48 & OP	83	2957
	14	SAME & OP	83	4759
	48	49-51	86	1482
	50 & 51	227-610-50 & 51	86	10039
	22	52 & 53	86	1969
	49	544		
		POR 227-610-60	86	1973
	14	POR BLK 225 PG 66 SHT 2		
	54	55 & POR BLK 225 PG 66	86	246
	55	56 & POR BLK 225-67	87	252
	19 & 56	-103- & -104-	89	149
	38	SAME & ST OP	89	4762
	38 & 39	57-60	96	1648
	30	SAME & ST OP	01	4676
	29	SAME & ST OP	01	4624
	30	227-690-20	01	10029
	17,23, & 52	61&62	01	1217 VOID
	17,23, & 52	61&62	02	1217
	29	63–68	03	67
	53&62	69-72	03	1175
	69–72	73&74	04	1910
	74	75&76	04	2055
	35	77–80	07	1102
	75	POR 187-370-65	08	1582
	76	SAME & ST OP	09	4660
	12,59 & 60	81-83	12	1141
	61&76	84&85	16	1244
	57,58,82 & 83	PG10 SHTS 5-9	17	53
	POR -105–25	86	19	1374
	81&86	87	19	1429

You can choose a new flood map or move the location pin by selecting a different location on the locator map below or by entering a new location in the search field above. It may take a minute or more during peak hours to generate a dynamic FIRMette.

Go To NFHL Viewer »

PIN
Approximate location based on user input and does not represent an authoritative property location

MAP PANELS
Selected FloodMap Boundary
Digital Data Available
No Digital Data Available
Unmapped

OTHER AREAS
Area of Minimal Flood Hazard
Effective LOMRs
Area of Undetermined Flood Hazard
Otherwise Protected Area
Coastal Barrier Resource System Area

SPECIAL FLOOD HAZARD AREAS
Without Base Flood Elevation (BFE)
With BFE or Depth
Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
Future Conditions 1% Annual Chance Flood Hazard
Area with Reduced Flood Risk due to Levee. See Notes.
Area with Flood Risk due to Levee

OTHER FEATURES
Cross Sections with 1% Annual Chance
Water Surface Elevation
Coastal Transect
Base Flood Elevation Line (BFE)
Limit of Study
Jurisdiction Boundary
Coastal Transect Baseline
Profile Baseline
Hydrographic Feature

GENERAL STRUCTURES
Channel, Culvert, or Storm Sewer
Levee, Dike, or Floodwall

CONDITION OF TITLE

Issued By:

CHICAGO TITLE INSURANCE COMPANY

Guarantee Number:

73723000654

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, AND THE GUARANTEE CONDITIONS ATTACHED HERETO AND MADE A PART OF THIS GUARANTEE,

CHICAGO TITLE INSURANCE COMPANY
a corporation, herein called the Company

GUARANTEES

the Assured named in Schedule A of this Guarantee

against loss or damage not exceeding the Amount of Liability stated in Schedule A sustained by the Assured by reason of any incorrectness in the Assurances set forth in Schedule A.

Chicago Title Insurance Company

By:

Michael J. Nolan, President

Attest:

Marjorie Nemzura, Secretary

Chicago Title Company
2365 Northside Drive, Suite 600
San Diego, CA 92108

Countersigned By:

Authorized Officer or Agent

CHICAGO TITLE INSURANCE COMPANY CORPORATE SEAL

ISSUING OFFICE:
Title Officer: Sheila Hollander Chicago Title Company 2365 Northside Drive, Suite 600 San Diego, CA 92108 Fax: 619-785-3383 Main Phone: (619)521-3500 Email: Sheila.Hollander@ctt.com

SCHEDULE A

Amount of Liability	Fee	Title Officer
$5,000.00	$500.00	Sheila Hollander

Date of Guarantee: February 6, 2023 at 08:00 AM

1. Name of Assured: Iskcon of Escondido, Inc., a California corporation

2. The estate or interest in the Land which is covered by this Guarantee is:

   Fee

3. The Land referred to in this Guarantee is described as follows:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

4. ASSURANCES:

   According to the Public Records as of the Date of Guarantee,

   a. Title to the estate or interest in the Land is vested in:

      Iskcon of Escondido, Inc., a California corporation

   b. Title to the estate or interest is subject to defects, liens or encumbrances shown in Schedule B which are not necessarily shown in the order of their priority.

END OF SCHEDULE A

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): 224-100-85-00

PARCEL B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. SUB14-0004, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. SUB14-0017, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 7, 2014 AS DOCUMENT NO. 2014-0487232 OF OFFICIAL RECORDS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHWEST CORNER OF PARCEL "A" OF SAID PLAT NO. 2000-16 WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF RINCON AVENUE(62.00 FEET WIDE) ALSO AS SHOWN ON SAID PLAT NO. 2000-16; THENCE NORTHERLY ALONG THE WESTERLY LINE OF SAID PARCEL "B", NORTH 18° 58' 40" WEST A DISTANCE OF 64.32 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF SAID RINCON AVENUE; THENCE ALONG SAID RIGHT-OF-WAY LINE, NORTH 55° 35' 40" EAST A DISTANCE OF 48.77 FEET TO A POINT ON A TANGENT CURVE, CONCAVE SOUTHERLY HAVING A RADIUS OF 606.00 FEET; THENCE NORTHEASTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 15° 57' 34" AN ARC DISTANCE OF 168.60 FEET TO A POINT ON THE NORTHERLY LINE OF PARCEL "B" OF SAID PLAT NO. 2000-16; THENCE ALONG SAID NORTHERLY LINE, SOUTH 89° 43' 40" EAST A DISTANCE OF 724.18 FEET; THENCE SOUTH 00° 47' 30" EAST A DISTANCE OF 447.55 FEET; THENCE SOUTH 89° 43' 40" EAST A DISTANCE OF 308.65 FEET; THENCE SOUTH 00° 47' 30" EAST A DISTANCE OF 682.30 FEET; THENCE SOUTH 55° 53' 30" WEST A DISTANCE OF 86.07 FEET; THENCE SOUTH 62° 26' 30" WEST A DISTANCE OF 298.10 FEET; THENCE SOUTH 00° 47'30" EAST A DISTANCE OF 38.64 FEET ; THENCE NORTH 89° 31' 30" WEST A DISTANCE OF 473.41 FEET; THENCE NORTH 18° 58' 40" WEST A DISTANCE OF 723.31 FEET; THENCE NORTH 71° 01' 20" EAST A DISTANCE OF 324.00 FEET; THENCE NORTH 18° 58' 40" WEST A DISTANCE OF 562.17 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID RINCON AVENUE, BEING A POINT ON A CURVE CONCAVE SOUTHERLY HAVING A RADIUS OF 544.00 FEET TO WHICH A RADIAL LINE BEARS NORTH 06° 41' 25" WEST; THENCE WESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 27° 42' 55" AN ARC DISTANCE OF 263.15 FEET; THENCE CONTINUING ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, SOUTH 55° 35' 40" WEST A DISTANCE OF 65.88 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM, PARCEL "A" OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. 2001-08, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. 2003-01, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY APRIL 24, 2003 AS DOCUMENT NO. 2003-0478807, OF OFFICIAL RECORDS.

SCHEDULE B

1. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2023-2024.

2. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	224-100-85-00
Fiscal Year:	2022-2023
1st Installment:	$224.77, open (delinquent)
Penalty:	$22.47 (Delinquent after December 10)
2nd Installment:	$224.77, open
Penalty and Cost:	$32.47 (Delinquent after April 10)
Code Area:	04187

3. Supplemental taxes, including any personal property taxes and any assessments collected with taxes, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California, are as follows:

Tax Identification No.:	224-100-85-00
Fiscal Year:	2022
1st Installment:	$124.99, open (delinquent)
Penalty:	$12.49
Delinquent:	December 10, 2022
2nd Installment:	$124.99, open
Penalty:	$22.49
Delinquent:	April 10, 2023
Code Area:	04187
Supplemental Bill No.:	827-200-34-01

4. Said property has been declared tax defaulted for non-payment of delinquent taxes for the fiscal year 2019.

   APN No.: 224-100-85-00

   Amounts to redeem for the above-stated fiscal year (and subsequent years if any) are:

   Amount: $2,448.09 by February 28, 2023
   Amount: $2,474.31 by March 31, 2023

5. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

6. Water rights, claims or title to water, whether or not disclosed by the public records.

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Vista Irrigation District
Purpose:	construction of flumes
Recording Date:	October 2, 1925
Recording No.:	Book 1107, page 435 of Deeds
Affects:	the exact location and extent of said easement is not disclosed of record.

SCHEDULE B
(continued)

8. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	County of San Diego
Purpose:	Road Survey No. 666
Recording Date:	October 6, 1943
Recording No.:	Book 1562, page 354 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

Said instrument additionally contains the privilege and right to extend structures and excavation and embankment slopes beyond the limits where required for the construction and maintenance thereof.

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	San Diego Gas & Electric Company
Purpose:	public utilities and incidental purposes
Recording Date:	November 3, 1960
Recording No.:	File No. 218234 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

10. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Purpose:	roadway
Recording Date:	February 16, 1961
Recording No.:	File No. 27752 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

Said easement has been granted and/or reserved in various instruments of record.

11. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	County of San Diego
Purpose:	Road Survey No. 666
Recording Date:	September 6, 1962
Recording No.:	File No. 153847 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

Said instrument additionally contains the privilege and right to extend structures and excavation and embankment slopes beyond the limits where required for the construction and maintenance thereof.

12. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Helen M. Thurston
Purpose:	road and public utilities and incidental purposes
Recording Date:	December 21, 1979
Recording No.:	File No. 79-534172 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

SCHEDULE B
(continued)

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Donald R. Thurston and Doris R. Thurston
Purpose:	road and public utilities and incidental purposes
Recording Date:	April 26, 1985
Recording No.:	File No. 85-145181 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

14. Matters contained in that certain Road Maintenance Agreement which document, among other things, may provide for liens and charges.

Recording Date:	April 26, 1985
Recording No.:	File No. 85-145182 Official Records

Reference is hereby made to said document for full particulars.

15. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of said tract/plat;

Purpose:	road and utility
Affects:	as shown on said map
Recording No.:	Parcel Map No. 14042

16. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Norman F. Parker and Doris Thurston Parker
Purpose:	ingress and egress for road and utility
Recording Date:	June 20, 1990
Recording No.:	File No. 1990-334032 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

17. Matters contained in that certain document

Entitled:	Real Property Lien and Contract for Improvements in Public Right of Way
Recording Date:	December 23, 1991
Recording No.:	File No. 1991-0664146 Official Records

Reference is hereby made to said document for full particulars.

18. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Pacific Bell
Purpose:	public utilities and incidental purposes
Recording Date:	February 10, 1994
Recording No.:	File No. 1994-0093671 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

SCHEDULE B
(continued)

19. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

    Recording Date: February 12, 2003
    Recording No.: File No. 2003-0164244 Official Records

20. Matters contained in that certain Road Maintenance Agreement which document, among other things, may provide for liens and charges.

    Recording Date: February 12, 2003
    Recording No.: File No. 2003-0164245 Official Records

    Reference is hereby made to said document for full particulars.

21. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

    Granted to: City of Escondido
    Purpose: temporary emergency vehicle
    Recording Date: March 12, 2008
    Recording No.: File No. 2008-0130665 Official Records
    Affects: the route thereof affects a portion of said land and is more fully described in said document.

22. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

    Granted to: City of Escondido
    Purpose: public street
    Recording Date: March 19, 2008
    Recording No.: File No. 2008-0145655 Official Records
    Affects: the route thereof affects a portion of said land and is more fully described in said document.

23. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

    Granted to: City of Escondido
    Purpose: public utilities and incidental purposes
    Recording Date: March 19, 2008
    Recording No.: File No. 2008-0146646 Official Records
    Affects: the route thereof affects a portion of said land and is more fully described in said document.

24. Matters contained in that certain document

    Entitled: Guaranteed Title and Purchase Agreement
    Recording Date: June 24, 2010
    Recording No.: File No. 2010-0318407 Official Records

    Reference is hereby made to said document for full particulars.

25. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

SCHEDULE B
(continued)

26. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the Public Records.

27. Any rights, interests or claims, which are not shown by the public records but which could be ascertained by an inspection of the Land or which may be asserted by persons in possession thereof.

28. In order to complete this report, the Company requires a Statement of Information to be completed by the following party(ies),

    Party(ies): sellers

    The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

    NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

29. In order to complete this report, the Company requires a Statement of Information to be completed by the following party(ies),

    Party(ies): buyers

    The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

    NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

END OF SCHEDULE B

EXCLUSIONS FROM COVERAGE

Except as expressly provided by the assurances in Schedule A, the Company assumes no liability for loss or damage by reason of the following:

(a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the Land.

(b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the Public Records (1) that are created, suffered, assumed or agreed to by one or more of the Assureds; or (2) that result in no loss to the Assured.

(c) Defects, liens, encumbrances, adverse claims or other matters not shown by the Public Records.

(d) The identity of any party shown or referred to in any of the schedules of this Guarantee.

(e) The validity, legal effect or priority of any matter shown or referred to in any of the schedules of this Guarantee.

(f) (1) Taxes or assessments of any taxing authority that levies taxes or assessments on real property; or (2) proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the Public Records.

(g) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the Public Records.

GUARANTEE CONDITIONS

1. DEFINITION OF TERMS

The following terms when used in the Guarantee mean:

(a) the "Assured": the party or parties named as the Assured in Schedule A, or on a supplemental writing executed by the Company.

(b) "Land": the Land described or referred to in Schedule A, and improvements affixed thereto which by law constitute real property. The term "Land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.

(c) "Mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(d) "Public Records": those records established under California statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(e) "Date of Guarantee": the Date of Guarantee set forth in Schedule A.

(f) "Amount of Liability": the Amount of Liability as stated in Schedule A.

2. NOTICE OF CLAIM TO BE GIVEN BY ASSURED

The Assured shall notify the Company promptly in writing in case knowledge shall come to the Assured of any assertion of facts, or claim of title or interest that is contrary to the assurances set forth in Schedule A and that might cause loss or damage for which the Company may be liable under this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of the Assured under this Guarantee unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. NO DUTY TO DEFEND OR PROSECUTE

The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. COMPANY'S OPTION TO DEFEND OR PROSECUTE ACTIONS; DUTY OF ASSURED TO COOPERATE

Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:

(a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in Paragraph 4 (b), or to do any other act which in its opinion may be necessary or desirable to establish the correctness of the assurances set forth in Schedule A or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(b) If the Company elects to exercise its options as stated in Paragraph 4 (a) the Company shall have the right to select counsel of its choice (subject to the right of the Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.

(c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.

(d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, the Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the Assured for this purpose. Whenever requested by the Company, the Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the correctness of the assurances set forth in Schedule A or to prevent or reduce loss or damage to the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

(continued)

5. PROOF OF LOSS OR DAMAGE

(a) In the event the Company is unable to determine the amount of loss or damage, the Company may, at its option, require as a condition of payment that the Assured furnish a signed proof of loss. The proof of loss must describe the defect, lien, encumbrance, or other matter that constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage.

(b) In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this paragraph shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS: TERMINATION OF LIABILITY

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To pay or tender payment of the Amount of Liability together with any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment or tender of payment and that the Company is obligated to pay.

(b) To pay or otherwise settle with the Assured any claim assured against under this Guarantee. In addition, the Company will pay any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment or tender of payment and that the Company is obligated to pay; or

(c) To pay or otherwise settle with other parties for the loss or damage provided for under this Guarantee, together with any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment and that the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in 6 (a), (b) or (c) of this paragraph the Company's obligations to the Assured under this Guarantee for the claimed loss or damage, other than the payments required to be made, shall terminate, including any duty to continue any and all litigation initiated by the Company pursuant to Paragraph 4.

7. LIMITATION OF LIABILITY

(a) This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in Schedule A and only to the extent herein described, and subject to the Exclusions From Coverage of this Guarantee.

(b) If the Company, or the Assured under the direction of the Company at the Company's expense, removes the alleged defect, lien, or encumbrance or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(c) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom.

(d) The Company shall not be liable for loss or damage to the Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

8. REDUCTION OF LIABILITY OR TERMINATION OF LIABILITY

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 4 shall reduce the Amount of Liability under this Guarantee pro tanto.

9. PAYMENT OF LOSS

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions, the loss or damage shall be payable within thirty (30) days thereafter.

10. SUBROGATION UPON PAYMENT OR SETTLEMENT

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

(continued)

11. ARBITRATION

Either the Company or the Assured may demand that the claim or controversy shall be submitted to arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association ("Rules"). Except as provided in the Rules, there shall be no joinder or consolidation with claims or controversies of other persons. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision, or to any other controversy or claim arising out of the transaction giving rise to this Guarantee. All arbitrable matters when the amount of liability is Two Million And No/100 Dollars ($2,000,000) or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of Two Million And No/100 Dollars ($2,000,000) shall be arbitrated only when agreed to by both the Company and the Assured. Arbitration pursuant to this Guarantee and under the Rules shall be binding upon the parties. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court of competent jurisdiction.

12. LIABILITY LIMITED TO THIS GUARANTEE; GUARANTEE ENTIRE CONTRACT

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.

(c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

13. SEVERABILITY

In the event any provision of this Guarantee, in whole or in part, is held invalid or unenforceable under applicable law, the Guarantee shall be deemed not to include that provision or such part held to be invalid, but all other provisions shall remain in full force and effect.

14. CHOICE OF LAW; FORUM

(a) Choice of Law: The Assured acknowledges the Company has underwritten the risks covered by this Guarantee and determined the premium charged therefor in reliance upon the law affecting interests in real property and applicable to the interpretation, rights, remedies, or enforcement of Guaranties of the jurisdiction where the Land is located.

Therefore, the court or an arbitrator shall apply the law of the jurisdiction where the Land is located to determine the validity of claims that are adverse to the Assured and to interpret and enforce the terms of this Guarantee. In neither case shall the court or arbitrator apply its conflicts of law principles to determine the applicable law.

(b) Choice of Forum: Any litigation or other proceeding brought by the Assured against the Company must be filed only in a state or federal court within the United States of America or its territories having appropriate jurisdiction.

15. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to the Company at:

Chicago Title Insurance Company
P.O. Box 45023
Jacksonville, FL 32232-5023
Attn: Claims Department

END OF CONDITIONS

CONDITION OF TITLE

Issued By:

CHICAGO TITLE INSURANCE COMPANY

Guarantee Number:

73723000655

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, AND THE GUARANTEE CONDITIONS ATTACHED HERETO AND MADE A PART OF THIS GUARANTEE,

CHICAGO TITLE INSURANCE COMPANY
a corporation, herein called the Company

GUARANTEES

the Assured named in Schedule A of this Guarantee

against loss or damage not exceeding the Amount of Liability stated in Schedule A sustained by the Assured by reason of any incorrectness in the Assurances set forth in Schedule A.

Chicago Title Insurance Company

By:

Michael J. Nolan, President

Attest:

Marjorie Nemzura, Secretary

Chicago Title Company
2365 Northside Drive, Suite 600
San Diego, CA 92108

Countersigned By:

Authorized Officer or Agent

CHICAGO TITLE INSURANCE COMPANY CORPORATE SEAL

ISSUING OFFICE:
Title Officer: Sheila Hollander Chicago Title Company 2365 Northside Drive, Suite 600 San Diego, CA 92108 Fax: 619-785-3383 Main Phone: (619)521-3500 Email: Sheila.Hollander@ctt.com

SCHEDULE A

Amount of Liability	Fee	Title Officer
$5,000.00	$500.00	Sheila Hollander

Date of Guarantee: February 6, 2023 at 08:00 AM

1. Name of Assured: Vamsi Vasireddy, a married man as his sole and separate property

2. The estate or interest in the Land which is covered by this Guarantee is:

   Fee

3. The Land referred to in this Guarantee is described as follows:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

4. ASSURANCES:

   According to the Public Records as of the Date of Guarantee,

   a. Title to the estate or interest in the Land is vested in:

      Vamsi Vasireddy, a married man as his sole and separate property

   b. Title to the estate or interest is subject to defects, liens or encumbrances shown in Schedule B which are not necessarily shown in the order of their priority.

END OF SCHEDULE A

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): 224-100-84-00

THAT PORTION OF PARCELS A AND B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. 2000-16, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. 2000-42, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY MARCH 14, 2001 AS INSTRUMENT NO 2001-0148309 OF OFFICIAL RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHWEST CORNER OF SAID PARCEL "A" WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF RINCON AVENUE (62.00 FEET WIDE) AS SHOWN ON SAID PLAT NO. 2000-16; THENCE ALONG SAID RIGHT-OF-WAY LINE NORTH 55° 35' 40" EAST A DISTANCE OF 65.88 FEET TO A POINT ON A TANGENT CURVE, CONCAVE SOUTHERLY HAVING A RADIUS OF 544.00 FEET; THENCE NORTHEASTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 27° 42' 55" AN ARC DISTANCE OF 263.15 FEET; THENCE DEPARTING SAID RIGHT-OF-WAY LINE, SOUTH 18° 58' 40" EAST A DISTANCE OF 562.17 FEET; THENCE SOUTH 71° 01' 20" WEST A DISTANCE OF 324.00 FEET TO A POINT ON THE WESTERLY LINE OF SAID PARCEL "B"; THENCE ALONG SAID LINE, NORTH 18° 58' 40" WEST A DISTANCE OF 537.50 FEET TO A POINT OF BEGINNING.

(SAID LAND IS SHOWN AND DESCRIBED AS PARCEL A IN THAT CERTAIN CERTIFICATE OF COMPLIANCE NO. SUB14-0016, APPROVED BY THE CITY OF ESCONDIDO, RECORDED NOVEMBER 7, 2014 AS INSTRUMENT NO. 2014-0487232 OF OFFICIAL RECORDS).

SCHEDULE B

1. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2023-2024.

2. Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	224-100-84-00
Fiscal Year:	2022-2023
1st Installment:	$1,447.60
2nd Installment	$1,447.60
Code Area:	04187

3. Supplemental taxes, including any personal property taxes and any assessments collected with taxes, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California, are as follows:

Tax Identification No.:	224-100-84-00
Fiscal Year:	2021
1st Installment:	$110.59, paid
2nd Installment:	$110.59, paid
Code Area:	04187
Supplemental Bill No.:	817-200-07-80

4. Supplemental taxes, including any personal property taxes and any assessments collected with taxes, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California, are as follows:

Tax Identification No.:	224-100-84-00
Fiscal Year:	2021
1st Installment:	$750.25, paid
2nd Installment:	$750.25, open
Penalty:	$85.02
Delinquent:	May 1, 2023
Code Area:	04187
Supplemental Bill No.:	819-241-64-71

5. Supplemental taxes, including any personal property taxes and any assessments collected with taxes, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California, are as follows:

Tax Identification No.:	224-100-84-00
Fiscal Year:	2022
1st Installment:	$1,752.73, paid
2nd Installment:	$1,752.73, open
Penalty:	$185.27
Delinquent:	May 1, 2023
Code Area:	04187
Supplemental Bill No.:	829-241-64-62

6. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

SCHEDULE B
(continued)

7. Water rights, claims or title to water, whether or not disclosed by the public records.

8. Rights of the public to any portion of the Land lying within the area commonly known as

any street, road, alley or highway.

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Vista Irrigation District
Purpose:	construction of flumes
Recording Date:	October 2, 1925
Recording No.:	in Book 1107, Page 435 Deeds
Affects:	the exact location and extent of said easement is not disclosed of record.

10. Privilege and right to extend drainage structures and excavation and embankment slopes beyond the limit of Road Survey 666, where required for the construction and maintenance of said said highway as contained in the document set forth below:

Recording Date:	October 6, 1943
Recording No.:	Document No. 65031 in Book 1562, page 354 Official Records

11. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	San Diego Gas & Electric Company
Purpose:	public utilities and incidental purposes
Recording Date:	November 3, 1960
Recording No.:	File No. 218234 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

12. Privilege and right to extend drainage structures and excavation and embankment slopes beyond the limit of Road Survey No. 666, where required for the construction and maintenance of said said highway as contained in the document set forth below:

Recording Date:	September 6, 1962
Recording No.:	File No. 153847 Official Records

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	David A. Booth and Charlene P. Booth
Purpose:	water line
Recording Date:	November 4, 1968
Recording No.:	File No. 193508 Official Records
Affects:	the route thereof affects a portion of said land and is more fully described in said document.

SCHEDULE B
(continued)

14. Matters contained in that certain Road Maintenance Agreement which document, among other things, may provide for liens and charges.

    Recording Date: April 26, 1985
    Recording No.: File No. 85-145182 Official Records

    Reference is hereby made to said document for full particulars.

15. Matters contained in that certain document

    Entitled: Real Property Lien and Contract for Improvements in Public Rights of Way
    Recording Date: December 23, 1991
    Recording No.: File No. 1991-0664146 Official Records

    Reference is hereby made to said document for full particulars.

16. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

    Recording Date: February 13, 2003
    Recording No.: File No. 2003-0164244 Official Records

17. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

    Granted to: Mathew Riordan
    Purpose: private road access, utility and maintenance
    Recording Date: February 12, 2003
    Recording No.: File No. 2003-0164245 Official Records
    Affects: the route thereof affects a portion of said land and is more fully described in said document.

18. Matters contained in that certain Road Maintenance Agreement which document, among other things, may provide for liens and charges.

    Recording Date: February 12, 2003
    Recording No.: File No. 2003-0164245 Official Records

    Reference is hereby made to said document for full particulars.

19. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

    Granted to: City of Escondido
    Purpose: public street
    Recording Date: March 19, 2008
    Recording No.: Fiel No. 2008-0145655 Official Records
    Affects: the route thereof affects a portion of said land and is more fully described in said document.

SCHEDULE B
(continued)

20. Matters contained in that certain document

    Entitled: Guaranteed Title and Purchase Agreement
    Recording Date: June 24, 2010
    Recording No.: File No. 2010-0318407 Official Records

    Reference is hereby made to said document for full particulars.

    The effect of a Quitclaim Deed executed by Kalpana Tantod to terminate and relinquish any and all rights in that certain Guaranteed Title and Purchase Agreement executed by Ramsinh and Kalpana Tantod recorded April 9, 2021 as Document No. 2021-0278299 of Official Records.

21. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

22. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the Public Records.

23. Any rights, interests or claims, which are not shown by the public records but which could be ascertained by an inspection of the Land or which may be asserted by persons in possession thereof.

24. In order to complete this report, the Company requires a Statement of Information to be completed by the following party(ies),

    Party(ies): sellers

    The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

    NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

25. In order to complete this report, the Company requires a Statement of Information to be completed by the following party(ies),

    Party(ies): buyers

    The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

    NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

END OF SCHEDULE B

EXCLUSIONS FROM COVERAGE

Except as expressly provided by the assurances in Schedule A, the Company assumes no liability for loss or damage by reason of the following:

(a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the Land.

(b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the Public Records (1) that are created, suffered, assumed or agreed to by one or more of the Assureds; or (2) that result in no loss to the Assured.

(c) Defects, liens, encumbrances, adverse claims or other matters not shown by the Public Records.

(d) The identity of any party shown or referred to in any of the schedules of this Guarantee.

(e) The validity, legal effect or priority of any matter shown or referred to in any of the schedules of this Guarantee.

(f) (1) Taxes or assessments of any taxing authority that levies taxes or assessments on real property; or (2) proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the Public Records.

(g) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the Public Records.

GUARANTEE CONDITIONS

1. DEFINITION OF TERMS

The following terms when used in the Guarantee mean:

(a) the "Assured": the party or parties named as the Assured in Schedule A, or on a supplemental writing executed by the Company.

(b) "Land": the Land described or referred to in Schedule A, and improvements affixed thereto which by law constitute real property. The term "Land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.

(c) "Mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(d) "Public Records": those records established under California statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(e) "Date of Guarantee": the Date of Guarantee set forth in Schedule A.

(f) "Amount of Liability": the Amount of Liability as stated in Schedule A.

2. NOTICE OF CLAIM TO BE GIVEN BY ASSURED

The Assured shall notify the Company promptly in writing in case knowledge shall come to the Assured of any assertion of facts, or claim of title or interest that is contrary to the assurances set forth in Schedule A and that might cause loss or damage for which the Company may be liable under this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of the Assured under this Guarantee unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. NO DUTY TO DEFEND OR PROSECUTE

The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. COMPANY'S OPTION TO DEFEND OR PROSECUTE ACTIONS; DUTY OF ASSURED TO COOPERATE

Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:

(a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in Paragraph 4 (b), or to do any other act which in its opinion may be necessary or desirable to establish the correctness of the assurances set forth in Schedule A or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(b) If the Company elects to exercise its options as stated in Paragraph 4 (a) the Company shall have the right to select counsel of its choice (subject to the right of the Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.

(c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.

(d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, the Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the Assured for this purpose. Whenever requested by the Company, the Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the correctness of the assurances set forth in Schedule A or to prevent or reduce loss or damage to the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

(continued)

5. PROOF OF LOSS OR DAMAGE

(a) In the event the Company is unable to determine the amount of loss or damage, the Company may, at its option, require as a condition of payment that the Assured furnish a signed proof of loss. The proof of loss must describe the defect, lien, encumbrance, or other matter that constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage.

(b) In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this paragraph shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS: TERMINATION OF LIABILITY

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To pay or tender payment of the Amount of Liability together with any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment or tender of payment and that the Company is obligated to pay.

(b) To pay or otherwise settle with the Assured any claim assured against under this Guarantee. In addition, the Company will pay any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment or tender of payment and that the Company is obligated to pay; or

(c) To pay or otherwise settle with other parties for the loss or damage provided for under this Guarantee, together with any costs, attorneys' fees, and expenses incurred by the Assured that were authorized by the Company up to the time of payment and that the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in 6 (a), (b) or (c) of this paragraph the Company's obligations to the Assured under this Guarantee for the claimed loss or damage, other than the payments required to be made, shall terminate, including any duty to continue any and all litigation initiated by the Company pursuant to Paragraph 4.

7. LIMITATION OF LIABILITY

(a) This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in Schedule A and only to the extent herein described, and subject to the Exclusions From Coverage of this Guarantee.

(b) If the Company, or the Assured under the direction of the Company at the Company's expense, removes the alleged defect, lien, or encumbrance or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(c) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom.

(d) The Company shall not be liable for loss or damage to the Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

8. REDUCTION OF LIABILITY OR TERMINATION OF LIABILITY

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 4 shall reduce the Amount of Liability under this Guarantee pro tanto.

9. PAYMENT OF LOSS

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions, the loss or damage shall be payable within thirty (30) days thereafter.

10. SUBROGATION UPON PAYMENT OR SETTLEMENT

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

(continued)

11. ARBITRATION

Either the Company or the Assured may demand that the claim or controversy shall be submitted to arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association ("Rules"). Except as provided in the Rules, there shall be no joinder or consolidation with claims or controversies of other persons. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision, or to any other controversy or claim arising out of the transaction giving rise to this Guarantee. All arbitrable matters when the amount of liability is Two Million And No/100 Dollars ($2,000,000) or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of Two Million And No/100 Dollars ($2,000,000) shall be arbitrated only when agreed to by both the Company and the Assured. Arbitration pursuant to this Guarantee and under the Rules shall be binding upon the parties. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court of competent jurisdiction.

12. LIABILITY LIMITED TO THIS GUARANTEE; GUARANTEE ENTIRE CONTRACT

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.

(c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

13. SEVERABILITY

In the event any provision of this Guarantee, in whole or in part, is held invalid or unenforceable under applicable law, the Guarantee shall be deemed not to include that provision or such part held to be invalid, but all other provisions shall remain in full force and effect.

14. CHOICE OF LAW; FORUM

(a) Choice of Law: The Assured acknowledges the Company has underwritten the risks covered by this Guarantee and determined the premium charged therefor in reliance upon the law affecting interests in real property and applicable to the interpretation, rights, remedies, or enforcement of Guaranties of the jurisdiction where the Land is located.

Therefore, the court or an arbitrator shall apply the law of the jurisdiction where the Land is located to determine the validity of claims that are adverse to the Assured and to interpret and enforce the terms of this Guarantee. In neither case shall the court or arbitrator apply its conflicts of law principles to determine the applicable law.

(b) Choice of Forum: Any litigation or other proceeding brought by the Assured against the Company must be filed only in a state or federal court within the United States of America or its territories having appropriate jurisdiction.

15. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to the Company at:

Chicago Title Insurance Company
P.O. Box 45023
Jacksonville, FL 32232-5023
Attn: Claims Department

END OF CONDITIONS

APPENDIX C
HISTORICAL MAPS DATA SEARCH RESULTS
Topographic Maps
Aerial Photographs
Directory Searches
Fire Insurance Map Report

HISTORICAL AERIALS

Project Property: ISKON Escondido
1915 1965 Rincon Avenue
Escondido CA 92026

Project No: TAGDD 0523002

Requested By: TA-Group DD, LLC

Order No: 23060700001

Date Completed: June 09,2023

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

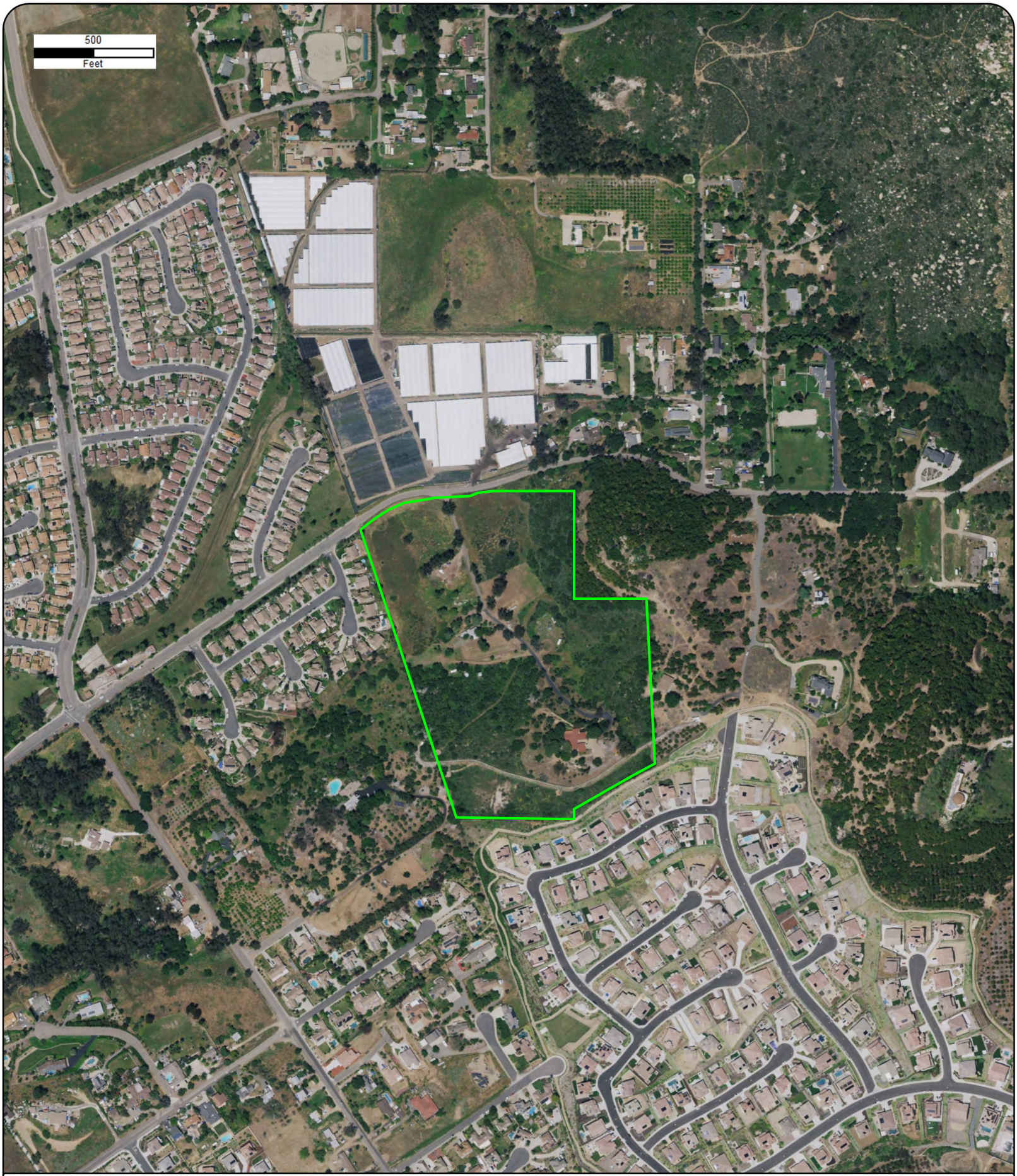
Date	Source	Scale	Comments
2021	MAXAR TECHNOLOGIES	1" = 500'	
2020	United States Department of Agriculture	1" = 500'	
2018	United States Department of Agriculture	1" = 500'	
2016	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2009	United States Department of Agriculture	1" = 500'	
2005	United States Department of Agriculture	1" = 500'	
2004	United States Department of Agriculture	1" = 500'	
2002	United States Geological Survey	1" = 500'	
1996	United States Geological Survey	1" = 500'	
1985	United States Geological Survey	1" = 500'	Best Copy Available
1980	United States Geological Survey	1" = 500'	
1974	Private	1" = 500'	
1967	United States Geological Survey	1" = 500'	
1963	Cartwright Aerial Surveys	1" = 500'	
1953	Agricultural Stabilization & Conserv. Service	1" = 500'	
1939	FAIRCHILD	1" = 500'	

Year: 2021
Source: MAXAR
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS



Year: 2020
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

Year: 2018
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

Year: 2016
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

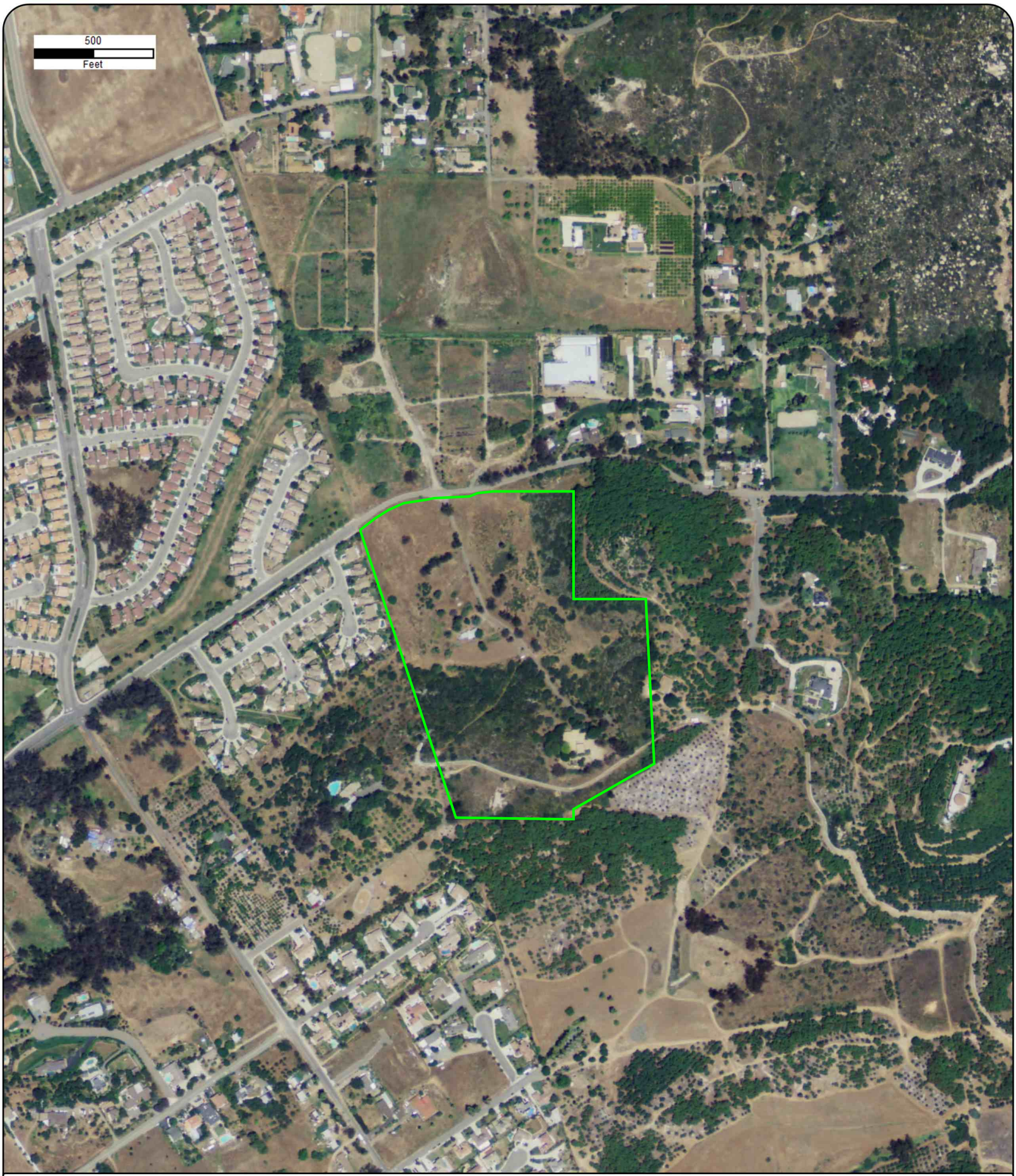
ERIS

Year: 2014
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS



Year: 2012
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

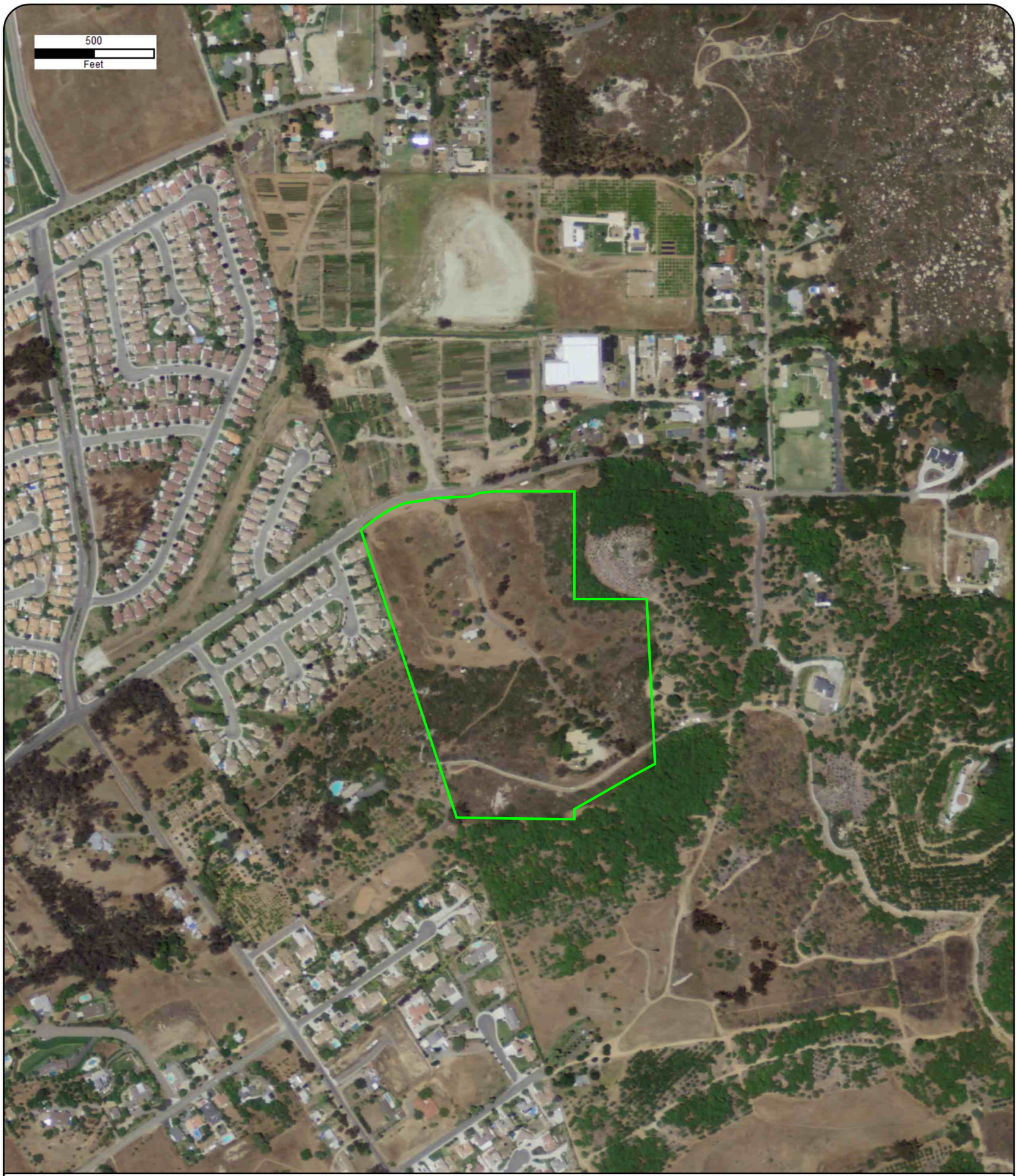
ERIS

Year: 2010
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

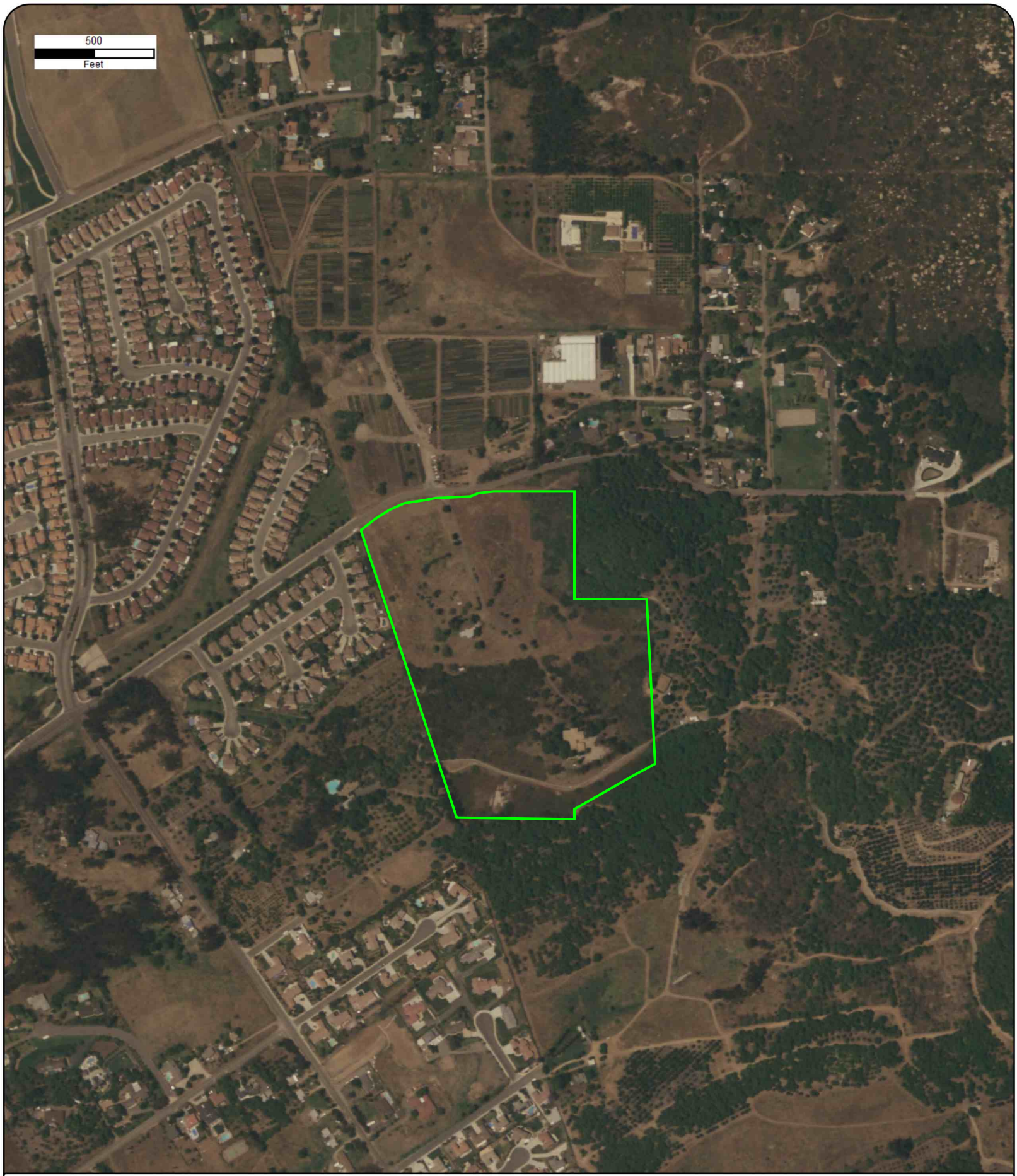


Year: 2009
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

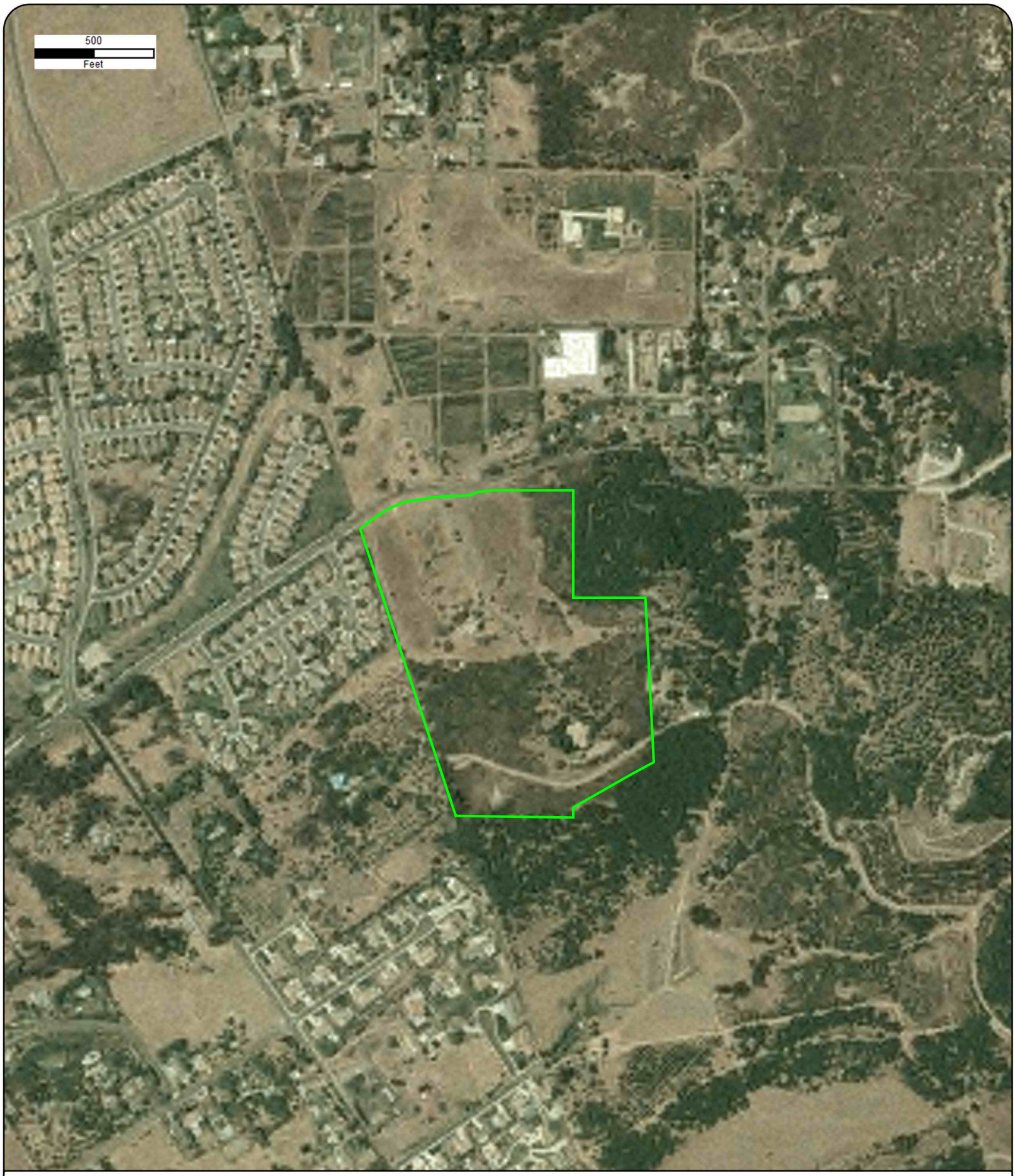


Year: 2005
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

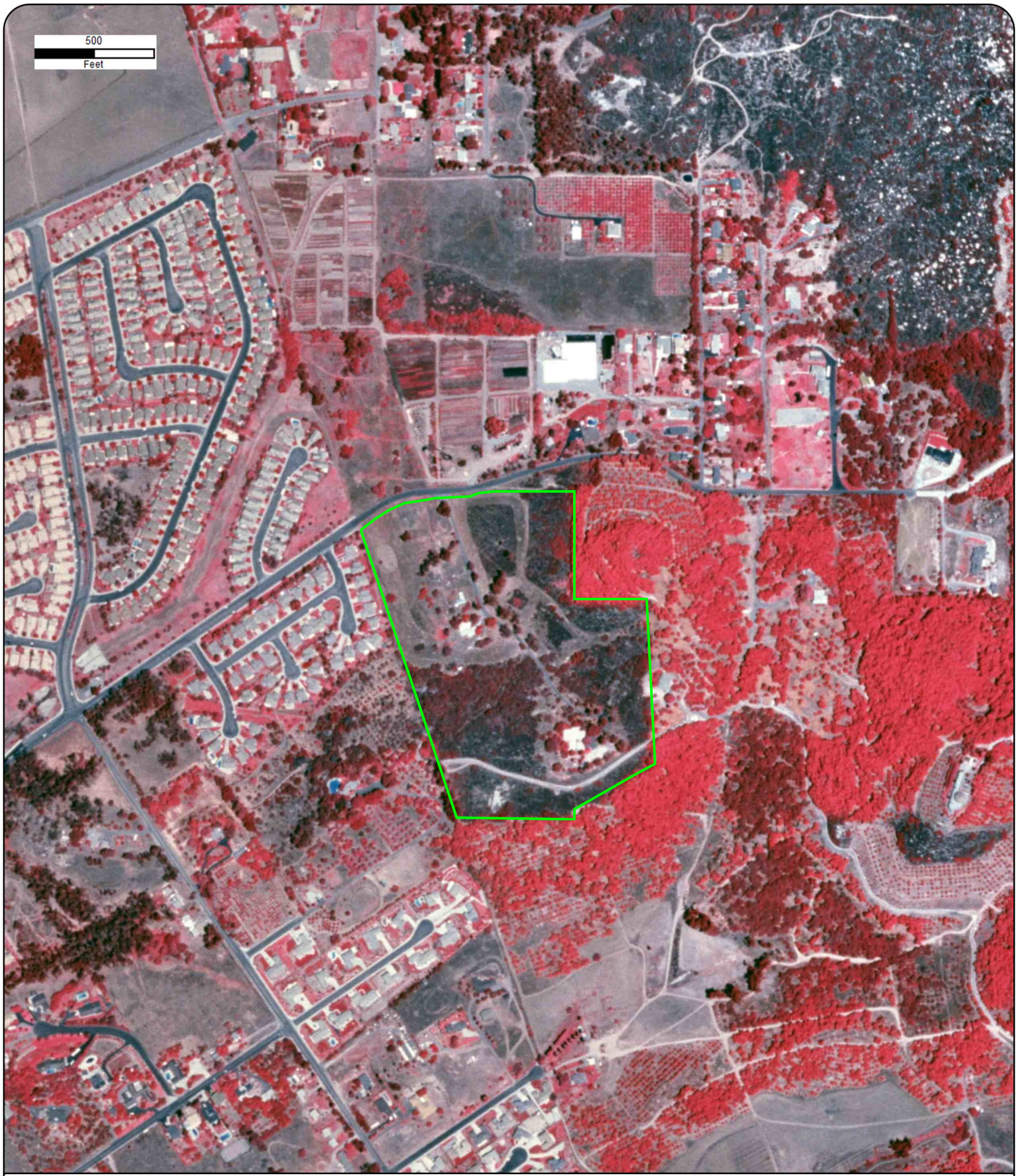


Year: 2004
Source: USDA
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

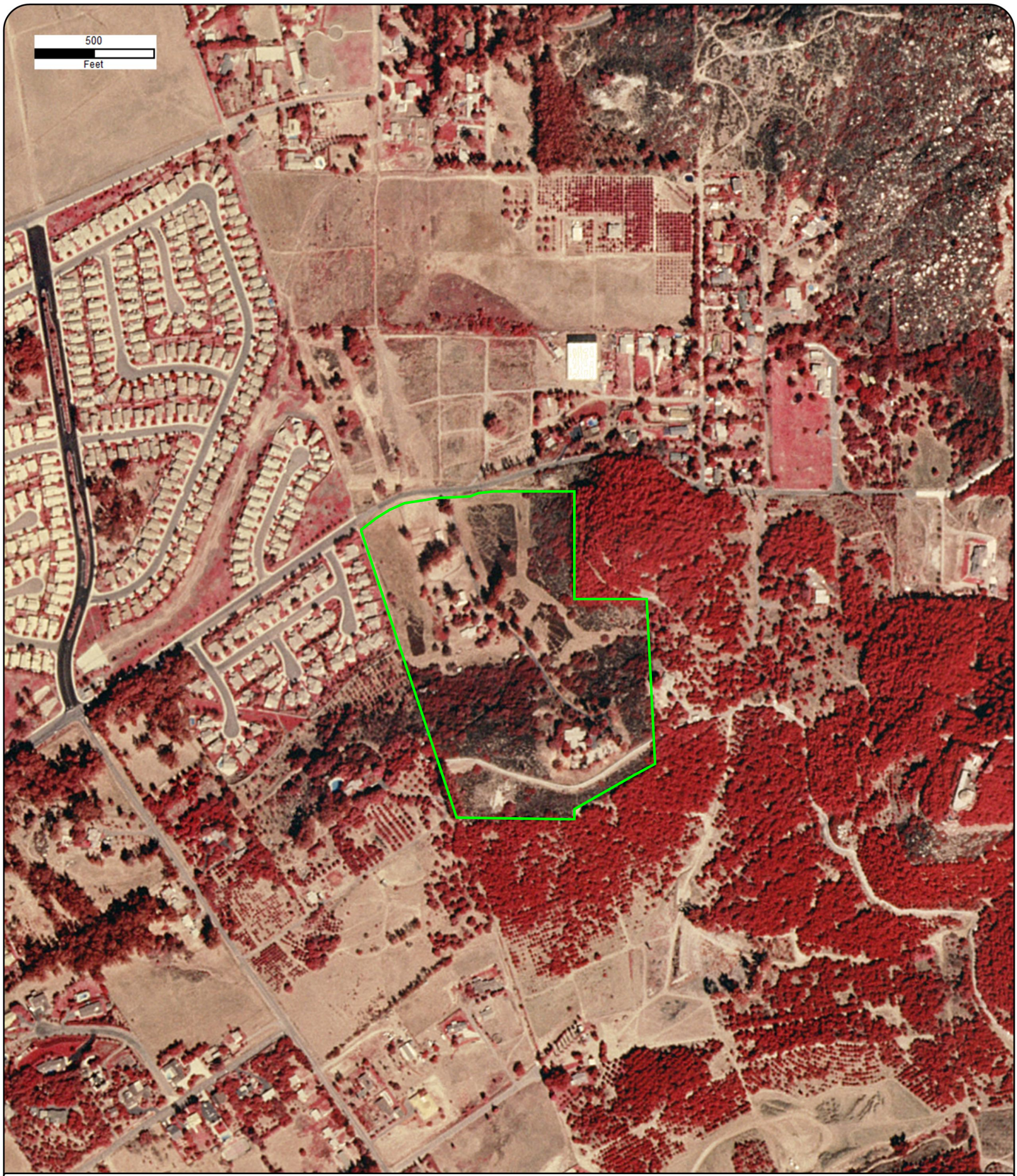


Year: 2002
Source: USGS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

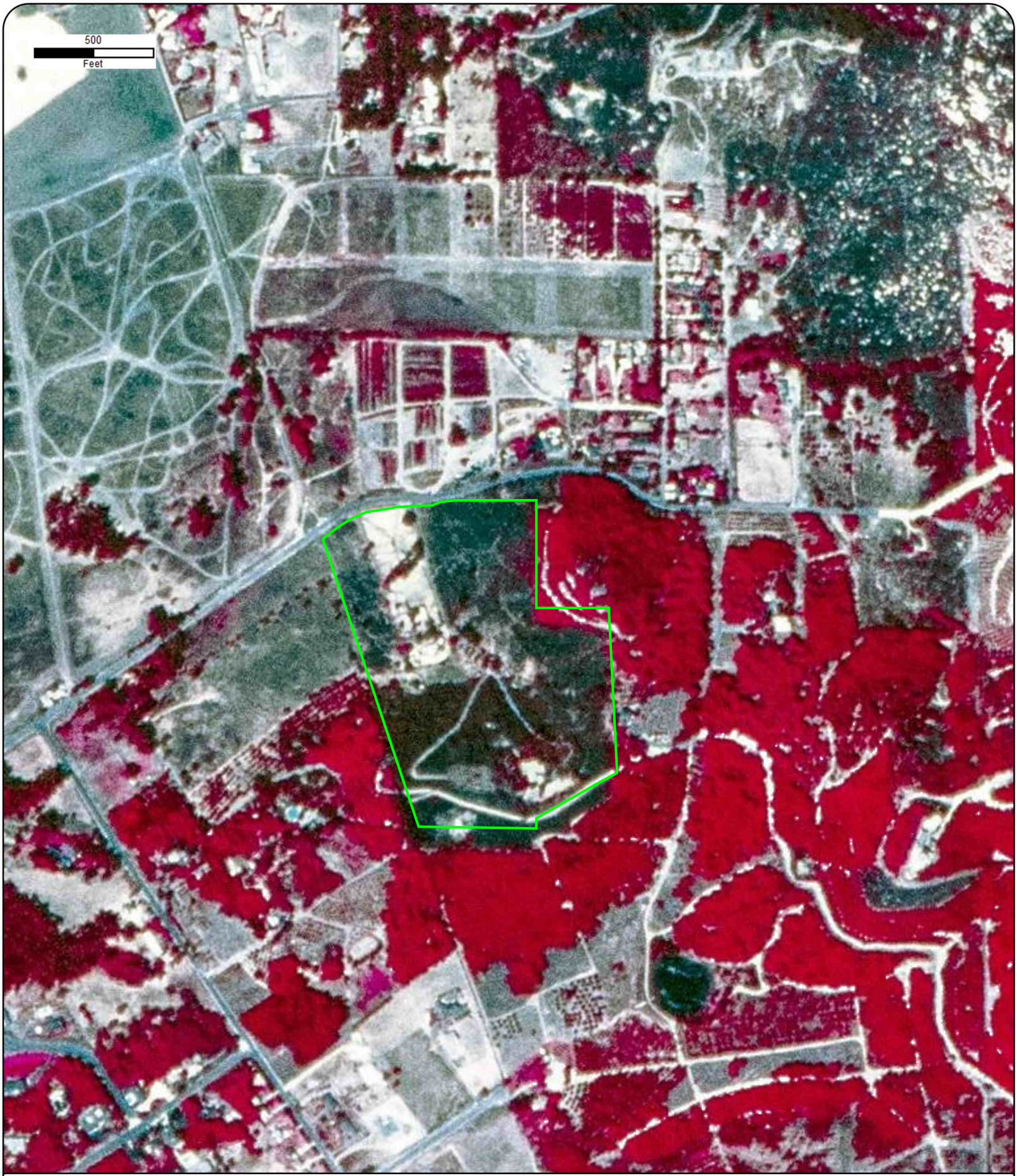


Year: 1996
Source: USGS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

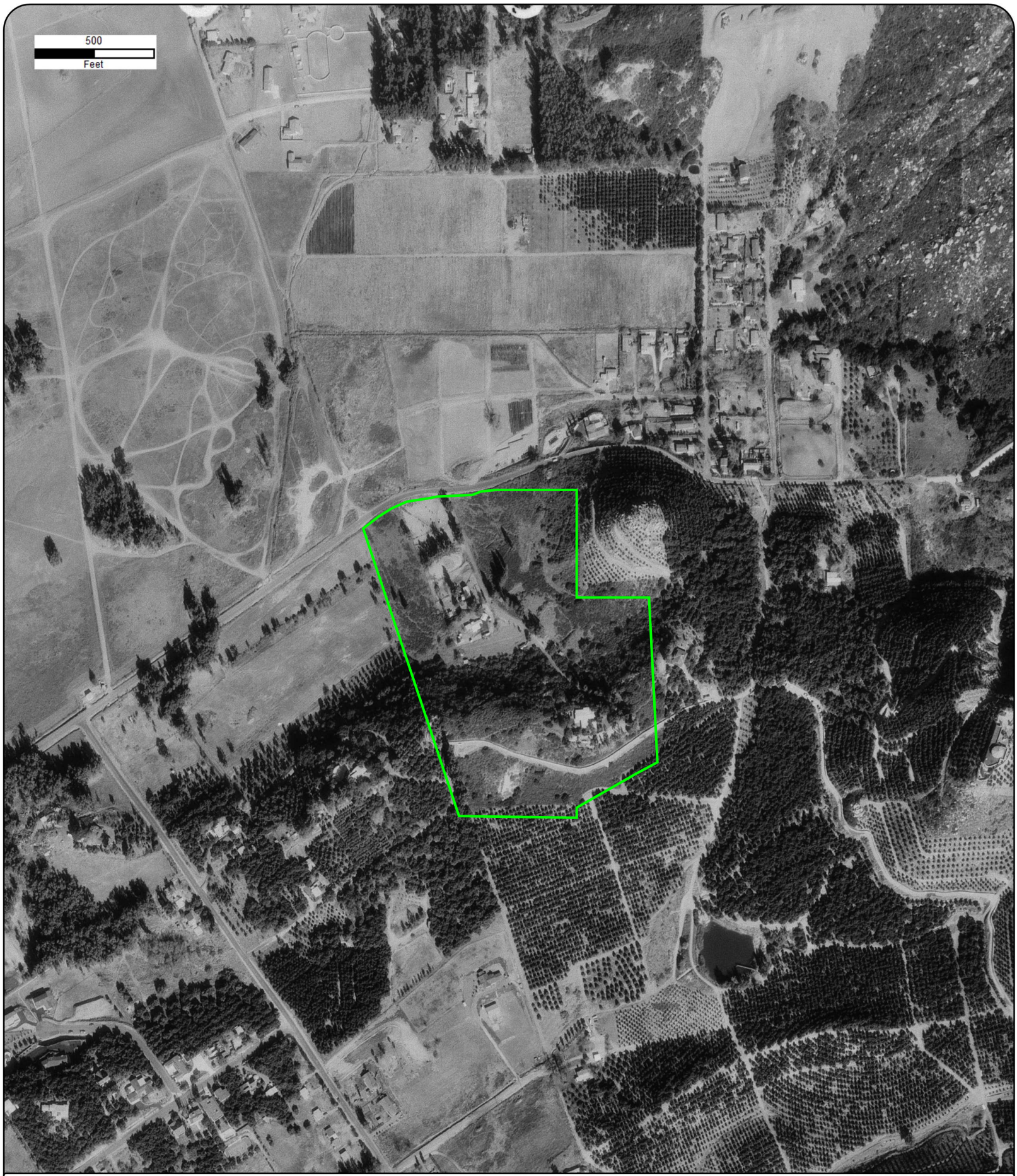


Year: 1985
Source: USGS
Scale: 1" = 500'
Comment: Best Copy Available

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS



Year: 1980
Source: USGS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

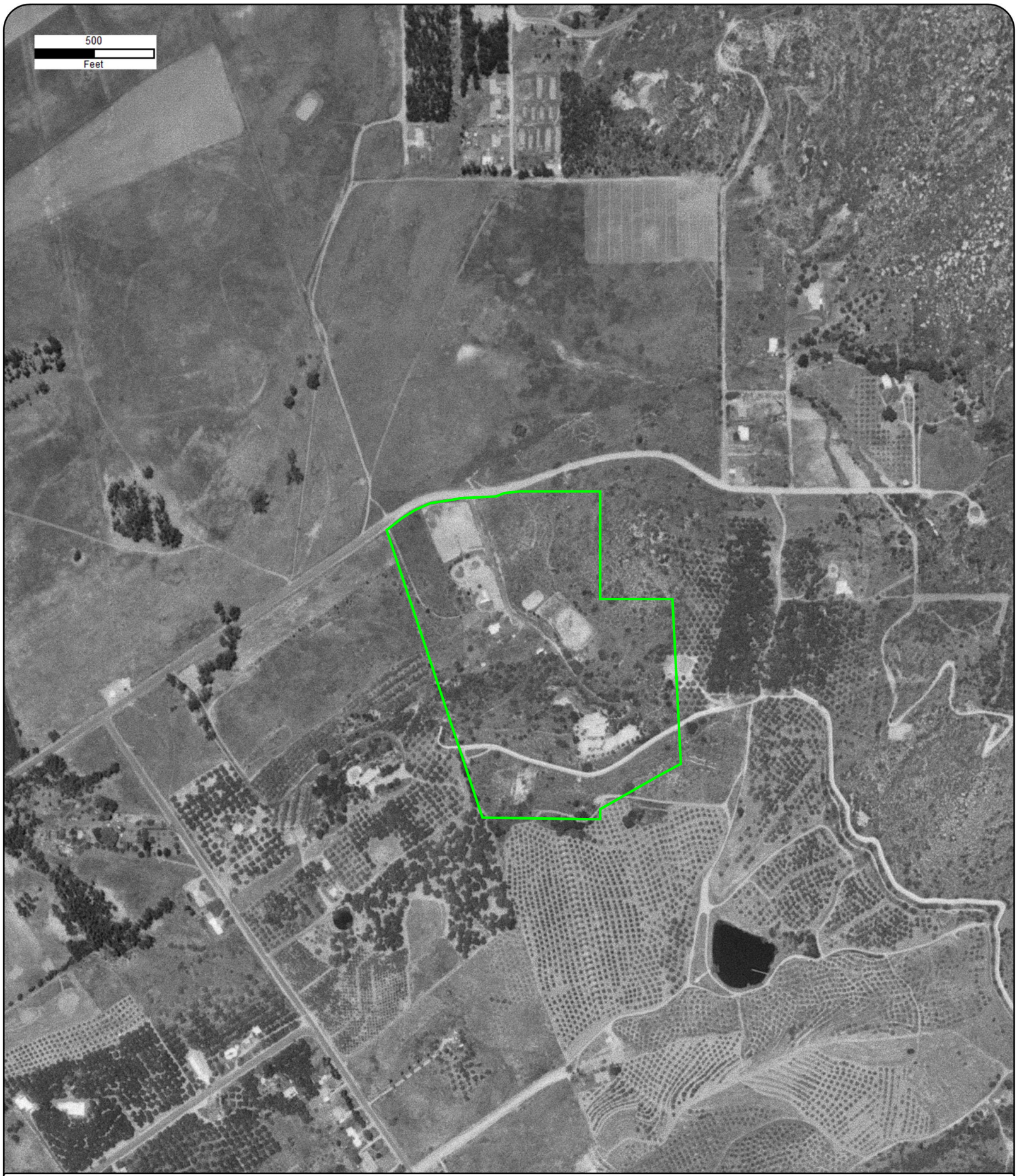
ERIS

Year: 1974
Source: PRIVATE
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

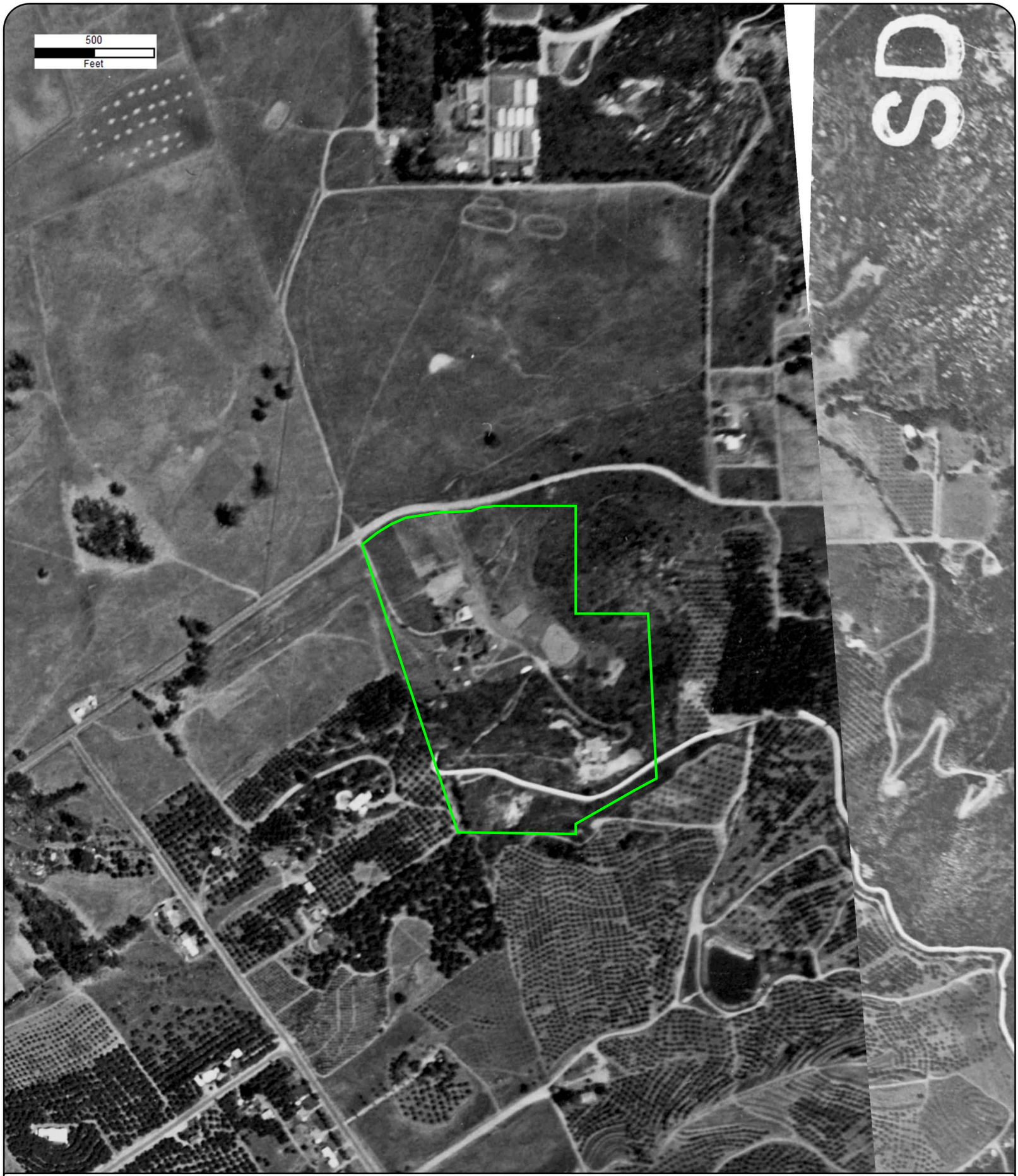


Year: 1967
Source: USGS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

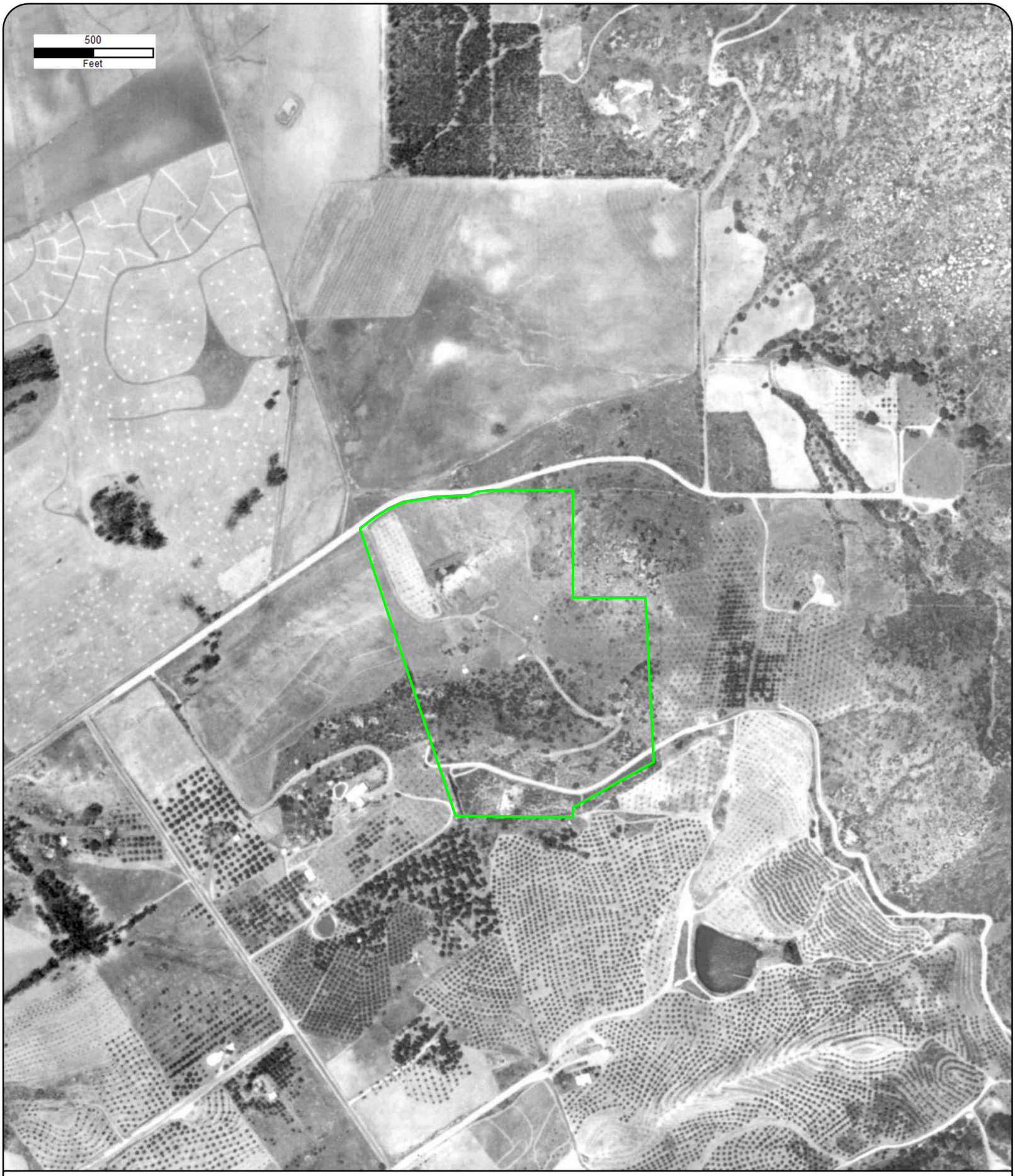


Year: 1963
Source: CAS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS



Year: 1953
Source: ASCS
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

Year: 1939
Source: FAIRCHILD
Scale: 1" = 500'
Comment:

Address: 1915 1965 Rincon Avenue, Escondido, CA
Approx Center: -117.07800304,33.16537859

Order No: 23060700001

ERIS

FIRE INSURANCE MAPS

Project Property:	ISKON Escondido 1915 1965 Rincon Avenue Escondido CA 92026
Project No:	TAGDD 0523002
Requested By:	TA-Group DD, LLC
Order No:	23060700001
Date Completed:	June 07, 2023

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

APPENDIX D
ENVIRONMENTAL RECORDS SEARCH

DATABASE REPORT

Project Property:	*ISKON Escondido* *1915 1965 Rincon Avenue* *Escondido CA 92026*
Project No:	*TAGDD 0523002*
Report Type:	*Database Report*
Order No:	*23060700001*
Requested by:	*TA-Group DD, LLC*
Date Completed:	*June 9, 2023*

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1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*ISKON Escondido* *1915 1965 Rincon Avenue Escondido CA 92026*
Project No:		*TAGDD 0523002*
Coordinates:		
	Latitude:	*33.16537859*
	Longitude:	*-117.07800304*
	UTM Northing:	*3,669,623.78*
	UTM Easting:	*492,726.90*
	UTM Zone:	*11S*
Elevation:		*832 FT*

Order Information:

Order No:	*23060700001*
Date Requested:	*June 7, 2023*
Requested by:	*TA-Group DD, LLC*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
DOE FUSRAP	Y	1	0	0	0	0	0	0
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	**1**	**1**
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	**1**	-	-	**1**
UST SWEEPS	Y	0.25	0	0	**1**	-	-	**1**
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	0	-	-	0
HIST TANK	Y	0.25	0	0	**1**	-	-	**1**

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
CLEANUP SITES	Y	0.5	0	0	0	0	-	0
DELISTED CLEANUP	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County								
SWF SANDIEGO	Y	0.5	0	0	0	0	-	0
LOP SANDIEGO	Y	0.5	0	0	0	0	-	0
HAZ SANDIEGO	Y	0.25	0	**2**	**2**	-	-	**4**
UST SANDIEGO	Y	0.25	0	0	0	-	-	0
SAM SANDIEGO	Y	0.5	0	0	0	0	-	0
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	**1**	-	-	-	**1**
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
PFAS IND	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
PFAS SAMPLING	Y	0.5	0	0	0	0	-	0
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS GT CLEANUPS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	**1**	**1**
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HAZ GEN	Y	PO	0	**1**	-	-	-	**1**
HAZ TSD	Y	0.5	0	0	0	0	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	**1**	-	-	-	**1**
DELISTED HAZ	Y	0.5	0	0	0	0	-	0
GEOTRACKER	Y	0.125	0	**9**	-	-	-	**9**
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	0	0	-	-	0
CDL	Y	0.125	0	0	-	-	-	0

Tribal

No Tribal additional environmental record sources available for this State.

County

Total:	*0*	***14***	***5***	*0*	***2***	***21***

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	HAZ SANDIEGO	ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	-72	21
1	FINDS/FRS	ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026 ***Registry ID:*** 110066718868	NW	0.01 / 41.76	-72	23
1	CERS HAZ	ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	-72	24
1	GEOTRACKER	WATERWISE BOTANICALS - APN: 187-370-65-00	1300 RINCON AVENUE ESCONDIDO CA	NW	0.01 / 41.76	-72	26
1	HAZ GEN	PACIFIC PARADISE NURSERY	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	-72	26
2	GEOTRACKER	WATERWISE BOTANICALS - APN: 187-370-30-00	1426 RINCON AVENUE ESCONDICO CA	N	0.01 / 70.76	-47	26
3	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-34	1565 RINCON AVENUE ESCONDIDO CA	NE	0.07 / 363.81	-5	26
4	HAZ SANDIEGO	ESCONDIDO GREENHOUSES	1208 SUNRISE MOUNTAIN DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	NNE	0.09 / 466.45	-53	27
5	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-27	1617 RINCON AVENUE ESCONDIDO CA	ENE	0.10 / 523.92	0	28
6	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 187-370-57	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	-5	28
6	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-77	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	-5	28

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
6	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-78	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	-5	28
6	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-80	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	-5	28
6	GEOTRACKER	ASH STREET & RINCON GROVES - APN: 224-100-79	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	-5	28
7	HAZ SANDIEGO	T-MOBILE	1661 LAKE, ESCONDIDO, CA 92029 ESCONDIDO CA 92029	W	0.20 / 1,061.86	-90	29
8	HAZ SANDIEGO	RANCHO RINCON	2212 CONWAY DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	WSW	0.22 / 1,147.67	-42	30
8	HHSS	RANCHO RINCON	2212 CONWAY DR. ESCONDIDO CA 92016	WSW	0.22 / 1,147.67	-42	31
8	HIST TANK	RANCHO RINCON	2212 CONWAY DR. ESCONDIDO CA	WSW	0.22 / 1,147.67	-42	31
8	UST SWEEPS	RANCHO RINCON	2212 CONWAY DR ESCONDIDO CA	WSW	0.22 / 1,147.67	-42	31
			***C C*	*Status:*** I37-000-20149 | INACTIVE ***Tank ID:*** 000001			
9	SCH	SPRINGTIME/REIDY CREEK ELEMENTARY	2747 NORTH BROADWAY ESCONDIDO CA 92026	NW	0.64 / 3,366.80	-75	31
			Estor/EPA ID* | *Cleanup Status: 37010002 | NO FURTHER ACTION AS OF 5/12/2000				
9	ENVIROSTOR	SPRINGTIME/REIDY CREEK ELEMENTARY	2747 NORTH BROADWAY ESCONDIDO CA 92026	NW	0.64 / 3,366.80	-75	33
			Estor/EPA ID* | *Cleanup Status: 37010002 | NO FURTHER ACTION AS OF 5/12/2000				

Executive Summary: Summary by Data Source

Standard

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Feb 6, 2023 has found that there are 1 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SPRINGTIME/REIDY CREEK ELEMENTARY	2747 NORTH BROADWAY ESCONDIDO CA 92026	NW	0.64 / 3,366.80	9

***Estor/EPA ID | Cleanup Status**: 37010002 | NO FURTHER ACTION AS OF 5/12/2000*

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
RANCHO RINCON	2212 CONWAY DR. ESCONDIDO CA 92016	WSW	0.22 / 1,147.67	8

UST SWEEPS - Statewide Environmental Evaluation and Planning System

A search of the UST SWEEPS database, dated Oct 1, 1994 has found that there are 1 UST SWEEPS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
RANCHO RINCON	2212 CONWAY DR ESCONDIDO CA	WSW	0.22 / 1,147.67	8

***C C | Status**: I37-000-20149 | INACTIVE*
***Tank ID**: 000001*

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 1 HIST TANK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
RANCHO RINCON	2212 CONWAY DR. ESCONDIDO CA	WSW	0.22 / 1,147.67	8

County

HAZ SANDIEGO - San Diego County - Hazardous Materials Management Division Database

A search of the HAZ SANDIEGO database, dated May 1, 2022 has found that there are 4 HAZ SANDIEGO site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	1
ESCONDIDO GREENHOUSES	1208 SUNRISE MOUNTAIN DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	NNE	0.09 / 466.45	4
T-MOBILE	1661 LAKE, ESCONDIDO, CA 92029 ESCONDIDO CA 92029	W	0.20 / 1,061.86	7
RANCHO RINCON	2212 CONWAY DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	WSW	0.22 / 1,147.67	8

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Aug 18, 2022 has found that there are 1 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	1
	***Registry ID**: 110066718868*			

State

SCH - School Property Evaluation Program Sites

A search of the SCH database, dated Feb 6, 2023 has found that there are 1 SCH site(s) within approximately 1.00 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SPRINGTIME/REIDY CREEK ELEMENTARY	2747 NORTH BROADWAY ESCONDIDO CA 92026	NW	0.64 / 3,366.80	9
	***Estor/EPA ID**	**Cleanup Status**: 37010002	NO FURTHER ACTION AS OF 5/12/2000*		

HAZ GEN - Generators from Hazardous Waste Manifest Data

A search of the HAZ GEN database, dated Dec 31, 2017 has found that there are 1 HAZ GEN site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PACIFIC PARADISE NURSERY	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	1

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated Apr 12, 2023 has found that there are 1 CERS HAZ site(s) within approximately 0.12 miles of the project property.

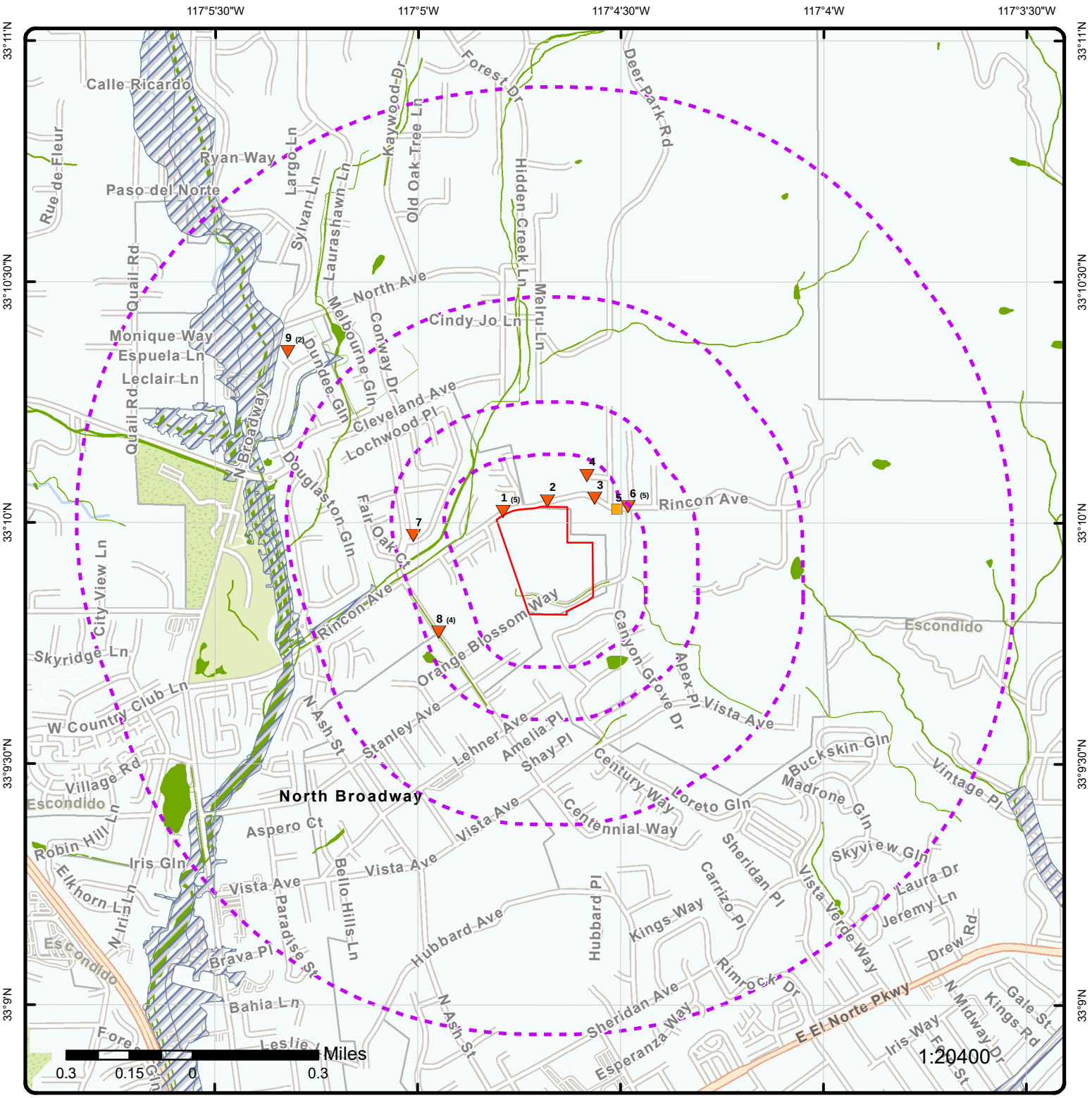
Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALTMAN SPECIALTY PLANTS RINCON-AWM	1300 RINCON AVE ESCONDIDO CA 92026	NW	0.01 / 41.76	1

GEOTRACKER - Sites in GeoTracker

A search of the GEOTRACKER database, dated Feb 27, 2023 has found that there are 9 GEOTRACKER site(s) within approximately 0.12 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
WATERWISE BOTANICALS - APN: 187-370-65-00	1300 RINCON AVENUE ESCONDIDO CA	NW	0.01 / 41.76	1
WATERWISE BOTANICALS - APN: 187-370-30-00	1426 RINCON AVENUE ESCONDICO CA	N	0.01 / 70.76	2
ASH STREET & RINCON GROVES - APN: 224-100-34	1565 RINCON AVENUE ESCONDIDO CA	NE	0.07 / 363.81	3
ASH STREET & RINCON GROVES - APN: 224-100-27	1617 RINCON AVENUE ESCONDIDO CA	ENE	0.10 / 523.92	5
ASH STREET & RINCON GROVES - APN: 224-100-80	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	6
ASH STREET & RINCON GROVES - APN: 224-100-79	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	6
ASH STREET & RINCON GROVES - APN: 187-370-57	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	6
ASH STREET & RINCON GROVES - APN: 224-100-78	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	6

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
ASH STREET & RINCON GROVES - APN: 224-100-77	1630 RINCON AVENUE ESCONDIDO CA	ENE	0.12 / 634.79	6



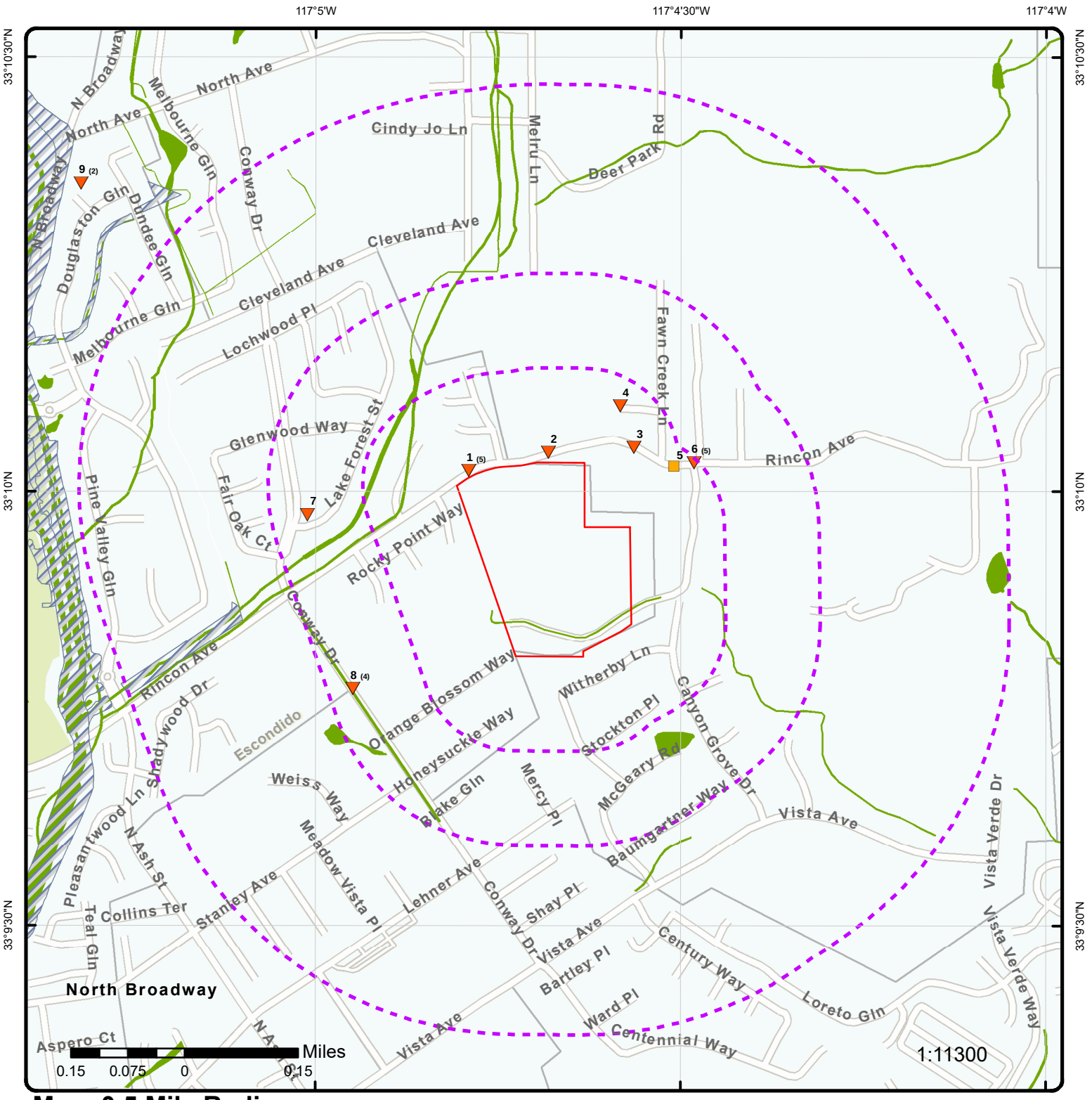
Map: 1.0 Mile Radius

Order Number: 23060700001

Address: 1915 1965 Rincon Avenue, Escondido, CA

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)



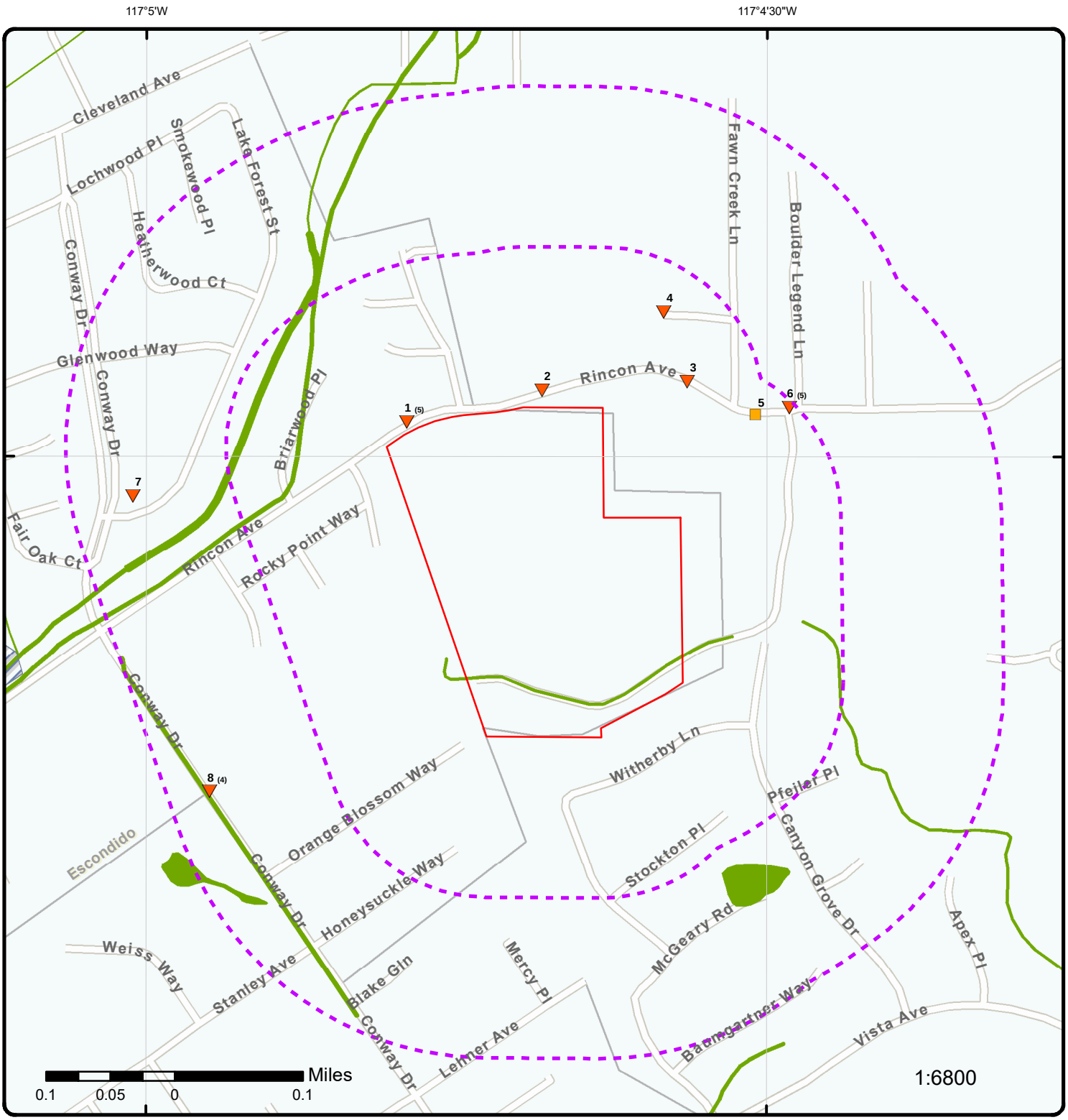
Map: 0.5 Mile Radius

Order Number: 23060700001

Address: 1915 1965 Rincon Avenue, Escondido, CA

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)



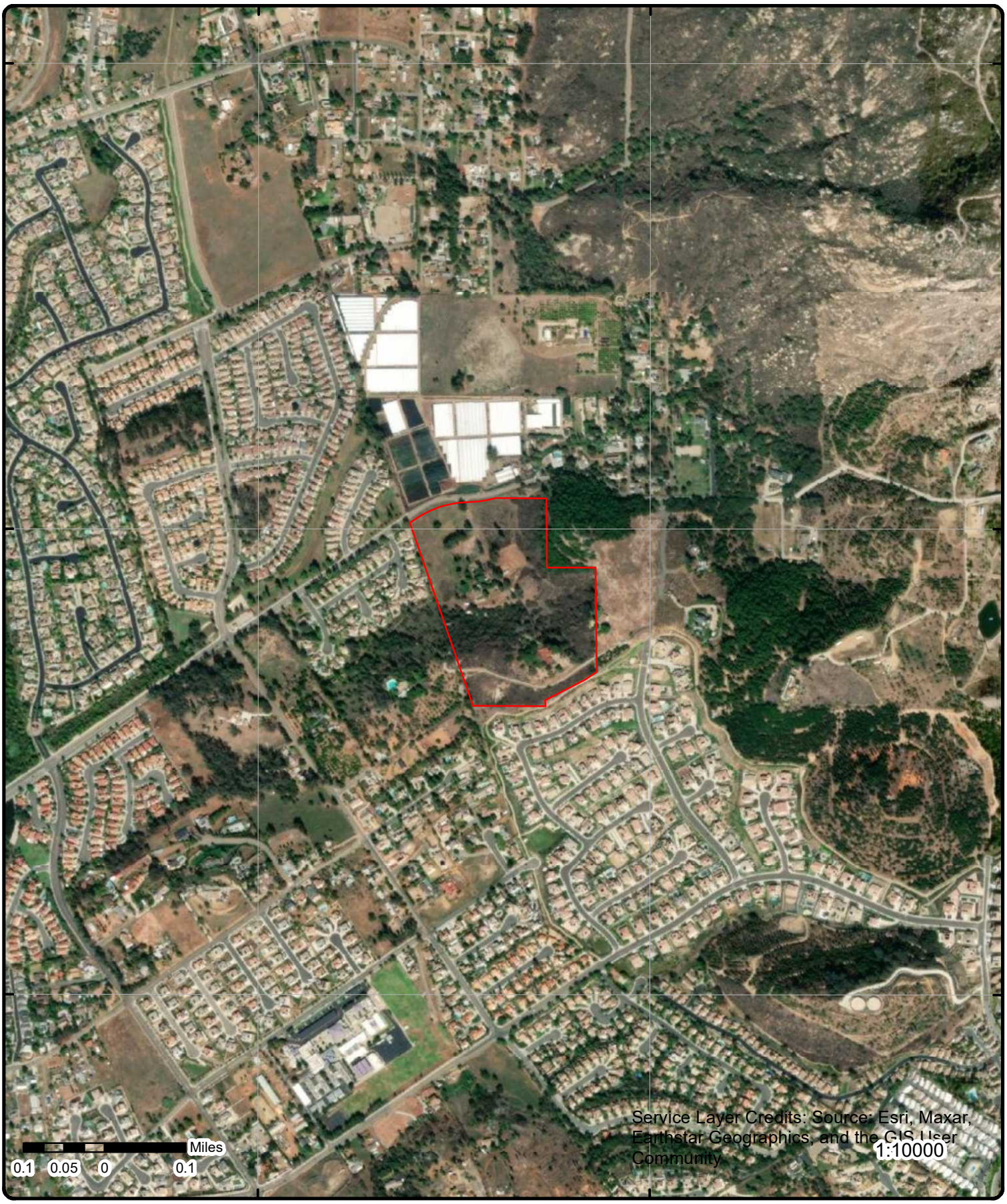
Map: 0.25 Mile Radius

Order Number: 23060700001

Address: 1915 1965 Rincon Avenue, Escondido, CA

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

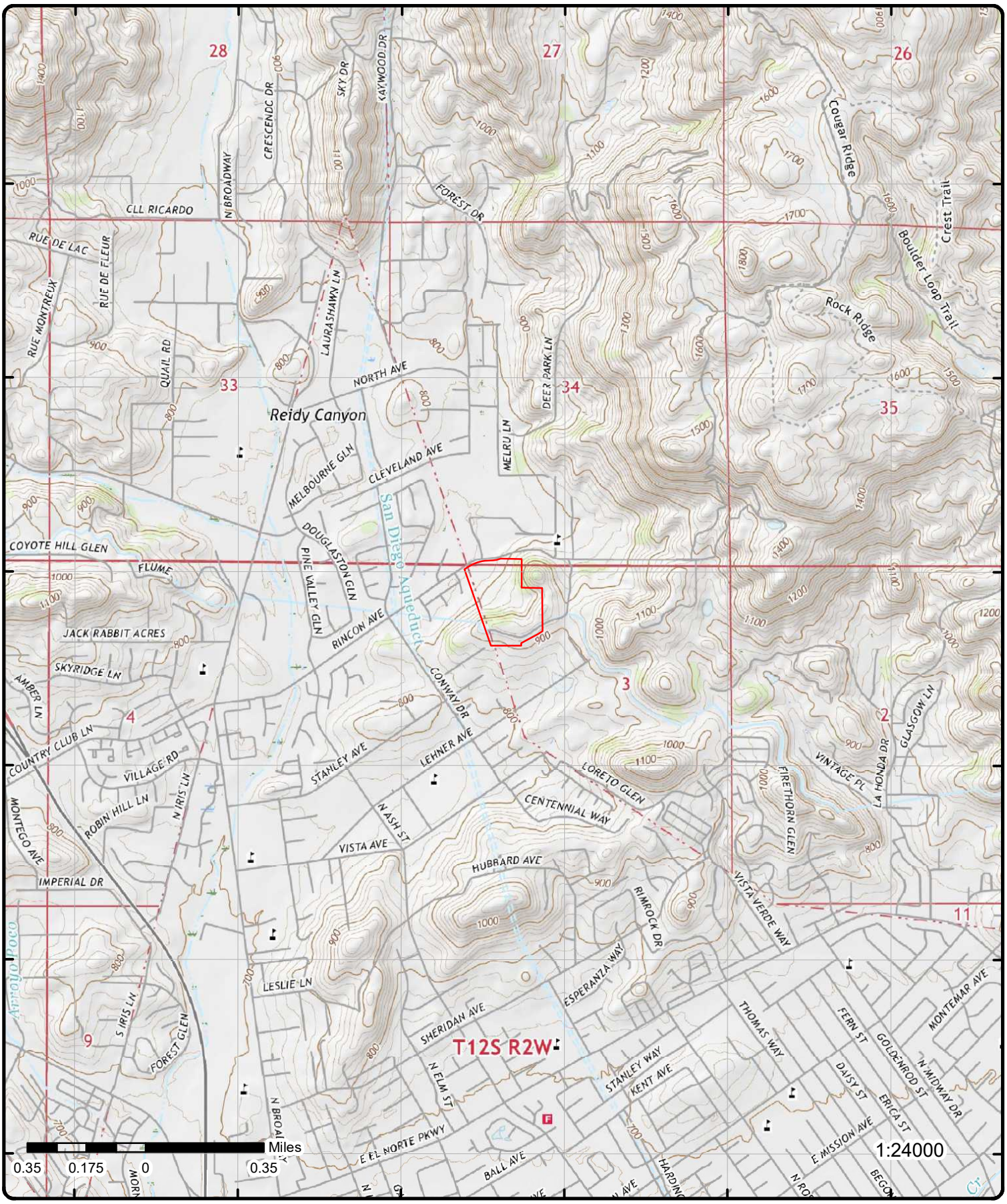


Aerial **Year: 2021**

Order Number: 23060700001

Address: 1915 1965 Rincon Avenue, Escondido, CA

Source: ESRI World Imagery



Topographic Map

Year: 2018

Order Number: 23060700001

Address: 1915 1965 Rincon Avenue, CA

Quadrangle(s): Valley Center, CA

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 5	NW	0.01 / 41.76	760.24 / -72	ALTMAN SPECIALTY PLANTS RINCON-AWM 1300 RINCON AVE ESCONDIDO CA 92026	HAZ SANDIEGO

Record ID: DEH2014-HUPFP-001282
Facility Name: ALTMAN SPECIALTY PLANTS RINCON-AWM
Facility City: ESCONDIDO
Facility ZipCode: 92026
Facility Latitude: 33.166717938527846
Facility Longitude: -117.08059732380994
Facility Address: 1300 RINCON AVE
GIS Facility Name: ALTMAN SPECIALTY PLANTS RINCON-AWM
GIS Facility Address: 1300 RINCON AVE, ESCONDIDO, CA 92026
Tank Owner Name:

GIS Record ID: DEH2014-HUPFP-001282
GIS Facility City: ESCONDIDO
GIS Facility ZipCode: 92026
GIS Fac Latitude:
GIS Fac Longitude:

Hazardous Materials Facility Data

CERS ID: 10501786
Facility ID No: 37-000-001282
EPA ID No:
Active Permit: true
Permit Status: Permit Renewed
Bus. Phone: 7607448191
Bus. Fax: 7607448835
Last Updated: 01/15/2022 01:12:10 AM
New Georeferenced Column: (33.166717938527846, -117.08059732380994)
Mailing Address: 3742 Blue Bird Canyon Road, Vista, CA 92084

Onsite H Waste Trtmt: false
Haz Mat on Site: true
Haz Waste Generator: false
Own/Oper Under: false
Own/Oper Above: false
Recycle: false
RCRA Large Qty Gen: false
HHW Collection: false

Hazardous Waste and Materials

ID: 66436
Child Record ID: DEH2016-HCHEM-0091198
CAS No: 68476-34-6
Last Updated: 10/01/2017 05:48:11 AM
Chemical Name: Diesel Fuel No. 2
Common Name Inventory: Diesel Fuel No. 2

Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Pure
Trade Secret: false

ID: 163075
Child Record ID: DEH2018-HCHEM-0179279
CAS No:
Last Updated: 10/01/2019 05:45:23 AM
Chemical Name: liquid NPK fertilizer
Common Name Inventory: liquid NPK fertilizer

Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Mixture
Trade Secret: false

ID: 466094
Child Record ID: DEH2022-HCHEM-0317862
CAS No:
Last Updated: 01/15/2022 01:12:11 AM
Chemical Name: liquid NPK fertilizer
Common Name Inventory: liquid NPK fertilizer

Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Mixture
Trade Secret: false

ID: 278405
Child Record ID: DEH2019-HCHEM-0241535
CAS No: 68476-34-6
Last Updated: 11/13/2020 01:28:31 AM

Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Pure
Trade Secret: false

Chemical Name: Diesel Fuel No. 2
Common Name Inventory: Diesel Fuel No. 2

ID: 278406
Child Record ID: DEH2019-HCHEM-0241536
CAS No:
Last Updated: 11/13/2020 01:28:31 AM
Chemical Name: liquid NPK fertilizer
Common Name Inventory: liquid NPK fertilizer
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Mixture
Trade Secret: false

ID: 466095
Child Record ID: DEH2022-HCHEM-0317863
CAS No: 68476-34-6
Last Updated: 01/15/2022 01:12:11 AM
Chemical Name: Diesel Fuel No. 2
Common Name Inventory: Diesel Fuel No. 2
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Pure
Trade Secret: false

ID: 66435
Child Record ID: DEH2016-HCHEM-0091197
CAS No: 7727-37-9
Last Updated: 10/01/2017 05:48:11 AM
Chemical Name: Nitrogen, Liquid
Common Name Inventory: NITROGEN FERTILIZER, LIQUID
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Mixture
Trade Secret: false

ID: 379541
Child Record ID: DEH2021-HCHEM-0284602
CAS No: 68476-34-6
Last Updated: 10/01/2021 06:16:25 AM
Chemical Name: Diesel Fuel No. 2
Common Name Inventory: Diesel Fuel No. 2
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Pure
Trade Secret: false

ID: 163074
Child Record ID: DEH2018-HCHEM-0179278
CAS No: 68476-34-6
Last Updated: 10/01/2019 05:45:23 AM
Chemical Name: Diesel Fuel No. 2
Common Name Inventory: Diesel Fuel No. 2
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Pure
Trade Secret: false

ID: 379540
Child Record ID: DEH2021-HCHEM-0284601
CAS No:
Last Updated: 10/01/2021 06:16:25 AM
Chemical Name: liquid NPK fertilizer
Common Name Inventory: liquid NPK fertilizer
Permit Status: Permit Renewed
Active Permit: true
Haz Material Type: Mixture
Trade Secret: false

HMD Permits Map Data

GIS Facility ID: 37-000-001282
GIS CERS ID: 10501786
GIS Record Type: LUEG-DEH/HMD/UPFP/Facility
Per Type:
Per Sub Type:
Per Cat:
Record Status: Permit Renewed
HW TIer: Not Applicable
LRG QTY MW Gener: No
EPA ID No:
RMP CAL ARP: Not Applicable
Tank Owner:
SIC Code:
NAICS Code:
Disclose Qty Haz Mat: Y
Exp Date: 10/30/2020
Own/Operate USTs :
UST Facility:
Total No USTs:
No of Tanks:
Own Oper APS: N
Status:
ER Contact: 7608020061
ER Con Work Ph: 7607448191
Census Tract:
Parcel Zip:
Community:
Jurisdiction:
Basin No:
BOS Dist:
Tbpg Grid:
Insp Dist: HN099
Feature ID:
X Coord:
Y Coord:
Kiva Per Typ:
Agency Name: COSD
Point X: 6307498.78275
Point Y: 2005297.97400001
Lat GS84:
Lon GS84:
Loc Name:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Tot APSA Cap:	0	**Score:**	
Capacity LR:		**Match Type:**	
Haz Waste G:	N	**Side:**	
Recycle100:	N	**X Map Coord:**	-117.08058541679145
Onsite Haz Waste Tre:	N	**Y Map Coord:**	33.16671311479705
RCRA LRG Qty:	N	**User Fld:**	
Haz Wst Coll Site:	N	**Addr Type:**	
Accept Offs:	N	**ARC Address:**	
Universal Waste Han:	N	**ARC City:**	
Toxic Gas:		**ARC Zipcode:**	
Hazmat EHS:	N	**ARC State:**	
Hazmat Rad:	No	**ARC APN:**	
Haz Waste Rad:		**Zip:**	
Haz Waste EHS:		**Farm Nursery:**	
Full Name:	Ken Altman	**Indian or Territory:**	
Email Perm:		**County ID:**	
Phone Perm:	7607448191	**Bill Code 2:**	EXEMPT Agriculture Sites
Site Address:	1300 Rincon Ave	**Bill Code 3:**	EXEMPT Agriculture Sites
Parcel No:		**Univ Waste Gen Type:**	

Record Ali:	Unified Program Facility Permit
Address:	1300 RINCON AVE
Business Type:	Agriculture Site Inspect By Dept AWM
Bill Code:	Not Applicable
ER Con Name:	FRAN ESQUEDA
ER Con Title:	MANAGER
Water Purv:	
Fire Agency:	
Geo SRC:	Mapped to record address
Match Addr:	
Hirt Flag:	No
Frhmbp Report Filename:	HMBP001282.pdf
Frhmbp Sitemap Filename:	MAP_001282.pdf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 5	NW	0.01 / 41.76	760.24 / -72	ALTMAN SPECIALTY PLANTS RINCON-AWM 1300 RINCON AVE ESCONDIDO CA 92026	FINDS/FRS

Registry ID:	110066718868
FIPS Code:	
HUC Code:	18070303
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	14-OCT-15
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	50
Census Block Code:	060730201032009
EPA Region Code:	09
County Name:	SAN DIEGO
US/Mexico Border Ind:	Yes
Latitude:	33.16658
Longitude:	-117.0806
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	50
Datum:	NAD83
Source:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110066718868
Data Source: Facility Registry Service - Single File
Program Acronyms:

CA-ENVIROVIEW:354439

1	3 of 5	NW	0.01 / 41.76	760.24 / -72	ALTMAN SPECIALTY PLANTS RINCON-AWM 1300 RINCON AVE ESCONDIDO CA 92026	CERS HAZ

Site ID: 354439
Latitude: 33.166697
Longitude: -117.080499

Regulated Programs

EI ID: 10501786 **EI Description:** Chemical Storage Facilities

Evaluations

Eval Date: 04/16/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector: Perkins Claire Inspection ID:5673514; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/05/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector: Goodman Chase Inspection ID:5351528; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/09/2020
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector: Goodman Chase Inspection ID:6423029; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: CUPA District
Entity Name: San Diego County Env Health Qlty
Entity Title:
Address: PO Box 129261

City:	San Diego
State:	CA
Country:	
Zip Code:	92112-9261
Phone:	(858) 505-6880

Affil Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	
Address:	3742 Blue Bird Canyon Road
City:	Vista
State:	CA
Country:	
Zip Code:	92084
Phone:	

Affil Type Desc:	Property Owner
Entity Name:	GARDENLIFE-VLLC
Entity Title:	
Address:	9787 CRYSTAL RIDGE DR
City:	ESCONDIDO
State:	CA
Country:	United States
Zip Code:	92026
Phone:	(760) 744-8191

Affil Type Desc:	Identification Signer
Entity Name:	FRAN ESQUEDA
Entity Title:	MANAGER
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Legal Owner
Entity Name:	KEN ALTMAN
Entity Title:	
Address:	3742 Blue Bird Canyon Road
City:	VIsta
State:	CA
Country:	United States
Zip Code:	92084
Phone:	(760) 744-8191

Affil Type Desc:	Operator
Entity Name:	ALTMAN SPECIALTY PLANTS RINCON-AWM
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	(760) 744-8191

Affil Type Desc:	Document Preparer
Entity Name:	Fran Esqueda
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Environmental Contact
Entity Name:	FRAN ESQUEDA
Entity Title:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Address: 3742 Blue Bird Canyon Road
City: Vista
State: CA
Country:
Zip Code: 92084
Phone:

Affil Type Desc: Parent Corporation
Entity Name: ALTMAN SPECIALTY PLANTS
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code: HMBP
Program ID: 10501786
Latitude: 33.166700
Longitude: -117.080500
Coord Name:
Ref Point Type Desc: Center of a facility or station.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	4 of 5	NW	0.01 / 41.76	760.24 / -72	WATERWISE BOTANICALS - APN: 187-370-65-00 1300 RINCON AVENUE ESCONDIDO CA	GEOTRACKER

Global ID: AGL020031069
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: TULARE
Latitude:
Longitude:
Rwqcb Region:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	5 of 5	NW	0.01 / 41.76	760.24 / -72	PACIFIC PARADISE NURSERY 1300 RINCON AVE ESCONDIDO CA 92026	HAZ GEN

Epa ID: CAC002586218
Address 2:
Facility County: 37
County: San Diego
Details DTSC HWTS: The Department of Toxic Substances Control (DTSC) makes available a Waste Code Matrix showing each Waste Code, its description, and annual amounts in its Hazardous Waste Tracking System: https://hwts.dtsc.ca.gov/search
Handler Profile URL: https://hwts.dtsc.ca.gov/facility/CAC002586218

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 1	N	0.01 / 70.76	784.78 / -47	WATERWISE BOTANICALS - APN: 187-370-30-00 1426 RINCON AVENUE ESCONDICO CA	GEOTRACKER

Global ID: AGL020031075
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 1	NE	0.07 / 363.81	826.51 / -5	ASH STREET & RINCON GROVES - APN: 224-100-34 1565 RINCON AVENUE ESCONDIDO CA	GEOTRACKER

Global ID: AGL020031215
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
		PROGRAM				
4	1 of 1	NNE	0.09 / 466.45	778.49 / -53	ESCONDIDO GREENHOUSES 1208 SUNRISE MOUNTAIN DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	HAZ SANDIEGO

Record ID:	DEH2002-HUPFP-199017	**GIS Record ID:**	DEH2002-HUPFP-199017
Facility Name:		**GIS Facility City:**	ESCONDIDO
Facility City:		**GIS Facility ZipCode:**	92026
Facility ZipCode:		**GIS Fac Latitude:**	33.1686778
Facility Latitude:		**GIS Fac Longitude:**	-117.0771816
Facility Longitude:			
Facility Address:			
GIS Facility Name:	ESCONDIDO GREENHOUSES		
GIS Facility Address:	1208 SUNRISE MOUNTAIN DR, ESCONDIDO, CA 92026		
Tank Owner Name:			

HMD Permits Map Data

GIS Facility ID:		**Status:**	
GIS CERS ID:		**ER Contact:**	
GIS Record Type:	LUEG-DEH/HMD/UPFP/Facility	**ER Con Work Ph:**	
Per Type:		**Census Tract:**	
Per Sub Type:		**Parcel Zip:**	
Per Cat:		**Community:**	
Record Status:	Completed	**Jurisdiction:**	
HW Tier:		**Basin No:**	
LRG QTY MW Gener:		**BOS Dist:**	
EPA ID No:		**Tbpg Grid:**	
RMP CAL ARP:		**Insp Dist:**	
Tank Owner:		**Feature ID:**	1873703300
SIC Code:		**X Coord:**	6308546.031
NAICS Code:		**Y Coord:**	2006004.517
Disclose Qty Haz Mat:		**Kiva Per Typ:**	HK07 199017
Exp Date:		**Agency Name:**	COSD
Own/Operate USTs :		**Point X:**	6308546.03108
UST Facility:		**Point Y:**	2006004.51685
Total No USTs:		**Lat GS84:**	33.1686778
No of Tanks:		**Lon GS84:**	-117.0771816
Own Oper APS:	N	**Loc Name:**	
Tot APSA Cap:	0	**Score:**	
Capacity LR:		**Match Type:**	
Haz Waste G:		**Side:**	
Recycle100:		**X Map Coord:**	-117.0771816155377
Onsite Haz Waste Tre:		**Y Map Coord:**	33.168677766659904
RCRA LRG Qty:		**User Fld:**	
Haz Wst Coll Site:		**Addr Type:**	
Accept Offs:		**ARC Address:**	
Universal Waste Han:		**ARC City:**	
Toxic Gas:		**ARC Zipcode:**	
Hazmat EHS:		**ARC State:**	
Hazmat Rad:		**ARC APN:**	
Haz Waste Rad:		**Zip:**	
Haz Waste EHS:		**Farm Nursery:**	
Full Name:		**Indian or Territory:**	
Email Perm:		**County ID:**	
Phone Perm:		**Bill Code 2:**	
Site Address:		**Bill Code 3:**	
Parcel No:	187-370-33-00	**Univ Waste Gen Type:**	
Record Ali:	Unified Program Facility Permit		
Address:	1208 SUNRISE MOUNTAIN DR		
Business Type:	Agriculture Site Inspect By Dept AWM		
Bill Code:			
ER Con Name:			
ER Con Title:			
Water Purv:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Fire Agency:
Geo SRC: Mapped to record APN/parcel center XY
Match Addr:
Hirt Flag:
Frhmbp Report Filename:
Frhmbp Sitemap Filename:

---

5 | *1 of 1* | *ENE* | *0.10 / 523.92* | *831.49 / 0* | ***ASH STREET & RINCON GROVES - APN: 224-100-27 1617 RINCON AVENUE ESCONDIDO CA*** | ***GEOTRACKER***

Global ID: AGL020031214
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

---

6 | *1 of 5* | *ENE* | *0.12 / 634.79* | *827.27 / -5* | ***ASH STREET & RINCON GROVES - APN: 187-370-57 1630 RINCON AVENUE ESCONDIDO CA*** | ***GEOTRACKER***

Global ID: AGL020031217
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

---

6 | *2 of 5* | *ENE* | *0.12 / 634.79* | *827.27 / -5* | ***ASH STREET & RINCON GROVES - APN: 224-100-77 1630 RINCON AVENUE ESCONDIDO CA*** | ***GEOTRACKER***

Global ID: AGL020031216
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

---

6 | *3 of 5* | *ENE* | *0.12 / 634.79* | *827.27 / -5* | ***ASH STREET & RINCON GROVES - APN: 224-100-78 1630 RINCON AVENUE ESCONDIDO CA*** | ***GEOTRACKER***

Global ID: AGL020031218
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

---

6 | *4 of 5* | *ENE* | *0.12 / 634.79* | *827.27 / -5* | ***ASH STREET & RINCON GROVES - APN: 224-100-80 1630 RINCON AVENUE ESCONDIDO CA*** | ***GEOTRACKER***

Global ID: AGL020031220
Status: ENROLLED
Status Date:
Site Facility Type: IRRIGATED LANDS REGULATORY PROGRAM
County: SAN DIEGO
Latitude:
Longitude:
Rwqcb Region:

---

6 | *5 of 5* | *ENE* | *0.12 / 634.79* | *827.27 / -5* | ***ASH STREET & RINCON GROVES - APN: 224-100-79*** | ***GEOTRACKER***

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					1630 RINCON AVENUE ESCONDIDO CA	

Global ID:	AGL020031219	**County:**	TULARE
Status:	ENROLLED	**Latitude:**	
Status Date:		**Longitude:**	
Site Facility Type:	IRRIGATED LANDS REGULATORY PROGRAM	**Rwqcb Region:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	1 of 1	W	0.20 / 1,061.86	742.32 / -90	T-MOBILE 1661 LAKE, ESCONDIDO, CA 92029 ESCONDIDO CA 92029	HAZ SANDIEGO

Record ID:	DEH2011-HUPFP-213761	**GIS Record ID:**	DEH2011-HUPFP-213761
Facility Name:		**GIS Facility City:**	ESCONDIDO
Facility City:		**GIS Facility ZipCode:**	92029
Facility ZipCode:		**GIS Fac Latitude:**	33.0276649
Facility Latitude:		**GIS Fac Longitude:**	-117.2653137
Facility Longitude:			
Facility Address:			
GIS Facility Name:	T-MOBILE		
GIS Facility Address:	1661 LAKE, ESCONDIDO, CA 92029		
Tank Owner Name:			

HMD Permits Map Data

GIS Facility ID:		**Status:**	
GIS CERS ID:		**ER Contact:**	
GIS Record Type:	LUEG-DEH/HMD/UPFP/Facility	**ER Con Work Ph:**	
Per Type:		**Census Tract:**	
Per Sub Type:		**Parcel Zip:**	
Per Cat:		**Community:**	
Record Status:	Completed	**Jurisdiction:**	
HW Tier:		**Basin No:**	
LRG QTY MW Gener:		**BOS Dist:**	
EPA ID No:		**Tbpg Grid:**	
RMP CAL ARP:		**Insp Dist:**	
Tank Owner:		**Feature ID:**	2604301200
SIC Code:		**X Coord:**	6250478.501
NAICS Code:		**Y Coord:**	1955227.674
Disclose Qty Haz Mat:		**Kiva Per Typ:**	HK07 213761
Exp Date:		**Agency Name:**	COSD
Own/Operate USTs :		**Point X:**	6250478.50089
UST Facility:		**Point Y:**	1955227.67385
Total No USTs:		**Lat GS84:**	33.0276649
No of Tanks:		**Lon GS84:**	-117.2653137
Own Oper APS:		**Loc Name:**	
Tot APSA Cap:	0	**Score:**	
Capacity LR:		**Match Type:**	
Haz Waste G:		**Side:**	
Recycle100:		**X Map Coord:**	-117.26531580546464
Onsite Haz Waste Tre:		**Y Map Coord:**	33.02771923688
RCRA LRG Qty:		**User Fld:**	
Haz Wst Coll Site:		**Addr Type:**	
Accept Offs:		**ARC Address:**	
Universal Waste Han:		**ARC City:**	
Toxic Gas:		**ARC Zipcode:**	
Hazmat EHS:		**ARC State:**	
Hazmat Rad:		**ARC APN:**	
Haz Waste Rad:		**Zip:**	
Haz Waste EHS:		**Farm Nursery:**	
Full Name:		**Indian or Territory:**	
Email Perm:		**County ID:**	
Phone Perm:		**Bill Code 2:**	
Site Address:		**Bill Code 3:**	
Parcel No:	260-430-12-00	**Univ Waste Gen Type:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Record Ali:	Unified Program Facility Permit
Address:	1661 LAKE
Business Type:	
Bill Code:	
ER Con Name:	
ER Con Title:	
Water Purv:	
Fire Agency:	
Geo SRC:	Mapped to record APN/parcel center XY
Match Addr:	
Hirt Flag:	
Frhmbp Report Filename:	
Frhmbp Sitemap Filename:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	1 of 4	WSW	0.22 / 1,147.67	790.37 / -42	RANCHO RINCON 2212 CONWAY DR, ESCONDIDO, CA 92026 ESCONDIDO CA 92026	HAZ SANDIEGO

Record ID:	DEH2002-HUPFP-120149	**GIS Record ID:**	DEH2002-HUPFP-120149
Facility Name:		**GIS Facility City:**	ESCONDIDO
Facility City:		**GIS Facility ZipCode:**	92026
Facility ZipCode:		**GIS Fac Latitude:**	33.1644672
Facility Latitude:		**GIS Fac Longitude:**	-117.083066
Facility Longitude:			
Facility Address:			
GIS Facility Name:	RANCHO RINCON		
GIS Facility Address:	2212 CONWAY DR, ESCONDIDO, CA 92026		
Tank Owner Name:			

HMD Permits Map Data

GIS Facility ID:		**Status:**	
GIS CERS ID:		**ER Contact:**	
GIS Record Type:	LUEG-DEH/HMD/UPFP/Facility	**ER Con Work Ph:**	
Per Type:		**Census Tract:**	
Per Sub Type:		**Parcel Zip:**	
Per Cat:		**Community:**	
Record Status:	Completed	**Jurisdiction:**	
HW Tier:		**Basin No:**	
LRG QTY MW Gener:		**BOS Dist:**	
EPA ID No:		**Tbpg Grid:**	
RMP CAL ARP:		**Insp Dist:**	
Tank Owner:		**Feature ID:**	2241433200
SIC Code:		**X Coord:**	6306733.172
NAICS Code:		**Y Coord:**	2004486.88
Disclose Qty Haz Mat:		**Kiva Per Typ:**	HK07 120149
Exp Date:		**Agency Name:**	COSD
Own/Operate USTs :		**Point X:**	6306733.17184
UST Facility:		**Point Y:**	2004486.88012
Total No USTs:		**Lat GS84:**	33.1644672
No of Tanks:		**Lon GS84:**	-117.083066
Own Oper APS:	N	**Loc Name:**	
Tot APSA Cap:	0	**Score:**	
Capacity LR:		**Match Type:**	
Haz Waste G:		**Side:**	
Recycle100:		**X Map Coord:**	-117.08306604413946
Onsite Haz Waste Tre:		**Y Map Coord:**	33.16446722251122
RCRA LRG Qty:		**User Fld:**	
Haz Wst Coll Site:		**Addr Type:**	
Accept Offs:		**ARC Address:**	
Universal Waste Han:		**ARC City:**	
Toxic Gas:		**ARC Zipcode:**	
Hazmat EHS:		**ARC State:**	
Hazmat Rad:		**ARC APN:**	
Haz Waste Rad:		**Zip:**	
Haz Waste EHS:		**Farm Nursery:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Full Name:
Email Perm:
Phone Perm:
Site Address:
Parcel No: 224-143-32-00
Record Ali: Unified Program Facility Permit
Address: 2212 CONWAY DR
Business Type:
Bill Code:
ER Con Name:
ER Con Title:
Water Purv:
Fire Agency:
Geo SRC: Mapped to record APN/parcel center XY
Match Addr:
Hirt Flag:
Frhmbp Report Filename:
Frhmbp Sitemap Filename:
Indian or Territory:
County ID:
Bill Code 2:
Bill Code 3:
Univ Waste Gen Type:

8	2 of 4	WSW	0.22 / 1,147.67	790.37 / -42	RANCHO RINCON 2212 CONWAY DR. ESCONDIDO CA 92016	HHSS

County:
Tank Details Microfiche: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002f1d4.pdf

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8	3 of 4	WSW	0.22 / 1,147.67	790.37 / -42	RANCHO RINCON 2212 CONWAY DR. ESCONDIDO CA	HIST TANK

Owner Name: RANCHO RINCON
Owner Street: 2212 CONWAY
Owner City: ESCONDIDO
Owner State: CA
Owner Zip: 92026
No of Containers: 1
County: SAN DIEGO
Facility State: CA
Facility Zip: 92016

8	4 of 4	WSW	0.22 / 1,147.67	790.37 / -42	RANCHO RINCON 2212 CONWAY DR ESCONDIDO CA	UST SWEEPS

C C: I37-000-20149
BOE: 44-023113
Comp: 20149
Status: INACTIVE
No of Tanks: 1
Jurisdict: SAN DIEGO COUNTY
Agency: SAN DIEGO COUNTY - U.S.T.
Phone: (619) 745-4937
D Filename: NSITE1
Page No: 273
County: SAN DIEGO
State : CA
Zip: 92026
Latitude: 33.164248
Longitude: -117.083603
Georesult: S5HPNTSCZA

Tank Details

Tank ID: 000001
O Tank ID:
SWRCB No: 37-000-020149-000001
Removed:
Installed: 01-74-01
A Date:
Capac: 550
Tank Use: M.V. FUEL
S Contain: SINGLE & LINER
Stg:
Storage : PRODUCT
Storag Type: PRODUCT
P Contain: OTHER
Content: LEADED
ONA:
D File Name: NTANK1

9	1 of 2	NW	0.64 / 3,366.80	757.29 / -75	SPRINGTIME/REIDY CREEK ELEMENTARY	SCH

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

2747 NORTH BROADWAY
ESCONDIDO CA 92026

Estor/EPA ID:	37010002	**Permit Renewal Lead:**	
Site Code:	404016	**Project Manager:**	
Nat Priority List:	NO	**Supervisor:**	YOLANDA GARZA
Acres:	33 ACRES	**Public Partici Spclst:**	
Special Program:		**Census Tract:**	6073020103
Funding:	SCHOOL DISTRICT	**County:**	SAN DIEGO
Assembly District:	75	**Latitude:**	33.172577
Senate District:	38	**Longitude:**	-117.088683

School District: ESCONDIDO UNION ELEMENTARY SCHOOL DISTRICT
APN: NONE SPECIFIED
Cleanup Status: NO FURTHER ACTION AS OF 5/12/2000
Cleanup Oversight Agencies: DTSC - LEAD AGENCY
Site Type: SCHOOL
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: AGRICULTURAL - ROW CROPS
Potential Media Affected: SOIL
Potential Contamin of Concern:

DDD
DDE
DDT
LEAD
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)

SITE HISTORY:

The site is an undeveloped, roughly rectangular parcel of approximately 33 acres. The site has been used for agricultural use since the 1960s. An underground storage tank, reportedly used for the storage of diesel fuels was located on the property which was removed in 1990. No detectable TPH concentrations were found in the samples collected during the UST removal. Agricultural chemicals were used at the site. The site was used for agricultural purposed from 1978 to 1995. The site was used for the propagation of plants used in the nursery trade. The site is suspected to be contaminated with organochlorine pesticides, organophosphorous pesticides, herbicides, PAHs, cyanides, and metals.

Status: NO FURTHER ACTION
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 20-25%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=37010002

Completed Activities

Title: * Site Visit - Site Inspections/visit
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 2/2/2000
Comments:

Title: Preliminary Endangerment Assessment Report
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 5/12/2000
Comments:

Title: Preliminary Endangerment Assessment Report
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:

Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/21/2000
Comments:

Title: Environmental Oversight Agreement
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Environmental Oversight Agreement
Date Completed: 1/10/2000
Comments:

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9 | ***2 of 2*** | ***NW*** | ***0.64 / 3,366.80*** | ***757.29 / -75*** | ***SPRINGTIME/REIDY CREEK ELEMENTARY 2747 NORTH BROADWAY ESCONDIDO CA 92026*** | ***ENVIROSTOR***

Estor/EPA ID:	37010002	***Assembly District:***	75
Site Code:	404016	***Senate District:***	38
Nat Priority List:	NO	***Permit Renewal Lead:***	
APN:	NONE SPECIFIED	***Public Partici Spclst:***	
Census Tract:	6073020103	***Project Manager:***	
Site Type:	SCHOOL	***County:***	SAN DIEGO
Address Description:	2747 NORTH BROADWAY	***Latitude:***	33.172577
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH	***Longitude:***	-117.088683
Special Program:		***Acres:***	33 ACRES
Funding:	SCHOOL DISTRICT	***Supervisor:***	YOLANDA GARZA

Cleanup Status: NO FURTHER ACTION AS OF 5/12/2000
Cleanup Oversight Agencies: DTSC - LEAD AGENCY
School District: ESCONDIDO UNION ELEMENTARY SCHOOL DISTRICT
Past Use that Caused Contam: AGRICULTURAL - ROW CROPS
Potential Media Affected: SOIL
Potential Contamin of Concern:

DDD
DDE
DDT
LEAD
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)

Site History:

The site is an undeveloped, roughly rectangular parcel of approximately 33 acres. The site has been used for agricultural use since the 1960s. An underground storage tank, reportedly used for the storage of diesel fuels was located on the property which was removed in 1990. No detectable TPH concentrations were found in the samples collected during the UST removal. Agricultural chemicals were used at the site. The site was used for agricultural purposed from 1978 to 1995. The site was used for the propagation of plants used in the nursery trade. The site is suspected to be contaminated with organochlorine pesticides, organophosphorous pesticides, herbicides, PAHs, cyanides, and metals.

Status: NO FURTHER ACTION
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 20-25%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=37010002

Completed Activities

Title: Preliminary Endangerment Assessment Report
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 5/12/2000
Comments:

Title: * Site Visit - Site Inspections/visit
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 2/2/2000
Comments:

Title: Preliminary Endangerment Assessment Report
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/21/2000
Comments:

Title: Environmental Oversight Agreement
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Environmental Oversight Agreement
Date Completed: 1/10/2000
Comments:

Unplottable Summary

Total: 2 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
SAM SANDIEGO	OTAY RANCH CONVEYANCE	0 PROCTOR VALLEY (SOUTH OF) RD, CHULA VISTA	CA		820129046
SAM SANDIEGO	OTAY LAND COMPANY	0 OTAY RIVER (E OF HY 125), CHULA VISTA CA 91915	CA		820134210

Unplottable Report

Site: ***OTAY RANCH CONVEYANCE***
0 PROCTOR VALLEY (SOUTH OF) RD, CHULA VISTA CA

SAM SANDIEGO

Record ID:	DEH2010-LSAM-TS-2010-02	***BOS District:***	
Record ID (DEH):	DEH2010-LSAM-TS-2010-02	***Lead Agency:***	DEH/SAM
Record Type (DEH):	LUEG-DEH/LWQD/SAM Investigation/NA	***Lead Agcy Date:***	7/12/2010, 8:00 PM
ID:	6129	***Opened Date:***	7/12/2010, 8:00 PM
Object ID:	6125	***ThomasBros Map Gd:***	1312 C 3
SWRCB Global ID:	T10000002364	***Jurisdiction:***	
Feature ID:	5980700500	***Census Tract:***	213.04
Parcel No:	598-070-05-00	***Watershed Basin:***	910.32
Case No:		***GT Global ID:***	T10000002364
H No:		***GT RB Case No:***	
KIVA per Tp per No:	6SAM TS-2010-02	***GT Status Date:***	
Status:	Completed	***GT Case Type:***	Cleanup Program Site
Record Status:	Completed	***GT Lead Agency:***	SAN DIEGO COUNTY LOP
Record Type:	SAM Investigation	***GT CUF Case:***	NO
Record Alias:	SAM Investigation	***GT County:***	San Diego
Date:	07/13/2010	***GT Latitude:***	32.65209463
Per Type:	LWQD	***GT Longitude:***	-116.93238258
Primary Parcel:	YES	***Latitude GS84:***	
Primary Address:	YES	***Longitude GS84:***	
Address Type:	ALIAS	***Point X:***	6354862.45681772
City:	CHULA VISTA	***Point Y:***	1820379.52622031
Community:		***X:***	
Zip Code:		***Y:***	
Zip Community:		***X1:***	-116.92191814412129
Agency Name:	COSD	***Y1:***	32.65943445127151

Project Name:	OTAY RANCH CONVEYANCE
Address:	0 PROCTOR VALLEY (SOUTH OF) RD, CHULA VISTA
Historical Name:	OTAY RANCH CONVEYANCE
Record Name:	OTAY RANCH CONVEYANCE
Street String:	0 PROCTOR VALLEY (SOUTH OF) RD
DEH Permit Owner:	
Fire Agency:	
Water Purveyor:	
GT Status:	Completed - Case Closed
Case Type:	TSP - Transaction Screening Program
Funding:	CPT - County Property Transaction Screen
Geo SRC:	Heads up digiitized
Short Notes:	
Source File:	Citizen Access DEH Site Assessment and Mitigation Investigation Sites; San Diego Site Assessment and Mitigation Investigation Sites

Site: ***OTAY LAND COMPANY***
0 OTAY RIVER (E OF HY 125), CHULA VISTA CA 91915 CA

SAM SANDIEGO

Record ID:	DEH2005-LSAM-TS-2005-09	***BOS District:***	1
Record ID (DEH):	DEH2005-LSAM-TS-2005-09	***Lead Agency:***	DEH/SAM
Record Type (DEH):	LUEG-DEH/LWQD/SAM Investigation/NA	***Lead Agcy Date:***	11/20/2005, 7:00 PM
ID:	5724	***Opened Date:***	11/20/2005, 7:00 PM
Object ID:	5720	***ThomasBros Map Gd:***	1331 H 5
SWRCB Global ID:		***Jurisdiction:***	CHULA VISTA
Feature ID:	6460100500	***Census Tract:***	133.14
Parcel No:	646-010-05-00	***Watershed Basin:***	910.2
Case No:		***GT Global ID:***	
H No:	TS-2005-09	***GT RB Case No:***	
KIVA per Tp per No:	6SAM TS-2005-09	***GT Status Date:***	
Status:	Completed	***GT Case Type:***	

Record Status:	Completed	***GT Lead Agency:***	
Record Type:	SAM Investigation	***GT CUF Case:***	
Record Alias:	SAM Investigation	***GT County:***	
Date:	11/21/2005	***GT Latitude:***	
Per Type:	LWQD	***GT Longitude:***	
Primary Parcel:	YES	***Latitude GS84:***	32.5949491
Primary Address:	YES	***Longitude GS84:***	-116.9561689
Address Type:	ALIAS	***Point X:***	6344103.19684023
City:	CHULA VISTA	***Point Y:***	1797068.77297315
Community:	Chula Vista	***X:***	6344103.197
Zip Code:	91915	***Y:***	1797068.773
Zip Community:	91915	***X1:***	-116.95636143317466
Agency Name:	COSD	***Y1:***	32.59517314633058

Project Name:	OTAY LAND COMPANY
Address:	0 OTAY RIVER (E OF HY 125), CHULA VISTA CA 91915
Historical Name:	OTAY LAND COMPANY
Record Name:	OTAY LAND COMPANY
Street String:	0 OTAY RIVER (E OF HY 125)
DEH Permit Owner:	
Fire Agency:	CHULA VISTA
Water Purveyor:	CHULA VISTA
GT Status:	
Case Type:	TSP - Transaction Screening Program
Funding:	C - County Site
Geo SRC:	Mapped to parcel centroid using AA XY
Short Notes:	
Source File:	Citizen Access DEH Site Assessment and Mitigation Investigation Sites; San Diego Site Assessment and Mitigation Investigation Sites

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Mar 23, 2023

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the United States Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Mar 23, 2023

Deleted NPL: DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Mar 23, 2023

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the SEMS GIS/REST file layer obtained from EPA's Facility Registry Service.

Government Publication Date: Jan 25, 2023

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file.

Government Publication Date: Jan 25, 2023

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jan 23, 2023

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by RCRA.

Government Publication Date: Jan 23, 2023

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jan 23, 2023

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jan 23, 2023

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jan 23, 2023

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jan 23, 2023

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Jan 23, 2023

Federal Engineering Controls-ECs: FED ENG

This list of Engineering controls (ECs) is provided by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2020 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Feb 23, 2023

Federal Institutional Controls- ICs: FED INST

This list of Institutional controls (ICs) is provided by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2020 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Feb 23, 2023

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: Mar 23, 2023

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Jan 16, 2023

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Sep 13, 2022

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

This listing contains facilities that have submitted Facility Response Plans (FRPs) to the U.S. Environmental Protection Agency (EPA). Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit FRPs. Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments. This listing includes FRP facilities from an applicable EPA FOIA file and Homeland Infrastructure Foundation-Level Data (HIFLD) data file.

Government Publication Date: Aug 8, 2022

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Aug 8, 2022

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Aug 30, 2022

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jun 29, 2022

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Jan 25, 2023

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: Mar 23, 2023

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Feb 6, 2023

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Feb 6, 2023

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Feb 6, 2023

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: May 9, 2023

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Waste Management Unit Database: WMUD

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

Government Publication Date: Jan 1, 2000

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Feb 6, 2023

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Construction and Demolition Debris Recyclers: C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Government Publication Date: Jun 20, 2018

Recycling Centers: RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Apr 13, 2023

Listing of Certified Processors: PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Apr 13, 2023

Listing of Certified Dropoff, Collection, and Community Service Programs: CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Apr 19, 2023

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Feb 27, 2023

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Feb 27, 2023

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Mar 10, 2023

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jan 17, 2023

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

This listing includes Proposed Closure of Underground Storage Tank (UST) Cases which are being considered for closure by either the State Water Resources Control Board at a Future Board Meeting or the Executive Director that have been posted for a 60-day public comment period, and Closure of UST Cases with Closure Denials and Approved Orders. The lists are provided by the California Water Boards.

Government Publication Date: Mar 10, 2023

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Statewide Environmental Evaluation and Planning System: UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

SWRCB Historical Aboveground Storage Tanks: AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

Oil and Gas Facility Tanks: TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Apr 12, 2023

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: May 15, 2023

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Apr 12, 2023

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Apr 12, 2023

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Feb 6, 2023

CALSITES Database: CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

Government Publication Date: May 1, 2004

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Feb 18, 2021

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Feb 27, 2023

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Feb 6, 2023

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Feb 27, 2023

Delisted Cleanup Program Sites: DELISTED CLEANUP

A list of Cleanup Program sites which were once included - and have since been removed from - the list of Cleanup Program Sites in GeoTracker. GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.
Government Publication Date: Feb 27, 2023

Delisted County Records: DELISTED COUNTY
Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.
Government Publication Date: May 1, 2023

Tribal

Leaking Underground Storage Tanks on Tribal/Indian Lands: INDIAN LUST
This list of leaking underground storage tanks (LUSTs) on Tribal/Indian Lands in Region 9, which includes California, is made available by the United States Environmental Protection Agency (EPA).
Government Publication Date: Apr 19, 2023

Underground Storage Tanks on Tribal/Indian Lands: INDIAN UST
This list of underground storage tanks (USTs) on Tribal/Indian Lands in Region 9, which includes California, is made available by the United States Environmental Protection Agency (EPA).
Government Publication Date: Apr 19, 2023

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST
Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).
Government Publication Date: Apr 20, 2023

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST
Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).
Government Publication Date: Apr 20, 2023

County

San Diego County - Solid Waste Facility List: SWF SANDIEGO
This list of open and closed Solid Waste Facilities is made available by the County of San Diego Department of Environmental Health and Quality's (DEHQ) agency files and map service. The County of San Diego DEHQ Solid Waste Local Enforcement Agency (LEA) is certified by the California Department of Resources Recycling and Recovery to enforce state solid waste laws and regulations in San Diego County, excluding the City of San Diego.
Government Publication Date: Dec 7, 2021

San Diego County - Local Oversight Program List: LOP SANDIEGO
A list of Underground Storage Tank (UST) release sites in the County of San Diego. This list is made available by San Diego County Department of Environmental Health.
Government Publication Date: Jun 15, 2020

San Diego County - Hazardous Materials Management Division Database: HAZ SANDIEGO
A list of facilities with Unified Program Facility Permit in San Diego County. This list has been made available by County of San Diego Environmental Health.
Government Publication Date: May 1, 2022

San Diego County - UST List: UST SANDIEGO
A list of registered Underground Storage Tanks in the County of San Diego. The list is made available by the San Diego County Hazardous Materials Division.
Government Publication Date: Apr 24, 2023

San Diego County - Site Assessment and Mitigation Investigation Sites: SAM SANDIEGO

List of sites which have undergone a Site Assessment and Mitigation investigation. This list is made available by the County of San Diego Department of Environmental Health.

Government Publication Date: Mar 27, 2023

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Aug 18, 2022

Toxics Release Inventory (TRI) Program: TRIS

The U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of toxic chemicals from U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. There are currently 770 individually listed chemicals and 33 chemical categories covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual reporting forms for each chemical. Note that the TRI chemical list does not include all toxic chemicals used in the U.S. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Oct 19, 2022

PFOA/PFOS Contaminated Sites: PFAS NPL

List of National Priorities List (NPL) and related Superfund Alternative Agreement (SAA) sites where PFOA or PFOS contaminants have been found in water and/or soil. The site listing is provided by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Mar 28, 2023

Federal Agency Locations with Known or Suspected PFAS Detections: PFAS FED SITES

List of Federal agency locations with known or suspected detections of Per- and Polyfluoroalkyl Substances (PFAS), made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data. EPA outlines that these data are gathered from several federal entities, such as the Federal Superfund program, Department of Defense (DOD), National Aeronautics and Space Administration, Department of Transportation, and Department of Energy. Sites on this list do not necessarily reflect the source/s of contamination and detections do not indicate level of risk or human exposure at the site. Agricultural notifications in this data are limited to DOD sites only. At this time, the EPA is aware that this list is not comprehensive of all Federal agencies.

Government Publication Date: Jun 30, 2022

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations https://pfasproject.com/pfas-contamination-site-tr acker/

Government Publication Date: Dec 12, 2019

National Response Center PFAS Spills: ERNS PFAS

National Response Center (NRC) calls from 1990 to the most recent complete calendar year where there is indication of Aqueous Film Forming Foam (AFFF) usage. NRC calls may reference AFFF usage in the "Material Involved" or "Incident Description" fields. Data made available by the US Environmental Protection Agency (EPA). Disclaimer: dataset may include initial or misidentified incident data not yet validated or investigated by a federal/state response agency.

Government Publication Date: Feb 23, 2022

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: Feb 19, 2023

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a per- or polyfluoroalkyl (PFAS) substance included in the U.S. Environmental Protection Agency's (EPA) consolidated PFAS Master List of PFAS Substances. Encompasses Toxics Release Inventory records included in the EPA PFAS Analytic Tools. The EPA's TRI database currently tracks information on disposal or releases of 770 individually listed toxic chemicals and 33 chemical categories from thousands of U.S. facilities and details about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Oct 19, 2022

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The U.S. Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. This list is specific only to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl (PFAS) substances. Data file is sourced from EPA's PFAS Analytic Tools TSCA dataset which includes CDR/Inventory Update Reporting data from 1998 up to 2020. Disclaimer: This data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jan 5, 2023

PFAS Waste Transfers from RCRA e-Manifest : PFAS E-MANIFEST

This Per- and Poly-Fluoroalkyl Substances (PFAS) Waste Transfers dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. Every shipment of hazardous waste in the U.S. must be accompanied by a shipment manifest, which is a critical component of the cradle-to-grave tracking of wastes mandated by the Resource Conservation and Recovery Act (RCRA). According to the EPA, currently no Federal Waste Code exists for any PFAS compounds. To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: • PFAS • PFOA • PFOS • PERFL • AFFF • GENX • GEN-X (plus the Vermont state-specific waste codes). Limitations: Amount or concentration of PFAS being transferred cannot be determined from the manifest information. Keyword searches may misidentify some manifest records that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS waste transfers.

Government Publication Date: Apr 9, 2023

PFAS Industry Sectors: PFAS IND

This Per- and Poly-Fluoroalkyl Substances (PFAS) Industry Sectors dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The EPA developed the dataset from various sources that show which industries may be handling PFAS including: EPA's Enforcement and Compliance History Online (ECHO) records restricted to potential PFAS-handling industry sectors; ECHO records for Fire Training Sites identified where fire-fighting foam may have been used in training exercises; and 14 CFR Part 139 Airports compiled from historic and current records from the FAA Airport Data and Information Portal. Since July 2006, all certificated Part 139 Airports are required to have fire-fighting foam onsite that meet certain military specifications, which to date have been fluorinated (Aqueous Film Forming Foam). Limitations: Inclusion in this dataset does not indicate that PFAS are being manufactured, processed, used, or released by the facility. Listed facilities potentially handle PFAS based on their industrial profile, but are unconfirmed by the EPA. Keyword searches in ECHO for Fire Training sites may misidentify some facilities and should not be considered to be an exhaustive list of fire training facilities in the U.S.

Government Publication Date: Apr 16, 2023

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Feb 8, 2023

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).

Government Publication Date: Jan 25, 2023

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online system incorporates data from the Integrated Compliance Information System - National Pollutant Discharge Elimination System (ICIS-NPDES). ICIS-NPDES is an information management system maintained by the Office of Compliance to track permit compliance and enforcement status of facilities regulated by the NPDES under the Clean Water Act. This data includes permit, inspection, violation and enforcement action information for applicable ICIS records.

Government Publication Date: Oct 15, 2022

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. The EPA tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Dec 11, 2022

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Dec 11, 2022

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset.

Government Publication Date: Jul 12, 2022

FUDS Munitions Response Sites: FUDS MRS

Boundaries of Munitions Response Sites (MRS), published with the Formerly Used Defense Sites (FUDS) Annual Report to Congress (ARC) by the U.S. Army Corps of Engineers (USACE). An MRS is a discrete location within a Munitions response area (MRA) that is known to require a munitions response. An MRA means any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This data is compiled from the USACE's Geospatial MRS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) MRS dataset.

Government Publication Date: Jul 12, 2022

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Mar 31, 2021

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United State Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: Nov 7, 2022

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Aug 18, 2022

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: Dec 1, 2022

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG), and Renewable Diesel (R20 and above) fuel type locations.

Government Publication Date: Mar 23, 2023

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS) since 2010. CMS may not reflect the latest developments in a case nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Apr 19, 2023

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Mar 30, 2022

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Nov 3, 2022

State

PFAS Sampling Locations: PFAS SAMPLING

This data is sourced from the State Water Board's GeoTracker Per- and Polyfluoroalkyl Substances (PFAS) Map tool which contains individual sampling points (i.e., soil boring, groundwater monitoring well, drinking water well for municipal drinking water systems, etc.) or a site location with PFAS analytical data. Includes analytical results that are finalized and submitted electronically by the Responsible Parties via GeoTracker's Electronic Submittal of Information Portal, and after it's accepted by a Regional Water Quality Control Board.

Government Publication Date: Mar 14, 2023

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Dec 20, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jan 31, 2022

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Jan 31, 2022

PFAS GeoTracker Cleanup Sites: PFAS GT CLEANUPS

A list of applicable cleanup sites from the State Water Resources Control Board's (SWRCB) GeoTracker data management system where one or more of the potential contaminants of concern are identified in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Feb 27, 2023

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Feb 4, 2023

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Mar 15, 2023

Toxic Pit Cleanup Act Sites: TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is not longer maintained, and updates are not planned.

Government Publication Date: Jul 1, 1995

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked by the California Department of Toxic Substance Control's (DTSC) EnviroStor data management system.

Government Publication Date: Oct 24, 2022

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Feb 6, 2023

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Nov 18, 2022

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Handlers from Hazardous Waste Manifest Data: HAZNET

A list of handlers not otherwise classified as Treatment, Storage, Disposal facilities (TSDF) or generators from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Oct 24, 2016

Generators from Hazardous Waste Manifest Data: HAZ GEN

List of handlers listed as having generated waste from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Dec 31, 2017

TSDF from Hazardous Waste Manifest Data: HAZ TSD

List of Treatment, Storage, and Disposal Facilities (TSDFs) from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Dec 31, 2017

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

DTSC Registered Hazardous Waste Transporters: HW TRANSPORT

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

Government Publication Date: Mar 23, 2023

Registered Waste Tire Haulers: WASTE TIRE

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Oct 11, 2022

California Medical Waste Management Program Facility List: MEDICAL WASTE

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

Government Publication Date: Apr 19, 2023

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Dec 6, 2021

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Apr 12, 2023

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Feb 27, 2023

Mines Listing: MINE

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

Government Publication Date: Dec 19, 2022

Recorded Environmental Cleanup Liens: LIEN

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

Government Publication Date: Aug 3, 2022

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Feb 27, 2023

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2020

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jan 19, 2021

Tribal

No Tribal additional environmental record sources available for this State.

County

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
ASTM QUESTIONNAIRES

ASTM E1527-13
OWNER/LANDLORD/OCCUPANT INTERVIEW QUESTIONS

Project Number / Name: **0523002 / ISKCON**
Assessor Parcel Number (APN): **APN 224-100-84 and -85**
Project Address: **1315 & 1365 Rincon Avenue**
City of Escondido, County of San Diego, California

1. What is/are the Current Use(s) of the Property, to the best of your knowledge?

VACANT LOT

ISKCON: Private residence

2. What was/were the Past Use(s) of the Property, to the best of your knowledge?

ISKCON: Private residence

3. Are there now or were there ever present any aboveground storage tanks, underground storage tanks or vent pipes, fill pipes or accessways indicating underground storage tanks?

NO; ONLY SEPTIC TANK

4. Are there any areas of the site with strong, pungent, or noxious odors?

NO

5. Are there any areas of standing surface water, including Pools or sumps?

NO

6. Are there any Hazardous Substances and/or Petroleum Product Containers currently stored on site?

NO

7. Are there any unlabelled Drums or any Unidentified Substance Containers stored on the property?

NO

8. Is there any Electrical or hydraulic equipment known to contain PCBs or likely to contain PCBs?

No

9. Do you know of any spills or other chemical releases that have taken place at the property?

NO

10. Do you know of any environmental cleanups that have taken place at the property?

NO

11. Are you aware of any deed restrictions or other activity or land use restrictions that have been placed on the property as a result of an environmental issue?

NO

12. Are you aware of any environmental liens, unresolved notices of violation, or litigation related to a contamination issue at the property?

NO

13. Are you aware of any previous assessments conducted at the subject property?

NO

Preparer:

Name: **Robert Morrill**

Address: **1238½ Hornblend Street / San Diego, CA / 92109**

Signature:

Date: June 17th 2023

ASTM E1527-13
USER SPECIFIC QUESTIONNAIRE

Project Number / Name: **0523002 / ISKON**
Assessor Parcel Number (APN): **APN 224-100-84 and -85**
Project Address: **1315 & 1365 Rincon Avenue**
City of Escondido, County of San Diego, California

In order to comply with the ASTM E1527-13 Standard and qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete. Please provide the following information (if available). Your answers will be incorporated into the final Phase I ESA under the section "User-supplied Information."

(1.) Environmental cleanup liens that are filed or recorded against the property (40 CFR 312.25).
Did a search of *recorded land title records* (or judicial records where appropriate, see NOTE below) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law? (NOTE - In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

There are none of the above.

(2.) Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Did a search of *recorded land title records* (or judicial records where appropriate, see NOTE above) identify any AULs, such as *engineering controls*, land use restrictions, or *institutional controls* that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

See Attached Title Reports, none to our knowledge.

(3.) Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protections (LLP - 40 CFR 312.28).
As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? (self-explanatory)

None to our knowledge. This property was purchased by the Temple over 30 years ago. The Temple processed plans and reports up to and including a Building Permit when the funding fell through in 2009. The property has a house and a stable on it other than that it is undeveloped. The intent of the project

is to develop 10 residential lots and Temple. There are no known chemicals to be used in the operation of these uses.

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

The property was purchased over 30 years ago. This question is not applicable to this project.

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *user*,

(a.) Do you know the past uses of the *property*?

Yes, It was a horse ranch and then a private residence.

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

None were used. It was a horse ranch and then a private residence.

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

There were none to our knowledge

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

There were none and no need to our knowledge

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

There are no obvious indicators.

In addition, certain information should be collected, if available, and provided to the e*nvironmental professional* selected to conduct the Phase I. This information is intended to assist the *environmental professional* but is not necessarily required to qualify for one of the *LLPs*. The information includes:

(a) the reason why the Phase I is required,

The reason for the phase 1 is that the Temple is moving forward again with the processing of applicable permits and documentation to construct a building for their use on site. The Conditions of Approval from 2009 have expired and the Temple is processing a smaller development. The Phase 1 is for the preparation of the CEQA analyses for the project.

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.,

No **property transaction is being processed. There will be a Boundary adjustment between the residential and Temple but this will be a land swap with the acreages remaining the same.**

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

See APN map attached, address is 1365 Rincon Ave Escondido, CA 92026

APN 224-100-84 and 85

(d) the scope of services desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered),

Construction of a Temple and 10 residential units.

(e) identification of all parties who will rely on the Phase I *report*,

The Owners, Dhiru Tantod, The Temple Bob Morrill, the City of Escondido, and the CEQA Consultant Phil Martin.

(f) identification of the site contact and how the contact can be reached,

Damodar he can be reached at 760 877 0097 or djc108@gmail.com

(g) any special terms and conditions which must be agreed upon by the *environmental professional*, and

None beyond the standard scope of services required for the completion of the Phase 1.

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

All previous applications and reports from the previous project have been submitted to the CEQA consultant and made available for use.

User Questionnaire / ISKON
1315/1365 Rincon Avenue, Escondido, California

Project 0523002
June 2023

Preparer:

Name: Robert Morrill

Address: 1238 ½ Hornblend Street / San Diego, CA 92109

Signature:

Date: June 22nd 2023

ASTM E2600-15
VAPOR ENCROACHMENT SCREENING – USER QUESTIONNAIRE

Project Number / Name: **0523002 / ISKCON**
Assessor Parcel Number (APN): **APN 224-100-84 and -85**
Project Address: **1315 & 1365 Rincon Avenue**
City of Escondido, County of San Diego, California

1. Property type: [ ] Commercial [ ] Industrial [ ] Multi-Tenant [X] Vacant Land
2. Are there any buildings/ structures on the property? Yes [X] No [ ] Unknown [ ]

If yes, type construction

HOUSE / private residence

3. Will buildings/structures be constructed on the property in the future? Yes [X] No [ ] Unknown [ ]

If yes, type construction CHURCH AND RESIDENTIAL

4. If buildings exist or are proposed, do/will they have elevators? Yes [ ] No [X]
5. Type of level below grade (existing or proposed)? [ ] Full Basement [ ] Crawl Space [X] Slab on grade

[ ] Parking Garage [ ] Multi-level

6. Ventilation in level below grade? Yes [ ] No [X] Unknown [ ]
7. Sump pumps, floor drains, or trenches (existing or proposed)? Yes [ ] No [ ] Unknown [X]
8. Radon or methane mitigation system installed? Yes [ ] No [ ] Unknown [X]
9. Heating system type (existing or proposed)?

[X] Hot Air Circulation [ ] Electric Baseboard [ ] Hot Air Radiation [ ] Heat Pump [ ] Hot Water Radiation

[ ] Wood Stove [ ] Kerosene Heater [ ] Steam Radiation [ ] Fireplace [ ] Coal Furnace [ ] Radiant Floor Heat

[ ] Hot Water Circulation [ ] Fuel Oil Furnace [X] Gas Furnace [ ] Other

10. Type of fuel energy (existing or proposed)? (CHECK ALL THAT APPLY)

[**X**] Natural Gas [X] Electric [ ] Propane [ ] Fuel Oil [ ] Kerosene [ ] Wood [ ] Coal [X] Solar [ ] Other

11. Have there ever been any environmental problems at the property? Yes [ ] **No [X]** Unknown [ ]

If yes, describe)_____

If yes, describe)_____

12. Does/will a gas station or dry cleaner operate anywhere on the property? Yes [ ] No [X] Unknown [ ]

13. Do any tenants use hazardous chemicals in relatively large quantities on the property? Yes [ ] No [X] Unknown [ ]

If yes, describe_____

14. Have any tenants ever complained about odors in the building or experienced health-related problems that may have been associated with the building? Yes [ ] No [X] Unknown [ ]

15. Are the operations (or proposed operations to be performed) on the property OSHA regulated? Yes [ ] No [X] Unknown [ ]

16. Are there any existing or proposed underground storage tanks (USTs) or above ground storage tanks (ASTs)? Yes. [ ] No [X] Unknown [ ]

17. Are there any sensitive receptors (for example, children, elderly, people in poor health, and so forth) that occupy or will occupy the property? Yes [ ] No [X] Unknown [ ]

Preparer:

Name: **Robert Morrill**

Address: **~~1238~~ ½ Hornblend Street / San Diego, CA / 92109**

Signature: R.C.

Date: June 17th 2023

APPENDIX F
RESUME OF ENVIORNMENTAL PROFESSIONAL

CURRICULUM VITAE
TIMOTHY A. LESTER, C.E.M.

Summary: As a founder and managing partner proving Environmental Consulting and related services since 1996, Mr. Lester provides has provided consulting and technical services as a Principal Scientist, Project Manager, expert witness for Due Diligence, Site Investigation, and Remediation at sites impacted by heavy metals, petroleum hydrocarbons, solvents, pesticides, PNA and PCB, and radionuclides (NORM). As a remediation specialist, he has hands on experience designing, installing, and managing large scale metals fixation, bioventing, soil vapor extraction, sparging, and free phase hydrocarbon recovery projects. His career in environmental investigation and remediation began in 1987, enhanced by four years of related experience in the geotechnical and petroleum exploration businesses. Mr. Lester has been an active participant on all phases of due diligence, site investigation, and remediation planning, cleanup strategy, feasibility evaluation, remedial implementation, and litigation support for a variety of industrial and commercial projects.

Employment History

1996 TO PRESENT — **FOUNDER/ EEI & TA-Group DD, LLC**

Mr. Lester has been the project manager and technical resource for major real estate investment trusts (REIT) and commercial developments, and has managed all environmental due diligence, investigation, and cleanup for an aggregate of over $400 million dollars in commercial properties. Additionally, Mr. Lester has managed all investigation, regulatory strategy, and cleanup at a number of fuel and solvent release sites in California, Oregon, Arizona, Nevada, New Mexico, and Washington related to former retail fuel release sites, and has managed and implemented soil and groundwater investigations at fuel and chlorinated solvent sites for other clients. Mr. Lester also was the primary environmental expert for a landfill chlorinated solvent case in Southern California, and has provided similar expert testimony on a number of environmental release cases.

1989 TO 1997 — **SR. PROJECT MANAGER, SR. GEOLOGIST, MARKETING MANAGERCLAYTON (FORMERLY MITTELHAUSER CORPORATION)**Actively managed southwest region Phase II investigations, remediation , and specialized regulatory projects. Evaluated investigation information and remedial alternatives while preparing Remedial Action Plans (RAP) for multi-contaminant impacted landfill site, numerous fuel impacted sites, a RCRA regulated utility remediation project, refinery bioventing projects, a California superfund townegas project, a bulk storage facility impoundment cleanup, and numerous other large remediation project sites. All RAPs were approved.

Promotions included Project to Senior Geologist, to Geoservices and Technology Division Manager. Technical services included managing remediation projects, designing and coordinating investigation projects, and developing regulatory and technical strategy for Southwest Region. Provided expert witness services to remediation projects involving soil and groundwater contamination. Conceptualized, designed, and implemented a variety of large scale industrial bioventing (refinery, Utility RCRA, Townegas, bulk storage) and soil vapor extraction projects.

1987 TO 1989 — **PROJECT MANAGER**

NACHANT ENVIRONMENTAL, INC. Promoted from staff to Project Geologist and Project Manager. Responsible for all phases of investigation and cleanup of sites primarily contaminated with fuel hydrocarbons, chlorinated hydrocarbons, and waste oils. Part of project team which developed, built, and implemented largest soil vapor extraction (1,000 cfm) project in state at that time.

1986 TO 1987 — **Geotechnical Technician and Geologist in Training** **Geosoils, Inc.**

1983 TO 1986 — **Exploration Technician** **ARCO Oil & Gas & ARCO Exploration**

Representative Projects

PG&E Bioventing Project, Morro Bay, CA. Prepared proposal, conceptual design, and all preliminary costing for $1.0M impoundment remediation project. Prepared Remedial Action Plan and met with regulators for this RCRA facility.

Mine Project, Mountain Pass, CA. Prepared proposal and all preliminary costing for $5.6M mine remediation project. Project included regulatory, design engineering, construction, and field remediation of RCRA hazardous and NORM waste. Largest single (annual) project ever performed by company.

School Phase I ESA, Orange County, CA: Provided oversight activities for a Phase I ESA under DTSC guidance for the Running Springs school site in Orange County, California. Avoided a PEA and attained a DTSC No Further Action letter for the School District. Currently providing Preliminary Endangerment Assessment services to the Val Verde School District, Riverside, California on a Middle School project.

Bioventing Project, So. California Refinery: Provided all conceptual design for push-pull bioventing system in a site characterized by complex fine grained sediments. Contaminants included VOC, fuels, PNA, and heavy oil. Wrote approved Remedial Action Plan (LARWQCB). Managed field installation of innovative high vacuum (clay target) system. Project value $400k.

Landfill Project, Palos Verdes, CA. Project Manager for all phases of regulatory strategy, Phase II investigations, remedial planning and design for site impacted by heavy metals, PCB, PNA, hydrocarbons, pesticides. Wrote approved RAP which utilized USEPA protocol risk assessment to reduce remediation to capping option; savings to $3.0M. Total project value $2.0M+

Scrap Metal Terminal, POLA, CA. For the largest scrap metal terminal in the western U.S., managed and implemented a Phase II investigation project for free phase hydrocarbons. Delineated occurrence and managed installation of borings, piezometers, and groundwater monitoring wells. Evaluated sites remedial options and prepared Remedial Action Plan (approved).

SVE Remediation Project, Santa Fe Springs, CA. Prepared proposal, prepared conceptual design, selected technology and equipment, managed field installation, and managed project for soil and groundwater investigation and cleanup project utilizing Soil Vapor Extraction in TCE, fuel, and PNA impacted soils. Dual nested system designed to remediate dual target fine grained and coarse grained target sediments. Closed site.

Bioventing Project, So. California State Superfund Site: Provided all conceptual design for appurtenants and push-pull biovent system, utilizing anhydrous ammonia nutrient feed. Wrote approved RAP (regional water quality control board and Cal-EPA) and coordinated final engineering . Managed installation of large, 20+ nested well (clay and sand) system. Project value $700k.

LITIGATION SUPPORT

As an Expert Witness, reviewed applicable soil contamination reports for a solvent release site at a former battery manufacturing site in the Los Angeles basin. Evaluated remedial alternantives, prepared conceptual remediation program, provided remedial cost estimates, and was deposed in Superior Court for the defendant. Testified in trial at Superior Court for the defendant. “Seventh Avenue Investment vs. Exide Corporation”.

As an Expert Witness in a Southern California TCE/PCE solvent case: Provided soil contamination evaluation, conceptual design and costing for Soil Vapor Extraction remediation of PCE and TCE impacted site in the Los Angeles Basin. Testified as expert witness for defense.

As an Expert Witness, evaluated historical landfill soil, data, and SWAT data for chlorinated solvent release at site and neighboring facilities. Determined range of costs for appropriate remedial options and evaluated remedial actions and costs prepared by others. Testified in Trial at Superior Court in the County of San Diego, for the plaintiffs in “Bay National Properties, et al. vs. County of San Diego, et al. for Daley and Heft.

As technical support for the development of remediation alternative costs and feasibility, representing the defendants (joint defense team), in “Cedar-Sinai Medical Center vs. Atlantic Richfield Co., et al., in a soil and groundwater solvent contamination case related to a suspected dry cleaner release. Evaluated historical release data to soil and groundwater, evaluated remediation and disposal practices, cost control, and regulatory options.

Reviewed prior consultant soil and groundwater investigation and feasibility reports for solvents, metals, fuels, and other contaminants for a large industrial property with documented soil and groundwater contamination. Worked as technical support for the evaluation of remedial feasibility, options, and implementation costs. Representing the defendant, California Steel Industries, in the Kaiser Steel Industries bankruptcy proceedings, for Morgan, Lewis, and Bockius.

Named as Expert Witness for a chlorinated solvent and RCRA release site in the City of Industry superfund site. Inspected property, conducted soil investigation, and evaluated historical data at the site. Wrote an approved Remedial Action Plan for the facility and prepared soil vapor extraction remediation cost and implementation guidelines. Case was settled prior to trial. Work conducted for McDermott, Will and Emory.

Education

Bachelor of Science, Geology, California State University Bakersfield
Various Graduate Courses in Geochemistry, Fate and Transport

Publications/Presentations

With C.E. Dial and D.J. Leu, "A Case Study of a refinery Bioventing Project", September, 1993, presented to the American Petroleum Institute, Baltimore, Maryland

"Vacuum Extraction, New Technologies and Wider Applications", May, 1989, presented at HAZMAT 1989, Anaheim, California

Lectures to Environmental Engineering classes at CSU Irvine, Winter, 1995: "Air Sparging" , and "Free Phase Recovery"

Certifications

Registered Environmental Assessor II No. 20047, State of California (FORMER/CA no longer uses this registration)
Certified Environmental Manager No. EM-1754, State of Nevada
HAZWOPER 40-hour OSHA Training
HAZWOPER Site Supervisor 8-hour Training

APPENDIX F

Fire Protection Plan

Fire Protection Plan
ISKCON
APN 224-100-84 & 224-100-85
Prepared for the Escondido Fire Department

September 23, 2023
Rev. February 02, 2024
Rev. August 21,2024
Rev. January 15,2025
Applicant: ISKCON of Escondido
Dhiru Tantod / Representative: Raab Rydeen
10707 El Caballo Ave.
San Diego CA.

Prepared by: Pete Montgomery
Wildland Fire Associate
*Fire*wise 2000, LLC

Reviewed and Certified by: _____
Melvin Johnson, Owner
Certified CEQA Wildland Fire Consultant
*Fire*wise 2000, LLC
PO Box 39
Valley Center, CA. 92029 (760) 745-3947

ISKCON
Fire Protection Plan

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ISKCON
FIRE PROTECTION PLAN
APN 224-100-84 & 224-100-85
August 21, 2024

EXECUTIVE SUMMARY

This Fire Protection Plan (FPP) evaluates the proposed 8.1-acre ISKCON religious facility and residential project to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The proposed project includes the construction of a religious temple, a residential hall, free-standing restroom facilities, parking areas, and an outdoor patio area. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, fire history, existing site conditions, and current fuel modification activities. It considers existing water supply, access, structure ignitability and fire resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

This FPP also lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 0, the Immediate Zone is the first 5 feet from the exterior wall surface on a horizontal plane. Zone 0 will consist of hardscape or limited fire-resistant plantings approved by the Fire Authority Having Jurisdiction (FAHJ) from the approved County list. Zone 1, the Intermediate Zone, will be an irrigated landscaped zone and is called the Intermediate Zone for fire suppression forces and protects structures from radiant and convective heat. Zone 1 extends out from Zone 0 to 50 feet from the exterior wall surface in a horizontal plane. This landscaped zone is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2, the Extended Zone, is the area beyond Zone 2, and includes manufactured slopes and excludes all prohibited highly combustible native vegetation but permits plantings within specific criteria and reduces the existing native vegetation by 50%. The owners will be responsible to the Escondido Fire Department, Fire Marshal for the completion of all designated Fuel Modifications.

1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the proposed ISKCON project. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, fire history, existing site conditions, and current fuel modification activities. The plan addresses existing water supply, access (including secondary/emergency access where applicable), structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more at-risk communities and essential infrastructures. The plan recommends measures that the property owner(s) will take to reduce the probability of ignition of structures addressed by the plan.

General Information

Project Principles: Dhiru Tantod, Raab Rydeen

Approving Departments:
Fire Authority: Escondido Fire Department
Engineering: City of Escondido
Water: City of Escondido, Water Utilities Division

The ISKCON FPP will be submitted to and approved by the Escondido Fire Department and is based upon current requirements, as of the date of this report, of the Escondido Fire Department (EFD) and the County of San Diego regarding Wildland Fire Protection Plans, including: pertinent local Fire Ordinances; the 2021 International Urban-Wildland Interface Code; 2022 California Code of Regulations Title 24, Part 9, and Title 14, section 1280; The 2022 California Fire Code and Local Amendments including Appendices to Chapters 1 & 4 and Appendices B,C, F & H; the 2022 California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildland Exposure; the 2022 California Residential Code; the California State and Local Responsibility Area Fire Hazard Severity Zone Map; California Government Code, sections 51175 through 51189; 2022 NFPA 1140, Standard for Wildland Fire Protection, California Public Resources Codes sections 4201 through 4204, 2022 Guidance to Local Governments to Mitigate Wildfire Risk from Developments in Fire-Prone Areas and the 2023 County of San Diego Consolidated Fire Code.

The ISKCON Fire Protection Plan (FPP) has two main objectives. First, the ISKCON FPP provides fuel treatment guidelines for the property owner(s) and any subsequent owner(s). Second, the FPP provides features for the developer, architect, builder, and the EFD to improve the relative safety of the proposed religious facility and residential developmental buildings from approaching wildfire. Appendices attached to this FPP provide additional information that shall be considered as part of this FPP.

This Fire Protection Plan Includes:

- A wildland fire hazard rating assessment and expected fire behavior of both on-site and off-site native vegetative fuels;
- A long-term perimeter vegetative fuel modification treatment and maintenance plan to minimize the potential loss of any structure due to wildland fires;
- A long-term interior open space fuel modification treatment plan and “Firewise Landscaping” criteria to be utilized around the planned structures;

- "Ignition Resistant Building Features" that will be required for all structures;
- A review of existing structures and building features, community protection systems (e.g., water and access), and specifications to assure these structures, features and systems adequately protect life and property.

Figure 1 Overhead View of ISKCON Project Site

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The ISKCON project is located along the northern border of the City of Escondido. Escondido, a city of over 150,000 residents, is within the North County Region of the County of San Diego, approximately 30 miles northeast of the City of San Diego and 20 miles east of the Pacific Ocean. The northern area of Escondido is home to residential developments, flower growing facilities, and rural residential properties.

The ISKCON site is located on Rincon Avenue, approximately one-half mile east of N. Ash Street and 1-mile east of N. Broadway, both major north-south collector roads. Rincon Ave. is renamed W. Country Club Lane at the intersection with N. Broadway.

1.5- miles east of the project site on Rincon/W. Country Club is N. Centre City Parkway (CCP) the old State Highway 395.

1.1.2 Project Description

The ISKCON project site covers approximately 8.1-acres of land on two separate parcels, one parcel has an existing residence and farm enclosures, the second parcel is vacant property. The project requires a Major Use Permit (MUP) to allow for the construction of the following religious facilities:

- Temple 4,700 sq. ft.
- Resident Hall 4,084 sq. ft
- Parking spaces 96 spaces
- Restroom facility, detached
- Outdoor patio
- Access road to parcel 224-100-73

Other major components of the ISKCON project include the construction of 10 single family homes, the realignment of Rincon Ave., the construction of a new residential street and bioretention basins, and the installation of new fire hydrants.

The project site owners currently perform fuel modification within the property, including disking of annual fuels along the access roads, and treatments around the currently occupied structure and ranch facilities on the property.

1.1.3 Environmental Setting

1.1.3.1 Dates of Site Inspections/Visits Conducted

Site Visit & Purpose	**Date**
#1 Initial Field Visit Evaluate vegetation, topography, road conditions, and fire access	June 18, 2023
#2 Field Visit Meet onsite with Raab Rydeen. evaluate lot layout and primary and secondary access road locations, fire hydrant locations, create a photo log	July 20, 2023

1.1.3.2 Topography

The ISKCON project is located within the northern part of a long north-south running valley which makes up the northern part of the City of Escondido. Reidy Creek, a seasonal creek to the west of ISKCON, flows south through the valley ending in Escondido Creek. Escondido Creek flows into the Pacific Ocean twenty miles west of the project site. North of the Escondido valley are hills and mesas leading to Hidden Meadows and Valley Center at approximately 1600-1700 feet, both unincorporated communities of San Diego County. The topography in the area is part of the Peninsular Range, an uplifted plateau that extends from the tip of Baja California to the San Jacinto Mountains northeast of Escondido.

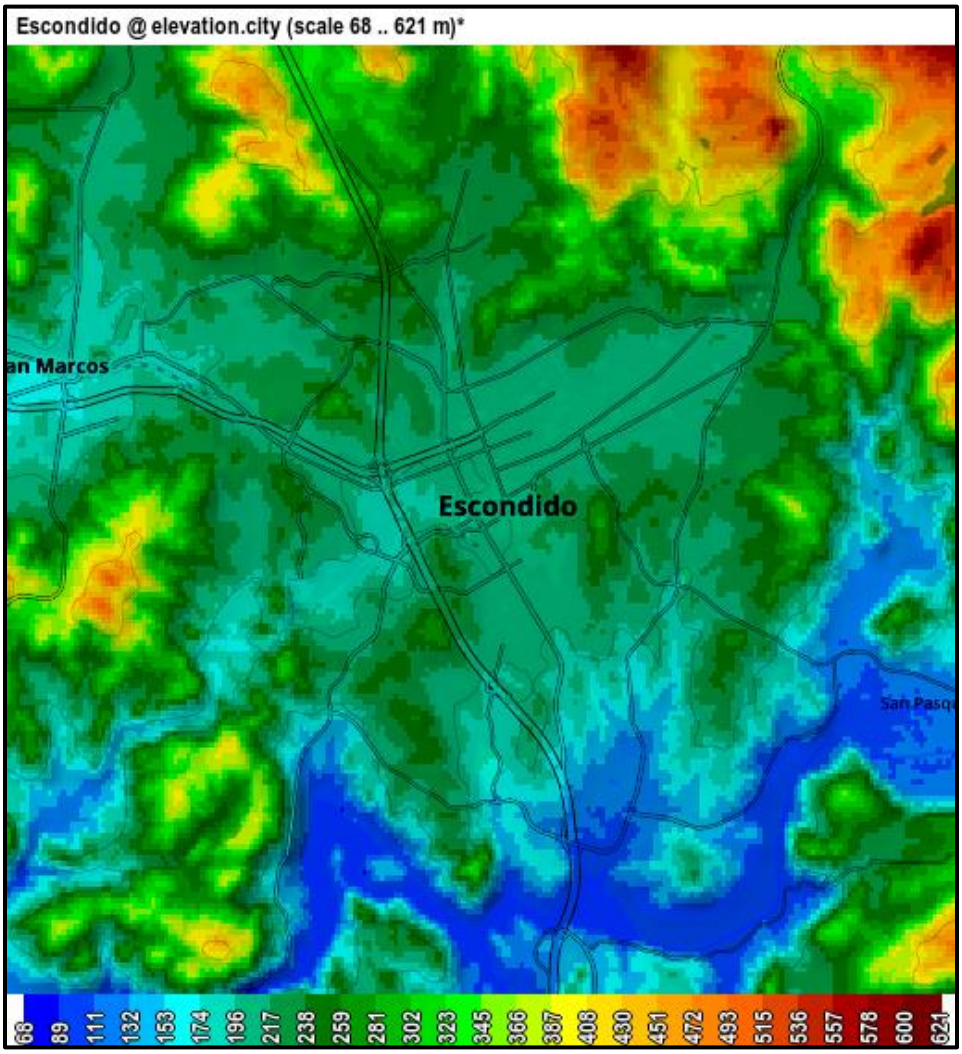

Figure 2 City of Escondido Elevation Map

The topography along Rincon Ave. is relatively flat with an elevation of approximately 773 feet. The topography is broken with short hilltops to the south and east. Immediately south of the site the hilltop is approximately 950' and east of the site along Rincon the hill has a maximum height of 1000'. The slope of the ISKCON site has a northern aspect averaging 12%, while the western facing aspect has a slope of 9%.

ISKCON is located at the base of steep, west facing slopes leading to Daley Ranch. Daley Ranch is a 3,058-acre nature preserve covered with dense chaparral, coastal sage covered hillsides, oak woodlands, and riparian habitat surrounding two ponds. Stanley Peak at 2068-feet and Burnt Mountain at 1928-feet are the two highest peaks in Daley Ranch.

South of the site, the topography is broken by low hills and a seasonal creek that flows down the slopes from Daley Ranch. The highest elevations immediately

south of the site would be Hubbard Hill at approximately 1148' and an unnamed ridge west of Vesta Verde Avenue that exceeds 1130'.

North of the property the topography follows along Reidy Creek, a narrow creek basin with ridgelines to the east and west with heights of 1200' to 1300'. The Reidy Creek drainage begins in the Hidden Meadows community that has elevations ranging from 1300' to 1500'the elevation increasing to 1300' to 1500' in the Hidden Meadows.

1.1.3.3 Climate

The climate based on the Koppen Climate Classification system is a combination of a semi-arid climate (Koppen, Bsh) generally characterized as a Mediterranean type of climate (Koppen, Csa) with hot summers and cool wet winters. Long, hot, and very dry summer seasons frequently occur with occasional, multi-year droughts. August is typically the hottest month of the year in Escondido. Winters are generally mild, with annual precipitation that averages around 15-inches of rain which occurs mainly during the months of January through March. Occasional spring and summer thunderstorms will bring short duration rain showers.

The most critical wind pattern to the project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November) when non-irrigated vegetation is at its lowest moisture content. A San Diego County record 106-MPH wind gust was recorded at the Sill Hill weather station which is located twenty-five miles east of the project site southwest of the Julian area. Wind gusts have been recorded over 90-MPH on several occasions in other areas of San Diego County.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a slightly lower velocity 10-15-MPH with occasional gusts to 25-MPH and is associated with higher relative humidity readings (> 30% and frequently more than 60%) due to a moist air on-shore flow from the ocean. However, southwest wind gusts may exceed 40-mph especially during the months of February and March which have the strongest southwest wind conditions.

All other (northwest, south, west) wind directions may be occasionally strong and gusty. However, they are generally associated with cooler moist air and have higher relative humidity (> 40%). They are considered a serious wildland fire weather condition when wind speeds reach > 20-MPH.

Fire agencies throughout the western United States rely on a sophisticated system of Remote Automated Weather Stations (RAWS) to monitor weather conditions and aid in the forecasting of fire danger. The closest RAWS to the project is the Valley Center RAWS. The data acquired from RAWS is important to modeling wildland fire behavior. ***FIREWISE* 2000, LLC** determined that the Valley Center RAWS, though located in slightly higher elevation to the ISKCON project site, was most appropriate for use in calculating fire behavior. Another RAWS that was evaluated was the San Pasqual RAWS station. The San Pasqual RAWS is located south of the project site approximately 10-miles and located at a similar elevation.

The Valley Center RAWS site captured significant weather data during the major Southern California fires of October 2007 with winds gust exceeding 40-mph and relative humidities less than 10%. Note: in late October, strong winds and low relative humidiy are indicators of a Santa Ana wind event.

1.1.3.4 On and Off-Site Vegetation

There is an insignificant amount of on-site native wildland vegetation in the central portion of the project site, frequent disking of annual fuels has reduced native ground fuel significantly. The eastern and northern boundaries have small stands of buckwheat, sage with scattered eucalyptus trees.

Photo # 1 On-site Fuels

The immediate off-site vegetation along the property's boundary consists of avocado and citrus trees covering nearby hills to the east and south. Residential homes cover the majority of the area to the north and west. Hillside and slopes further off-site are covered with heavy growth of coastal sage-scrub, chapparal and pockets along streams and creeks covered with oak and sycamore trees. Smaller shrubs, less than 4-feet in height, were found to include both California and Wright's buckwheat, and creeping sage.

Photo # 2 West Boundary Disking of Annual Fuels

1.1.3.5 Fire History

The available data suggests that in the second half of the 20th Century the frequency of small fires increased in Southern California while their average size decreased. This was due primarily to human caused fires and rapid-fire suppression. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 large fires of over 100-acres in the foothills and mountains from 1910-1999. Recently however, several years of drought have contributed to major fires (in excess of 50,000-acres) that have swept through San Diego County resulting in large losses of property and damaged watersheds.

The Cedar Fire in October of 2003 burned over 273,000 acres, caused the evacuation of over 500,000 people, and caused multiple civilian fatalities and one firefighter fatality. Starting in the San Diego River bottom, an inaccessible area, the fire quickly spread throughout the county eventually threatening over 25 communities.

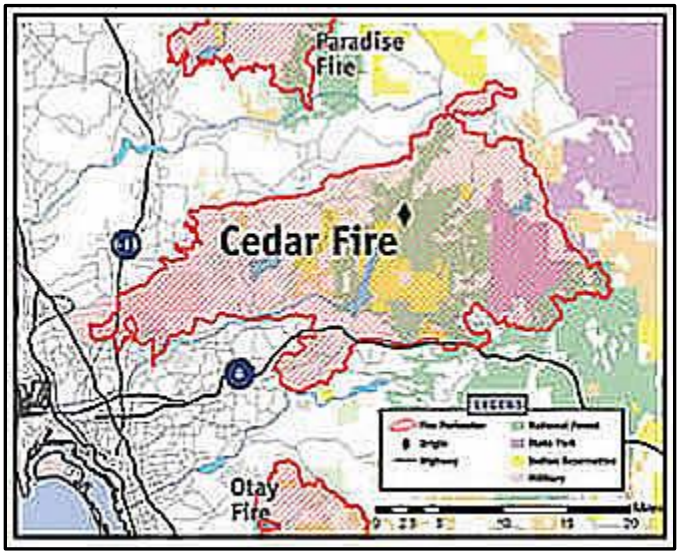

Figure #3 Paradise & Cedar Fire Map 2003

Within six hours of the start of the Cedar Fire, the Paradise fire started, further threating communities in North San Diego County. The Paradise fire's western progression was stopped on the top of Daley Ranch when Santa Ana winds abated, and crews were able to establish control lines within the preserve.

Other notable vegetation fires within the Escondido area include the 2007 Witch and Guejito Fires and the Jesmond Dene in 2023 and 2022. Both Jesmond Dene fires were located less than 2 miles northeast of the project site.

1.1.3.6 On-site and Off-Site Land Uses

The existing ISKCON on-site usage is limited to a single-family home and farm animals. The remainder of the property is vacant with the exception of an access easement to a home on APN 224-100-73 and the Vista Irrigation water flume which are not a part of the project. Access to the home and flume will be maintained by a realigned access road through the ISKCON property.

Off-site land uses include a large nursery north of the project site across Rincon Ave. Agricultural uses including avocado and citrus ranches are found to the immediate east of the site and further to the south. Further north up the valley, homes on small ranches become the main use of the rural area. Homesites are located on multiple acre parcels within the City and San Diego County. Residential developments are found to the west and south of the site. The Reidy Creek golf course is located less than 1-mile west of the site that is owned by the City of Escondido. Interstate 15 is approximately 2 miles west of the ISKCON site.

Daley Ranch, a 3,058-acre, historic ranch property owned by the City of Escondido is located less than 1 mile east of the site. Maintained as a nature preserve, the ranch is open for hiking, biking and horseback riding on over 20-miles of trails.

2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The ISKCON FPP evaluates the potential adverse environmental effects that the planned ISKCON project may have on wildland fire and proposes appropriate mitigations for any adverse impacts to ensure that the site does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard wildland fire. The following guidelines for the determination of significance are used:

1. Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The ISKCON MUP project is partially bordered by existing residential and agricultural businesses including avocado and citrus groves and a large, commercial nursery. In addition, small areas of native wildland fuels are close to the project site. Through implementation of the planned fuel modification activities, and additional requirements outlined in this FPP, ISKCON reduces the exposure of people or structures to a less than significant risk of loss, injury or death involving wildland fires.

2. Would the project result in inadequate emergency access?

The property is located within the City of Escondido, fire services are provided by the Escondido Fire Department. Escondido Fire Station 7 is located 2.1 miles to the south at 1220 N. Ash Street. Access to the project site off of Rincon Avenue is sufficient for the current residential usage but will be improved by straightening and widening Rincon Ave. north of the project site. The entrance to both the Temple site and residential "Street A" will be widened and improved to City standards. A looped access road around the Temple site will reduce delays on egress from the site for visitors and guests and allow easy access for fire department apparatus. "Street A" will be constructed with an approved cul-de-sac built to the design standards of the City. Therefore, the ISKCON MUP project would have a less than significant impact on emergency access.

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

The existing fire facilities located on Ash St. are more than adequate to provide acceptable emergency service and response times. Additional firefighting resources are available throughout the City when required. Therefore, the ISKCON MUP project would have a less than significant impact on response times, service ratios, and/or performance objectives for fire protection.

4. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The ISKCON MUP project has a sufficient water supply available to serve the project when completed according to the design standards required by the City of Escondido Design Standards and Standards Drawings. The existing 12-inch water main will be extended on Rincon Ave. The water main on "Street A" will be a looped system through the Temple site. Water main size in the loop portion will be sized based on the required fire flow required for the project. Fire hydrants and fire sprinkler system connections will be located according to the fire departments design specifications.

3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

The fire behavior calculations in Table 3.1 predict a maximum rate of spread of 221.2-feet/minute is based on fuel model of SCAL18, Coastal Sage-Buckwheat. Fires burning in fuel model SCAL18, Table 3.2, under the same weather and fuel conditions shows almost identical flame lengths with Santa Ana winds of 60 mph, which are the expected maximum velocity on the property. (See Section 4.6 and Appendix 'G' for details of the Fire BEHAVE Modeling) The potential for wildfire exposure to the temple and residential facilities due to ember production, radiant heat and direct flame contact is very high when fires move at a rapid rate of spread through the SCAL18 fuel model. Under the same weather conditions, north or northeast winds and low relative humidities, the same fire will move at a much lower rate of spread when burning through treated fuels. Fireline intensity will be greatly reduced, the rates of spread will be lowered from 221.2-feet/minute fuels, to approximately 41.4-ft/min in treated gr1 fuels, short, patchy dry climate grass. Treating wildland fuels will improve the survivability of the facilities, employees, guests, firefighters, and other emergency responders. Converting the SCAL18 fuels to a much lower intensity host fuel type such as gr1 has increased the safety for guests, employees, and firefighting personnel.

TABLE 3.1
A Comparison of Fire Conditions Under 60 mph Northeast Wind Conditions
East Exposure
Untreated Versus Treated Fuels
SCAL18 vs. gr1

Untreated Fuels SCAL18		After Fuel Treatment gr1	
Rate of Spread	**221.2 ft/min**	**Rate of Spread**	**41.4 ft/min**
Fireline Intensity	**16067 BTU/ft/sec**	**Fireline Intensity**	**67 BTU/ft/sec**
Flame Length	**38.7 Feet**	**Flame Length**	**3.1Feet**

Fires burning on the west facing slopes would be out of alignment with the northeast winds, the wind would be blowing downhill on the west facing slope, limiting the preheating of downslope fuels which would present less of a fire hazard. The wildland fuel treatments required in SCAL18 would be removal of dead and down ground litter, and reducing the fuel loading of native vegetation by preserving only scattered native plants and shrubs The fuel treatment would also require the removal of ground fuels. Grass would be mowed or trimmed to a height of approximately 2-inches.

TABLE 3.2
A Comparison of Fire Conditions Under 60 mph Northeast Wind Conditions
Southern Slope
Untreated Versus Treated Fuels
SCAL18 vs. gr1

Untreated Fuels SCAL18		After Fuel Treatment gr1	
Rate of Spread	**221.7 ft/min**	**Rate of Spread**	**41.4 ft/min**
Fireline Intensity	**16102 BTU/ft/sec**	**Fireline Intensity**	**67 BTU/ft/sec**
Flame Length	**38.8 Feet**	**Flame Length**	**3.1 Feet**

Fires burning on the southern slope in SCAL18 fuels show nearly identical rates of spread as along the eastern exposure under the same Santa Ana 60 mph wind conditions, 221.7 ft/min on the north facing slope versus 221.2 ft/min on the west facing slope. The north facing slopes are not under full alignment with the wind direction, thereby not combining the critical elements of wind and slope and increasing the fires rate of spread.

Fires burning towards the project site with more typical southwest winds show similar results; lower rates of spread, flame lengths and fire intensity in treated fuel than in the native fuel types that have been untreated. However, based on weather data from the Valley Center RAWS station, Behave calculations indicate that for a short period of time while the Santa Ana winds are breaking down, there is a critical time period with strong, gusty southwest winds that would threaten the site without fuel treatments. Table 3.3 indicates fire behavior under southwest winds conditions during the critical time period where strong winds rapidly change direction, firefighting operations and the threat to life and property reach extreme levels. A fire in the treated areas with reduced fuel volumes in the SCAL 18 fuels will have a much-reduced rate of spread, 41.4-feet/minute as compared to untreated areas, 177.3-feet/minute where the shrub volumes are not reduced through regular treatments. Moving at a rapid rate of spread through the SCAL18 fuel model, the potential for wildfire exposure to the site during the initial southwest wind condition following the strong, east winds associated with the Sana Ana weather

pattern, is much greater than a wildfire burning in Fuel Modification Zones 2 & 3 where the fuels have been treated.

TABLE 3.3
A Comparison of Fire Conditions Under 40 mph Southwest Wind Conditions,
Southern Slope
Untreated Versus Treated Fuels
SCAL18 vs. gr1

Untreated Fuels SCAL18		**After Fuel Treatment gr1**	
Rate of Spread	**208.7 ft/min**	**Rate of Spread**	**41.4 ft/min**
Fireline Intensity	**15078 BTU/ft/sec**	**Fireline Intensity**	**67 BTU/ft/sec**
Flame Length	**37.6 Feet**	**Flame Length**	**3.1 Feet**

During periods of high fire intensity and strong, dry winds, convective firebrands have the capability of being transported over great distances. Increased fuel treatments within the project site and along access roads, along with "Ignition Resistant Building Materials" will reduce the potential of firebrands entering the structures or catching exterior components on fire. Accordingly, wind driven embers and radiant heat issues are addressed in this FPP.

4.0 ANALYSIS OF PROJECT EFFECTS

The project demonstrates compliance, or offers the "*same practical effect"'*, with applicable fire regulations, including but not limited to the California Fire Code, California Code of Regulations, and the Escondido Fire Code.

The comprehensive Fire Protection Plan and the project design are consistent with the City of Escondido Planning and Fire Department recommendations including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offers Same Practical Effect.

4.1 Adequate Emergency Services

The ISKCON MUP project is within the response area of the City of Escondido Fire Department. The nearest fire station is Fire Station 7, located at 1220 N. Ash Street, which is slightly over 2 miles from the project site. The anticipated response time is less than 6-minutes. The next closest engine is located at 1808 N. Nutmeg St. approximately 2.5 west of the site. Anticipated travel time is approximately 6-minutes. Fire Station 2, the next anticipated engine to arrive on scene is 3.4 miles southeast of the site located in the eastern portion of the city. The anticipated travel time of approximately 8-minutes is nearly identical with the anticipated travel time for units responding from Fire Station 1 located at 321 N. Quince St. 3.9 miles southwest of the project site. A Battalion Chief is stationed at Fire Station 1 and would respond to all fire alarms in the vicinity of ISKCON.

Fire Station 7 staffing is three personnel covering Engine 137, a Type 1 ALS engine with full-time employees. A rescue ambulance is also based out of Station 7 for emergency medical response (EMS) and transport of patients. Fire Station 3, the second arriving engine, has three full-time personnel covering Engine 133, a Type 1 ALS engine. A rescue ambulance is also available at Station 3 for EMS

calls for service. Engine personnel also cross-staff a Type 3 brush engine for wildland fire incidents. Fire Station 1 or 2 would provide the third arriving engine company, arrival times are nearly identical, and each engine is staffed with three full-time personnel covering a Type 1 engine. Other firefighting resources available in the city and vicinity include additional engines within the City and resources available through Automatic and Mutual Aid agreements. CAL Fire resources including engines, helicopters, air tankers and hand crews are available for fire responses within the Mutual Threat Zone. Additional mutual aid resources may be available from fire agencies throughout San Diego County, however on high or extreme wildland fire danger days there often may be multiple fire starts with multiple engine companies deployed on other incidents.

Despite the relatively close proximity of the nearest fire station, there is no assurance that Engine 137 will be in its station when a wildfire threatens the ISKCON from an ignition outside the community. Engines may respond from other stations further away or from other incidents. The goal of this FPP therefore is to make the structures, property, infrastructure, employees and guests in the ISKCON Temple and residential area as safe as possible until such time as firefighting equipment arrives and/or residents can be evacuated. With the implementation of the fuel modification, ignition resistant construction measures, and other mitigation measures described in this FPP, the ISKCON MUP Project will be provided with a higher degree of protection from wildfire than a majority of existing facilities in the City of Escondido.

4.2 Fire Access

The existing ISKCON site is accessed via eastbound Rincon Avenue. Four main north-south cross streets provide access to Rincon Ave from the north and south. The first intersection is with Conway Drive, a two-lane city street, which is ¼ mile west of the project site. Rincon Ave then intersects Ash Street, a four-lane main thoroughfare approximately ½ mile west of the site. Ash Street travels through the city and becomes Highway 78/San Pasqual Valley Road which takes travelers east into the Julian Mountains. Further west, Rincon Ave. intersects N. Broadway which runs from the northern boundary of Escondido south through the City and ends in south-central Escondido. The fourth main intersection is with Centre City Parkway (CCP), the old Highway 395, a divided, four-lane road through Escondido (See Appendix 'J' Site Plan).

The onsite road network includes a circular access road around the entire religious facility terminating at the single access point off of Rincon Ave. The following are the engineering standards for road widths minimums in the City of Escondido:

- Minimum road width will be 24-feet wide with no parking allowed on either side of the road.
- Minimum road width is 28-feet wide if parking is planned on one side of the road,
- Minimum road width will be 32-feet wide if parking is provided on both sides of the road.

A total of 88 designated parking spaces will be installed along the perimeter of the driveway. Access to the existing structure and to the residence on APN 224-100-73 will be provided with a dedicated utility and residential road easement leading to both sites and the offsite water flume operated by the Vista Irrigation District.

The access road to the ten residential lots will be 36-feet in width with a cul de sac designed with a thirty-eight-foot radius. The road will be maintained to allow for continuation of the current access road easement for utility access. The end of the cul de sac will also have a dedicated access road leading to the primary access to APN 224-100-73 and the Vista Irrigation District flume. This access road, designated as an emergency access driveway, will allow for a looped driveway, providing two access points to the existing residence on site. This driveway will connect with the easement road south of the

Temple parking lot which leads directly to APN 224-100-73. A turnaround will be designed at the junction of the two roads providing a safe location for fire apparatus to turn around, reducing the need for extensive backing.

All fire access roads within the development are required to be all-weather approved surfaces capable of supporting not less than 75,000-pounds. There are no roads within the development with slopes that are equal to or greater than 15%, however, if any future roads exceed 15%, a concrete, heavy broom finish to improve road traction shall replace the asphaltic concrete surface. Slopes may not exceed 20% at any time on roads within ISKCON.

The existing overall length of the access roads from Rincon Ave. to the end of the residential cul de sac is 380-feet, the maximum allowable dead end road length is 800-feet for lots less than 1 acre in size. (See Appendix C, On-Site Road Diagram).

Road maintenance within the ISKCON Temple facility shall be the responsibility of the owner(s) of ISKCON or any subsequent owner(s) and will be financially responsible for the upkeep and maintenance of the access road. The emergency access road shall be maintained by the ISKCON Temple facility to the area where the secondary access road joins with Street "A" at the southern border of the residential development.. The City of Escondido will be responsible for road maintenance on the proposed Street "A" (See Appendix I).

During construction of the facilities, all access roads will be open, and not blocked with construction materials or equipment and access to all fire hydrants will also be maintained at all times.

An entrance gate will be constructed at the entrance to the Temple site. Currently, no entrance gate has been proposed for Street "A", however the proposed gate at the Temple site entrance and any future gate at Street "A" shall meet the Escondido Fire Department and California Fire Code standards for both the width of the gate and key switch access. Any new gate shall be automatic and equipped with an approved emergency key-operated switch overriding all command functions and opening the gate. The gate shall also be equipped with an emergency strobe light sensor(s) or other devices approved by the Fire Marshal, which will activate the gate on the approach of emergency apparatus. Egress from the site through the gate will be made using a tract control-activating device. A battery back-up or manual mechanical disconnect is required in the event of a power failure. The gate shall allow automatic egress without the use of codes or remote devices (e.g. the use of pressure pads, metal detector or infrared sensors).

Road name signs shall comply with City of Escondido, Public Works Department design standard. Signs, postings, red curbs and white stencils shall conform to the requirements of Section 22500.1 of the California Vehicle Code and shall be maintained in perpetuity. Signs or notices shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility.

4.2.1 Evacuation Plan

a. Communicating Wildfire Emergency Alerting

Having an Evacuation Plan provides information necessary to protect life and property. The key to any effective Evacuation Plan is the dissemination of early warnings and useful information. Regional or community evacuation plans can be supported through a number of early warning and information programs. In addition to the information provided by radio and television stations, and the internet, there are several other significant systems

available to keep residents, guests and employees informed about wildfire incidents and evacuation procedures.

- Alert San Diego is a free mass notification system for residents and businesses within San Diego County impacted by, or in danger of being impacted by, an emergency or disaster. Alert San Diego provides urgent notifications about local emergencies by phone, email, and/or text message to residents of the City of San Diego and throughout San Diego County. Additionally, Accessible Alert San Diego provides emergency notifications to residents of San Diego County who are deaf, hard of hearing and deaf/blind. Both systems require the individual resident to register their cell phones, 9-1-1 landline phone numbers are already entered into the system.

- Local TV and radio news outlets in San Diego have agreed to broadcast during traffic and weather segments, the Red Flag situation. A Red Flag Warning is the highest alert. During these times, extreme caution is urged by all residents because a simple spark can cause a major wildfire. A Fire Weather Watch is one level below a warning, but fire danger is still high.

- Finally, emergency personnel may also ride through neighborhoods announcing voluntary or mandatory evacuation through loudspeakers or some communities have sirens such as used for tornadoes in the Midwest.

Other means to keep up awareness during fire season or times of high fire danger can include newsletters, fire dan11,767ger signs at the road entrance indicating the fire danger that day, and notices on bulletin boards especially during red flag warnings.

b. Infirmed or Disabled Populations

Evacuation Plan for infirmed or disabled populations requires, early preparation, specific evacuation methods, and alternate plan for safe sheltering.

Early Preparation should include:

- Maintaining a registry of individuals with disabilities, medical conditions, or mobility issues that may require special assistance during a wildfire evacuation.

- Ensure individuals are informed about the wildfire risks, evacuation routes, and available support.

- Identify accessible routes considering potential roadblocks and fire hazards. Ensure routes are free of debris and accessible by wheelchair, mobility aids, and evacuation vehicles.

- Prepare emergency kits to include medications, oxygen, and necessary medical supplies.

During Wildfire Evacuation:

- Prioritize high-risk individuals with mobility or medical conditions first to ensure they are not left behind in case of worsening fire conditions.

- Provide immediate assistance to assist with transportation, utilizing accessible vehicles and evacuation chairs or carrying individuals who cannot walk.

- Assist those with hearing or visual impairments by providing visual or tactile alerts in addition to auditory alarms.

- Ensure local emergency responders are informed of any individuals requiring special assistance and ensure they are prepared with necessary equipment and personnel.

- Accessible Alert San Diego provides emergency notifications to residents of San Diego County who are deaf, hard of hearing and deaf/blind.

Safe Shelter-in-Place:

- Designate evacuation shelters that are fully accessible with features such as ramps, accessible bathrooms, and medical support.

- In case of smoke, provide masks and oxygen to those who need it, especially for individuals with respiratory conditions or compromised immunity.

c. Temporary Safe Refuge (Shelter-in-Place)

Should wildfire be threatening the development, shelter-in-place is preferred. The determination for which approach to implement will be made with Escondido Fire Department, Police Department, and/or the incident commander overseeing emergency operations.

Shelter-in-place locations near the project have been identified as:

Priority Location – ISKCON Temple
Access: From Rincon Avenue
Total Area: 11,767 (Includes Temple, monks quarters, and bathrooms)
Capacity: 235 people @ 50 square feet/person, 392 people @ 30 sq. ft/person

Alternate Location – Nursery located north of the proposed ISKCON Temple
Access: From Rincon Avenue north of the project site

d. Maintenance and Dissemination of Evacuation Plan

To ensure the effectiveness and accessibility of the evacuation plan, it is crucial to regularly update it and ensure the community is well-informed and prepared. The following is a strategy for maintaining and disseminating the plan to the community:

Plan Maintenance

- Annual Review: Review and update the evacuation plan at least once a year to ensure it remains current with any changes in community infrastructure, demographics, or resources.

- Update Contact Information: Ensure that all emergency contacts, details, including individuals with disabilities or medical conditions, are up to date.

- Infrastructure Changes: Adjust evacuation routes or shelter locations if there have been any significant changes in roads, neighborhoods, or local infrastructure.

- Ongoing Training: Conduct regular training for emergency personnel, first responders, local authorities, and volunteers.

- Simulations: Hold periodic evacuation drills and exercises to ensure members and residents are familiar with the evacuation process.

Community Outreach:

- Awareness Campaigns: Implement ongoing outreach to inform the community about the evacuation plan. This can be done through flyers, posters, and announcements.

- Engage Local Leaders: Partner with community and temple leaders to help disseminate information.

- Website and Social Medial: Create a central online hub where the evacuation plan is accessible to the public. Include downloadable versions of the plans and maps of evacuation routes.

e. Evacuation Target Locations

Per the City Deputy Fire Marshal, evacuation shelter locations vary depending on incident location and severity. However, evacuation shelters are typically located at local schools or recreation/community centers. The nearest school is Escondido High School located approximately 1.7 miles southwest of the site. The nearest community center is Park Avenue Community Center located 3.3 miles southwest of the site.

The City's General Plan Community Protection Element identifies emergency evacuation routes on Page VI-4 (Figure VI-1). The routes shall be used to navigate to the shelter locations as communicated by emergency officials.

f. Community Internet and Cellular Access for Emergency Notification

Identifying community internet and cellular access for emergency notifications is critical to ensuring the success of an evacuation plan, particularly for reaching vulnerable populations during an emergency like a wildfire. Below are considerations for emergency notifications when internet or cellular access may be limited.

- Battery-Powered Communication Devices: In case of power outages, encourage residents to have battery-powered radios and keep batteries for cell phones or other emergency communication devices.

- Hard-Wired Telephone Connections: Maintain hard-wired telephone connection as cellular systems are likely to be overwhelmed or damaged during an emergency.

- Public Address (PA) Systems: Use loudspeaker systems or PA systems to broadcast emergency information.

4.3 Water

The ISKCON water supply will be provided and maintained by the Escondido Water Division. The water system shall be designed and constructed according to the standards set in the City of Escondido's design standards. Currently, a 12-inch water main provides service to project sites along Rincon Ave. The water main directly servicing the Temple site will be a 12-inch looped system traveling around the entire temple site to the connection from the residential area. Water will be distributed through the residential project area through an 8-inch water main. This 8-inch water main will tie into the 12-inch water main servicing the temple site through a connection between lots 9 and 10 by means of a dedicated 15-foot water easement. The required minimum fire flow for the ISKCON Temple site is 1500 gallons per minute at 20 psi.

Currently, there are no fire hydrants within the project area. The nearest fire hydrants are located on Rincon Ave. New fire hydrants shall be installed every 350-feet and shall be marked using "Blue dot" markers. The "Blue dot" markers shall be installed on the pavement to indicate the location of each fire hydrant. Fire hydrants shall be accessible to fire department apparatus by roads meeting the requirements of CFC and the Escondido Fire Code. Chapter 11, Article 2, Division 1 in the Escondido Municipal Code, Dec. 7, 2022. Fire sprinkler connections (FDC) with corresponding post indicator valves shall be located within 40-feet of a fire hydrant. Each FDC shall be marked with a label indicating the corresponding building or area served by the FCD.

4.4 Ignition-Resistant Construction and Fire Protection Systems

The Temple, Residential Hall and single-family homes shall comply with the ignition-resistant construction requirements: California Fire Code (CFC) Sections 3103.2, 3104.3, 3103.9, 3013.10.3 and 3103.12.4. The structures must also meet the California Building Code Section 3114B.1.

The ISKCON owner(s) will be required to maintain the exterior of the property to Zone 0, 1 and 2 Fuel Treatment standards as outlined in Section 4.7 and will keep all roof and rain gutters on Temple Facilities free of leaves, needles and other combustible debris. All firewood and other combustible materials must be properly stored away from all structures so that burning embers falling on or near the structures have no suitable host. The Temple owners must keep all doors and windows in the structures tightly closed whenever a wildland fire is reported in the near vicinity.

4.4.1 Structure Setbacks from Protected Land – Minimum setback from property lines abutting national forests, open space preserves, and designated riparian areas is 100 feet. There are no national forest lands, open space or riparian habitat adjoining the perimeter of the ISKCON property. However several easements have access through the site including an easement to the water flume maintained by the Vista Irrigation District.

4.4.2 Setbacks from Slopes – All single-story structures shall have a minimum setback of 15-feet, measured horizontally, from the top of slopes to the farthest projection of the roof. Single-story structures shall be less than 12-feet above grade. Any two-story structures shall have a minimum setback of 30-feet, measured horizontally, from the top of slopes to the furthest projection of the roof. Structures greater than two-stories in height may be required to have a greater slope setback to be determined by the Escondido Fire Department Fire Marshal.

4.4.3 Structure Setbacks from Property Lines – The minimum setback for buildings and structures from property lines and biological open space easements is 30-feet. When the

property line abuts a roadway, the setback will be measured from the centerline of the roadway. Based on the wildland fire threat to the area, the following mitigation measures should provide a high degree of fire protection for the structures where setbacks of less than 30-feet are found:

- The entire project site will be covered by a robust Fuel Treatment Plan with treatment areas throughout the Temple site and residential areas. Rincon Ave., the main access road to the site from N. Ash Street and N. Broadway, will be treated on the south side of the road twenty feet, and any new or existing trees shall be limbed to provide a vertical clearance of 13'6".
- All homes are fully sprinklered
- The Temple and Residence Hall are fully sprinklered with three new fire hydrants installed around the facility
- Access will be provided on all four sides of the Temple facilities to meet the fire department's hose pull distance requirement

4.5 Defensible Space and Vegetation Management

4.5.1 Off-Site Fire Hazard and Risk Assessment

Plant succession and the climax plant communities must be assessed when considering the wildland fire hazard of a particular property. The vegetation described in section 3.0 is the most likely climax plant community that will exist without human intervention and the one utilized for planning purposes.

Currently, local off-site fuels have been modified due to the impacts of residential construction, ranching, agricultural and recreation uses. Agricultural uses such as citrus and avocado groves are frequently found to the south and east of the site. Nursery fields and shade shelters are located due north of the ISKCON site across Rincon Ave. Several small horse ranches are found along Rincon Ave. east and further north of the site (See Appendix 'J' Site Plan).

Northern Boundary:
The wildland area immediately to the northeast is primarily vegetated with native brush along the west facing slope. Several seasonal creeks dominate the lower elevations with oak and sycamore trees and annual grasses and shrubs along the creek beds. Several structures are interspersed in the wildland intermix area situation on multiple acre parcels. Several of these sites have horses and other farm animals.

Due north of the site is a large commercial nursery that features the propagation of various plants and trees. Further north, several small residential areas are found in San Diego County areas

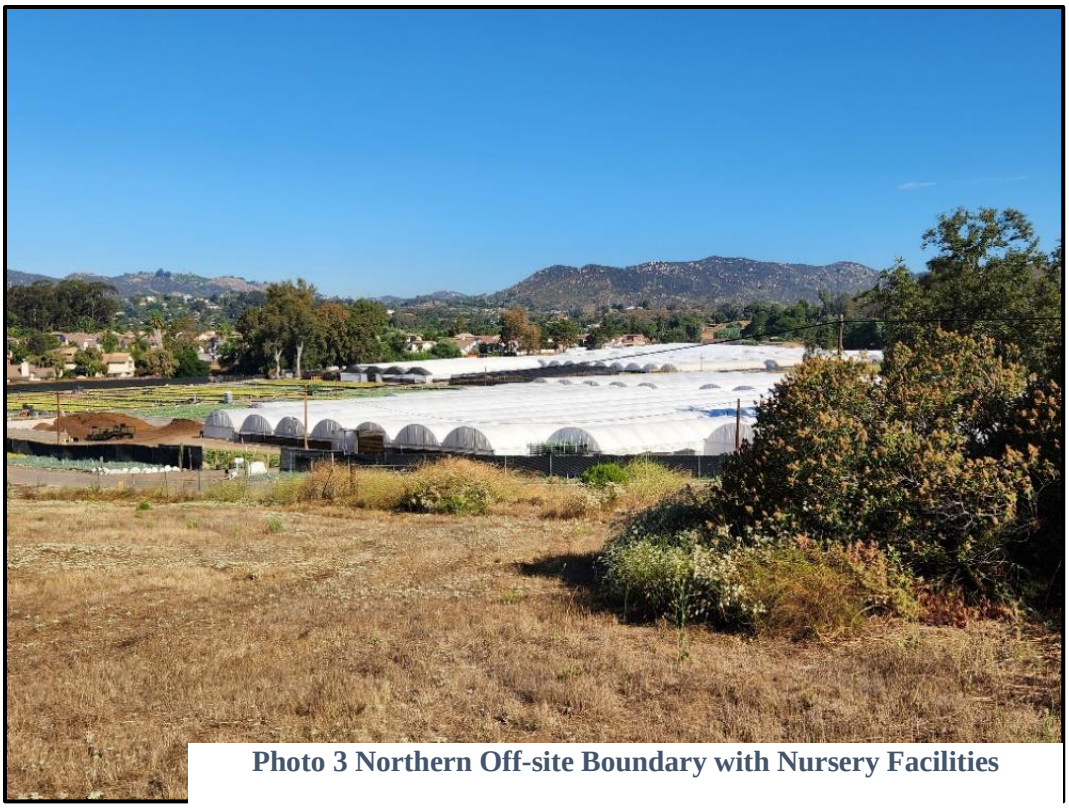

Photo 3 Northern Off-site Boundary with Nursery Facilities

Photo # 4 Eastern Boundary Off-site SCAL18 Fuels

Nearby slopes and ridges are covered with native Coastal Sage Scrub, a fuel type composed of black and white sage, California buckwheat, California Sagebrush, Toyon, Lemonade Berry, these shrubs have adapted to the semi-arid Mediterranean climate of Southern California. Cacti, succulents and yucca are also found throughout the area. A large accumulation of dead and down fuels is common throughout the area as major wildfires have not occurred in many years in the area.

Eastern Boundary:
The eastern boundary is dominated by steep slopes and drainages that begin in the Daley Ranch conservation area. These west facing slopes are covered with native vegetation consisting of fuel model SCAL18, Coastal Sage Scrub, along the slopes with several seasonal creek beds lined with oak and sycamore trees. . Fuel loading in Coastal Sage Scrub could exceed four-to-five tons per acre for 1-hour fuels, and less than 0.8tons/acre for 10-hour fuels. The most representative plant community is Coastal Sage Scrub and is commonly referred to as Southern California Fuel Model 18 (SCAL 18- sage/buckwheat) for fire behavior planning purposes. Hills and slopes further east (approximately 1-mile) are covered by small tracts of chapparal with SCAL18 remaining the dominate fuel type. Riparian habitat is found near the ponds on the ranch.

A high percentage of these native plants in SCAL18 have developed an abundance of dead material which is typical of Coastal Sage Scrub, normal low-intensity fire occurrence would remove the accumulation of dead and down material

Photo #5 View from Rincon Ave. Looking East Towards Daley Ranch

Southern Boundary:

The southern off-site boundary is a mix of residential homes, orange groves and scattered Coastal Sage Scrub. Mature non-native eucalyptus tree stands that are found throughout the southern off-site area, have large accumulations of highly flammable dead material that has accumulated for many years. Avocado trees have been allowed to die on slopes to the south and light flashy annual fuels along with limbs and stumps from the trees present a fire hazard to the area.

Western Boundary:
The western off-site boundary consists of several residential housing tracts and a few open areas with annual grasses and eucalyptus trees. A few scattered small horse properties are found immediately to the west of the project site. Wildland fuels are rare and found only in small, isolated areas. Educational facilities including primary and secondary schools, a City owned municipal golf course and religious facilities are found off-site. Further west approximately 1 mile is Interstate 15, a major interstate highway.

4.5.2 ***On-Site Fire Hazard and Risk Assessment***

The ISKCON MUP project site is within the City of Escondido, the site has a residence on the property along with ranching facilities. A few scattered oak and eucalyptus trees are found on the site with a narrow band of coastal sage/scrub found along the eastern boundary. The band of coastal sage/scrub continues easterly off-site along a short ridgeline. Wildland fuels on the remainder of the site have previously been treated by mowing to a 2 to 3-inch height.

The southern boundary is composed of a single residence which will be maintained following construction. Oak and eucalyptus trees shall be limbed away from all existing roofs and buildings south of the residence. Immediately off-site, is a single ranch style home that is not a part of the project. The topography has a slight northern aspect, the slope

Photo #6 Northern Boundary Onsite Wildland Fuels

gradually increases to the south. The water flume managed by the Vista Irrigation District flows along the upper boundary line.

The western boundary abuts a residential development , fuels along the boundary have been regularly mowed and little dead and down material is found. An existing power line in the area will be undergrounded within the site reducing a potential fire hazard during strong Santa Ana winds.

Along the northern boundary, wildland fuels have been regularly treated leaving only native and non-native grasses and low growing shrubs. Continued treatment along Rincon Avenue will reduce the threat of a fire starting along the road and moving onsite.

4.6 Vegetative Fuels Assessment/Fire Behavior

The BEHAVE Plus Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem by Patricia L. Andrews and Collin D. Bevins, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE Plus fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six feet off the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE Plus modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. Of these three (3) fire behavior projections, flame length is the most critical in determining structure protection requirements. The FIREWISE 2000, LLC evaluation team used the computer based BEHAVE Plus 6.0.0, Fire Behavior Prediction and Fuel Modeling System to make the fire behavior assessments for the ISKCON MUP Modification project.

Comparisons of computer calculations to observed fire behavior by FIREWISE 2000, LLC wildland fire staff has validated the modeling system for use in wildland planning. Key components of this FPP are the projections of expected wildland fire behavior for the existing native and non-native fuels. Below are the fire behavior calculations for the area surrounding the ISKCON MUP Modification project followed by appropriate mitigation measures.

Three (3) fire scenarios are presented in the tables below: two (2) scenarios based on “worst case” Escondido area fire weather assumptions with 60-mph east winds, and one (1) scenario with weather conditions reflecting the immediate wind change following the breakdown of the Santa Ana weather pattern. During this period of time, relative humidity has not yet increased and begun to affect fire behavior and continues to be very erratic and threatens lives and property. Fuel Model SCAL 18 was used in calculating fire behavior during the east wind conditions in untreated fuels, while gr1 was used to calculate treated fuels. (Table 4.6.1 and 4.6.2). Table 4.6.3 reflects fire behavior in southwest wind conditions without relative humidity recover. Each table displays the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for three (3) separate BEHAVE Plus fire behavior predictions. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel moisture levels typically observed during the local fire season (see Appendix C for actual inputs and outputs).

Table 4.6.1 ***Fire Scenario # 1*** ***(Late Fire Season With 60-MPH Northeast And East Santa Ana Wind Conditions)*** **Fire Approaching from the East**	
Fire Behavior Calculation Input Data • 9 percent slope • 60 mph 20-foot wind speed • 270º aspect from north • 45º wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of……..…2% * 10-Hour Fuel Moisture of……..……3% * 100-Hour Fuel Moisture of....……..……5% * Live Herbaceous Fuel Moisture of…...30% * Live Woody Fuel Moisture of…….....50%
Expected Fire Behavior **Fuel Model SCAL18** **Sage/Buckwheat** with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 349.9 feet/minute	
Fireline Intensity - 16,199 BTU's/foot/second	
Flame Length - 38.9 feet in length	
Expected Fire Behavior in Treated Fuels **Fuel Model gr1** – Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 124.1 feet/minute	
Fireline Intensity - 887 BTU's/foot/second	
Flame Length - 10.2 feet in length	

Table 4.6.2 ***Fire Scenario # 2*** ***(60-MPH Maximum Expected Northeast Wind Conditions)*** **Fire Approaching from the East**	
Fire Behavior Calculation Input Data • 7 percent slope • 60 mph 20-foot wind speed • 270º aspect from north • 45º wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…2% * 10-Hour Fuel Moisture of……..……3% * 100-Hour Fuel Moisture of ……..…….5% * Live Herbaceous Fuel Moisture of…...30% * Live Woody Fuel Moisture of…….....50%
Expected Fire Behavior **Fuel Model SCAL 18** **Sage/Buckwheat** with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 221.4 feet/minute	
Fireline Intensity - 16081 BTU's/foot/second	
Flame Length - 38.7 feet in length	
Expected Fire Behavior in Treated Fuels **Fuel Model gr1** – Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

Table 4.6.3 ***Fire Scenario # 3*** ***(Late Fire Season With 50-MPH Southwest Wind Following East Santa Ana Wind Conditions Breakdown)*** **Fire Approaching from the Southwest**	
Fire Behavior Calculation Input Data • **10 percent slope** • **40 mph 20-foot wind speed** • **90º aspect from north** • **235º wind direction from north**	**Anticipated Fuel Moistures** *** 1-Hour Fine Fuel Moisture of……2%** *** 10-Hour Fuel Moisture of……3%** *** 100-Hour Fuel Moisture of……5%** *** Live Herbaceous Fuel Moisture of…….30%** *** Live Woody Fuel Moisture of…….50%**
Expected Fire Behavior **Fuel Model SCAL 18** **Sage/Buckwheat** with moderate amounts of grass. Flame length moderate to high.	
Rate of Spread - 152.7 feet/minute	
Fireline Intensity - 11,093 BTU's/foot/second	
Flame Length - 32.7 feet in length	
Expected Fire Behavior in Treated Fuels **Fuel Model gr1 –** Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

The fire behavior calculations in Tables 4.6.1 & 4.6.2 predict a maximum rate of spread greatly reduced under the treated fuel conditions with strong east winds. Table 4.6.3 indicates the danger that occurs in the immediate time following the breakdown of a Santa Ana Wind. The table also shows the effect that fuel treatments have on fire behavior and the need for continual treatments in the campground facility. The maximum expected south, and southwesterly wind conditions based on data from the Valley Center RAWS station indicates that while the winds will not be as strong as during a Santa Ana weather pattern, the southwest winds will present a severe hazard to structures, guests, and emergency personnel in untreated fuels. The other factor shown in Table 4.6.3 is the effect when the slope and the wind direction are no longer in full alignment, the rate of spread, fire intensity and flame length will be much less severe.

4.7 Required Fuel Treatment Zones for Buildings, Structures and Access Roads

Projects located in Hazardous Fire Areas shall include fuel treatment within Fuel Modification Zones (FMZ) surrounding all structures that are greater than 250 square feet in size. The City of Escondido Fire Code stipulates that the FMZ's be a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified. (See Appendix "C" Fuel Modification Zone Exhibit).

Fuel Treatment Zone Exceptions:

- Single specimens of trees or other vegetation that are well-pruned and maintained
- Grass and other vegetation located more than 50-feet from the structure and less than 18 inches in height above the ground

- All ornamental landscaping that is consistent with the customized San Diego County Wildland Interface plant list (See APPENDIX 'A'*)*

Maintenance of fuel treatment zones is highly important. Latham (1989) found that ember ignitions of surface fuels were primarily a function of ground fuels, especially litter depth. Also imporant to ignition of a ground fuel is moisture content, size of the litter material, as well as the mineral content of the dead vegetation. To the benefit of the owners, surface fires burn with less intensity, and spread more slowly than an aerial fuel.

The descriptions and required treatments for FMZ's are described below. All distances in this report are measured horizontally and are depicted on the Fuel Treatment Zone Map included herein (See Appendix "C"). The responsibility for the fuel treatments defined below shall remain with the ISKCON owner and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the ISKCON will be responsible for such maintenance. Should the property owner not voluntarily maintain the property according to the fuel treatments guidelines in this FPP, the EFD will provide written notice of abatement and require completion of the removal of annual grasses, and dead and down fuels accumulated on the site. Rather than specifying a specific time period, the EFD will require abatement as needed.

There are three basic fuel modifcation zones required for the ISKCON Temple and residential sites; a non-combustible zone 5-feet from the exterior wall surface with only hardscape and limited plantings, an irrigated zone 5-50-feet in width; and a 50% thinning zone, 50-feet in width, for a total of 100-feet of fuel treatment on these lots. In many cases, the required fuel modification zones are interlinked to adjacent buildings. This results in a total of 100-feet of fuel modification for the developed areas of the Temple and residential structures.

Fuel Modification Zone 0 - Owners Responsible - (Shown as Clear on the Fuel Modification Zone Map)

Defined:
Zone 0 comprises the first 5-feet around a structure (front, back and side yards) and is commonly called the Immediate Zone. The use of mulch and other combustible materials is prohibited within Zone 0.

Required Landscaping:

- Zone 0 will be composed of hardscaping, either concrete, gravel, rock, or pavers surrounding the perimeter of each structure.
- Limited irrigated fire-resistant plantings approved by the Escondido Fire Marshal may be permitted within the zone.
- All plant material must be selected from an approved drought tolerant, fire-resistant list.

Required Maintenance:

- Homeowner is responsible for individual homesite, ISKCON is responsible for Temple site.
- Maintenance shall be year-round by the building/property owners and any subsequent owner according to the requirements listed in this FPP.
- Any allowed plant material in Zone 0 must be kept trimmed at 6-inches in height.
- Combustible materials such as flammable mulch and firewood shall not be allowed within the zone.

- All branches within 10-feet of any chimney or stovepipe must be removed.
- Existing structures will be modified to remove flammable materials such as dead trees and shrubs, stacked firewood and mulch from Zone 0.

Fuel Modification Zone 1 - Homeowner is Responsible for Individual Homesite, ISKCON is Responsible for Temple Site - (Shown as Green on the Fuel Treatment Map)

Defined:

Zone 1, the Intermediate Zone, is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. Zone 1 consists of the area from 5-50' from the exterior wall surface extending out in a horizontal plane.

Required Landscaping:

- Zone 1 planting, low growth, drought tolerant and fire resistive species, from the San Diego County Approved plantings list are permitted. (See Appendix A).
- Landscaping shall be primarily consisting of fire resistant, maintained native or ornamental plantings usually less than 18-inches in height.
- The height of plants shall not be taller than 6" adjacent to Zone 0 to a maximum of 18" at the intersection of Zone 2.
- Newly planted trees shall not exceed 30' in height and be approved by the Escondido Fire Marshal.
- Newly planted materials in this Zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress, or juniper species. Thick, succulent, or leathery leaf species with high moisture content are the most "fire resistant". Refer to APPENDIX 'A' County of San Diego's Desirable Plant List and APPENDIX 'B' for prohibited plants for plant selection.
- Non-flammable concrete patios, driveways, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.
- All newly planted trees must be sited so that when they reach maturity the tips of their branches are at least 10 feet away from any structure, 20 feet from the crown of an adjacent tree, and must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree.

Required Maintenance:

- The maintenance responsibility for Zone 1 treatment areas within the residential areas will be the responsibility of the homeowner or HOA. The maintenance of Zone 1 areas surrounding the ISKCON Temple will be the owners of the Temple facility.
- Shrubs and trees are to be annually maintained free of dead material.
- Existing trees shall be limbed up 5-feet above the roofline and 10-feet away from exterior walls of all existing structures.
- Tree crowns shall be separated by 10-feet on slopes up to 20%, 20-feet or more on slopes from 21 to 40% and 30-feet for slopes over 41% and maintained to keep a separation of 6-feet between the ground fuels (shrubs and groundcovers) and the lower limbs.
- Any newly planted trees shall be irrigated, limbed up to 3 times the height of the understory brush or grasses, or 10-feet, whichever is greater.
- Trees shall be pruned of dead wood, grass understory weed-whipped, and leaf drop removed to prevent large accumulations of dead material under the trees.
- All trees must be maintained to the current ANSI A300 standards [Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)] (www.treecareindustry.org/public/gov_standards_a300.htm).

- Lawns will be irrigated and mowed regularly with clippings removed to prohibit the accumulation of dead grass.
- Firewood shall be neatly stacked and have a minimum of 30-feet of clearance around the firewood storage area.

Fuel Modification Zone 2 - Homeowner is Responsible for Individual Homesite Up to Access Road Treatment Area, ISKCON is Responsible for Temple Site - (Shown as Blue on the Fuel Treatment Map)

Defined:

Zone 2, the Extended Zone, is the area beyond Zone 1, from 50'-100' in a horizontal plane and allows the planting of drought tolerant and fire resistive plant species of moderate height and prohibits the planting of highly combustible native vegetation. It is a non-irrigated thinning zone beginning at the outer edge of Zone 1. Thinning zones are utilized to reduce the fuel load of a wildland area, thereby reducing the radiant and convective heat of wildland fires. The intent is to achieve and maintain an overall 50% reduction of the canopy cover spacing and a 50% reduction of the original fuel loading by reducing the fuel in each remaining shrub or tree without substantially decreasing the canopy cover or the removal of tree holding root systems.

Required Landscaping:

- Thinning the native vegetation to a point where 50% open space is created;
- Removal of all dead, woody debris, and exotic flammable vegetation.
- Allowances for the needs of protected species and habitats will be considered in this zone;
- No combustible construction or materials are allowed in Zone 2.

Required Maintenance:

- The maintenance responsibility for Zone 2 treatment areas within the residential development will be the responsibility of the homeowner or HOA.
- The maintenance of Zone 2 areas surrounding the ISKCON Temple will be the owners of the Temple facility.
- Maintenance will be ongoing throughout the year as needed.
- Fire codes require that all existing or planted trees located within Zone 2 be pruned to 6-feet above ground level.
- Any newly planted trees shall be irrigated.
- Low growing plants and shrubs will be maintained to preserve vertical and horizontal spacing. This action is necessary to make sure that any wildland fire pushed by high winds toward the project through any trees and shrubs in Zone 2 will unlikely become a crown fire. The removal of understory vegetation will reduce the potential for a ground fire to move from the ground to the shrubs into the tops of trees like a ladder, which will also reduce fire intensity and ember production.
- Native annual and perennial grasses will be allowed to grow and produce seeds during the winter and spring. As grass begins to cure (dry out), they will be cut to 4-inches or less in height.

Access Roads – Owners Responsibility - (Shown as Orange on the Fuel Treatment Map)

Twenty feet on each side of the private roads shall be maintained to Zone 1 criteria as outlined above. Any trees planted along any road within the development will require a vertical clearance of 13 feet 6 inches (See Appendix C).

Required Maintenance:

- The HOA or homeowner is responsible for maintenance along the access road within the residential area based on terms set out in the HOA agreement signed by individual homeowners.
- ISKCON Temple personnel are responsible for the maintenance around the Temple site access road and the access road south of Street A to Parcel 224-100-73 and back to Temple Drive.

Bio-retention Basin Treatment Areas – Temple Owner Responsibility - (Shown as Purple on the Fuel Treatment Map)

Defined:

Bio-retention basins use vegetation and soil to promote stormwater treatment through filtration and storage. The process involves the removal of contaminants and sedimentation from stormwater runoff. Bioretention basins reduce nutrient export through plant uptake, filtering and sorption. The vegetation within the basin also improves soil infiltration. These basins are maintained to Zone 2 standards. The bio-retention basin at the intersection of Street 'A" and Rincon Ave, in the residential area will be the responsibility of a future Homeowners Association (HOA) with an enforcement mechanism for collection of maintenance fees.

Required Landscaping:

- Thinning of the native vegetation.
- Removal of all dead, woody debris, and exotic flammable vegetation.
- No combustible construction or materials are allowed in the Bio-retention basin areas.

Required Maintenance:

- Maintenance will be ongoing throughout the year as needed.
- Low growing plants and shrubs will be maintained to a height of 18"or less.
- Native annual and perennial grasses will be allowed to grow and produce seeds during the winter and spring. As grass begins to cure (dry out), they will be cut to 4-inches or less in height.

Zone Markers (See Appendix 'F')

All exterior boundaries of Fuel Management Zone 2 shall be permanently marked on the ground for guiding annual fuel management maintenance and inspection operations. The most reliable markers are steel fence posts with a baked on painted finish. The upper half of the above ground portion of the fence post is then painted a bright "day glow" orange to improve visibility. These Fuel Treatment Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker.

4.8 Cumulative Impact Analysis

The combination of San Diego County's weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was evident in the devastating Cedar, Paradise, and Otay Fires of October 2003, the Witch Creek and Rice Fires of November 2007, and most recently, the Lilac Fire in 2017.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of Escondido and San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. The risks associated with this project, the construction of a religious facility and residences within the facility, and the 10 single family homes off of Rincon, will not be significantly increased with the design of the project and improvements to the local infrastructure. A slight

increase in visitors to the area during religious services may occur, but the removal of flammable fuels, improved fire hydrant and water systems and realignment of Rincon Ave., should lesson the impacts of the construction. A significant portion of the property will remain undisturbed and help reduce the impact of people in the area.

The approval of this proposal and any future development proposals in the area will increase the concern of wildland fires as the area becomes more urbanized. However, with the Daley Ranch preserve less than 1-mile east of the site, the density of development in the hilly area will remain relatively low. A number of properties within the area have current fuel modification and weed abatement requirements of the City of Escondido.

5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Mitigation measures and design considerations improve the overall safety of the ISKCON Property. The following list describes these mitigation measures.

1. Mitigation measures for the general Temple and residential areas include:
    - Removal of dead trees and shrubs around existing home northeast of Easement 20 2003-164245;
    - Installation of a security gate at the Temple site access road with Knox Box keypad, Opticom strobe light or similar fire department approved access system with required entrance gate width;
    - Maintain all fuel treatment zones within Temple site and residential areas by property owners. Zone 0 shall be a minimum of 5 feet directly surrounding all structures. Zone 1 will be from 5’ to 50 feet around each structure. Zone 2 is the area 50 feet to 100 feet around all structures.
    - Maintain and improve, where needed, fuel modification along all access roads, a minimum 20-foot width on both sides of access roads;
    - Limbing of trees, which is the removal of branches from standing trees, from the existing structure on the property site and access roads;
    - Well-planned, effective fuel treatment zones where indicated on the Fuel Treatment Map.

2. Mitigation measures for the north boundary areas include:
    - Well-planned, effective fuel treatment zones where indicated on the Fuel Treatment Map.
    - Realignment of Rincon Avenue to improve Fire Department access and guest, resident and employee egress.

3. Mitigation measures for eastern boundary areas include:
    - Removal of SCAL18 fuels within Zones 1 and 2 on west facing slope;
    - Removal of dead and down material and limbing of trees;
    - Irrigation of manufactured slopes until root systems have been established;
    - Robust fuel treatments zones where indicated on the Fuel Modification Zone Map.

4. Mitigation measures for southern boundary areas include:
    - Trimming trees and shrubs from around site;
    - Removal of dead and down material under eucalyptus trees;

5. Mitigation measures for western bound areas include:
    - Maintenance of existing fuel treatments along Rincon Ave until project construction begins;

5.1 Construction Standards

Any future structures built within the ISKCON MUP area shall be designed and constructed with ignition resistant construction standards and design features as per the current Escondido Building Code. For a summary description of these construction requirements see APPENDIX 'E'.

All new combustible building materials, decks, balconies, patios, covers, gazebos and fences will be permanently prohibited in Zones 0 and 1. These structures and buildings may be allowed if constructed with Fire Resistive materials with the permission of the Escondido Fire Marshal. The owners are not restricted from having concrete patios, or concrete walkways within these zones. Refer to APPENDIX 'D' for photos and descriptions of non-combustible decks, patio covers, and railings.

5.2 Specific Requirements for ISKCON and Single-Family Homes:

1. No combustible materials may be stored beneath any projection, deck, or overhang exposed to wildland fuels.

2. The owner(s) of the Temple facilities and each single-family home will be responsible to keep the roof areas of all buildings including gutters and downspouts free of combustible debris including leaves, limbs, and similar materials.

3. No dumping of trash, yard waste or trimmings is permitted in the fuel treatment zones.

4. The ISKCON owner(s) will be responsible to the Escondido Fire Department Fire Marshal for the ongoing Fuel Modification treatments. This includes the perpetual management of invasive (exotics) and prohibited plant species in any fuel treatment zone within the temple development. The residential homeowners will be responsible for maintaining their individual property to the described fuel treatment standards. The HOA is responsibility for maintenance of fuel treatments within the residential area, these same standards described within this Fire Protection Plan will be required.

5. Upon the sale of the ISKCON facility to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.

5.3 Fuel Treatment Plan Map

Attached to this FPP is the Fuel Treatment Plan Map, which depicts the location of all proposed fuel treatment locations, lot lines, roads, and mitigation measures for the ISKCON MUP. The Fuel Treatment Plan Map is located in Appendix "C".

6.0 CONCLUSION

This FPP evaluated the adverse environmental effects that the project may have from wildland fire and identified means to properly mitigate those impacts to ensure that ISKCON does not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. Zone 0 consists of the first 5-feet from the outer wall edge and is designed to reduce the potential impact of embers igniting flammable materials along the external walls of structures. Zone 1 consists of the area from the outer edge of Zone 0 (5-feet from structure) to an area 50-feet from the outer edge of the structure. Zone 1 provides the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will be a landscaped zone that is permanently irrigated, where applicable, and consists of fire resistant and maintained plantings. Zone 2 is the next 50-100- feet from a structure, includes all manufactured slopes, and provides removal of 50% of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with specific criteria.

- The development will have adequate emergency access in terms of access and roads. The Escondido Fire Department will provide fire and emergency medical services to the area. Nearby fire departments and Cal Fire, through boundary drop and mutual aid, will be available to assist with structure and vegetation fires. The following mitigating factors will help than mitigate the fire threat to the planned community:
  - Quick response times.
  - Fire sprinklers and fire alarms being provided in all new construction, (fire sprinklers are required by California Codes). Existing structures are currently exempt from the fire sprinkler requirement.
  - Improved firefighting water supply throughout the project site.
  - Well maintained fuel modification zones throughout the project site.

7.0 LIST OF PREPARERS, PERSONS & ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is Melvin Johnson, Owner ***FIRE*WISE 2000, LLC**, a San Diego County DPLU Certified Wildland Fire Consultant. Other ***FIRE*WISE 2000, LLC** members contributed to this plan with comments and peer review. These members include Peter Montgomery, Wildland Fire Associate.

7.2 Persons and Organizations Contacted

1. Raab Rydeen — REC Consultants
2. Phil Martin — Phil Martin Associates
3. Jacob Watson — REC Consultants, Project Engineer
4. William O'Gormon — REC Consultants
5. Phil Martin — Phil Martin & Associates

8.0 DEFINITIONS

For the purposes of this Fire Protection Plan, the following definitions apply to the terms used in this document. Where terms are not included, common usage of the terms shall apply.

ASPECT - Compass direction toward which a slope faces.

AUTHORITY HAVING JURISDICTION (AHJ) – An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

CLIMAX VEGETATION - The final stage in ecological plant succession in which a relatively constant environment is reached and species composition no longer changes in a directional fashion, but fluctuates about some mean, or average, community composition.

COMBUSTIBLE – Any material that, in the form in which it is used and under the conditions anticipated will ignite and burn or will add appreciable heat to an ambient fire.

COMBUSTIBLE VEGETATION – Means material that in its natural state will readily ignite, burn, and transmit fire from native or landscape plants to any structure or other vegetation. Combustible vegetation Includes dry grass, brush, weeds, litter or other flammable vegetation that creates a fire hazard.

DEFENSIBLE SPACE – Is an area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

EXTREME FIRE BEHAVIOR – "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One of more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically, sometimes dangerously.

FIRE BEHAVIOR – The manner in which a fire reacts to the influences of fuel, weather and topography.

FIRE HAZARD SEVERITY ZONES – Are geographical areas designated pursuant to California Public Resources Code sections 4201 through 4204 and classified as Very High, High and Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code sections 51175 through 51189. The California Code of Regulations, Title 14, Section 1280 entitles maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FIRE RESISTIVE – Construction designed to provide reasonable protection against fire.

FIRE RESISTIVE PLANTS – Plants that do not readily ignite from a flame or other ignition sources. These plants can be damaged or even killed by fire; however, their foliage and stems do not significantly contribute to the fuel and, therefore, the fire's intensity.

FLAME LENGTH – The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

FUEL MOISTURE – The quantity of moisture in vegetative fuels expressed as a percentage of the weight when thoroughly dried at 212 degrees F.

FUEL MODEL – Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified. Fuel models are utilized in the BehavePlus Fire Model to aid in forecasting fire behavior.

FUEL MODIFICATION – Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

GROUND FUELS - All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood, leaves, peat, or sawdust that typically support combustion.

LADDER FUELS – Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

LIMBING of TREES – the removal of the branches from either standing or downed trees, removing unwanted limbs from standing trees,

MITIGATION – Action that moderates the severity of a fire hazard or risk.

ONE-HOUR FUEL - 1-hour fuels consist of those portions of vegetation that are < 0.625 cm (0.25 in.) in diameter. 1-hour fuels are the most important for carrying surface fires and their moisture content governs fire behavior.

RADIANT HEAT – Transfer of heat in straight lines through a gas or vacuum other than by heating of the intervening space.

RELATIVE HUMIDITY – A weather term, the amount of moisture in the air as a percentage of the maximum the air will hold at a given temperature. The amount of moisture in a given parcel of air expressed as a percentage of the maximum amount that parcel of air could hold at the same air temperature.

REMOTE AUTOMATED WEATHER STATION – Is a combination of sensors, radios and related electronic equipment installed in wildland areas that are designed to monitor the weather and provide weather data that assists land management agencies with a variety of projects such as monitoring air quality, fire danger rating, and providing information for research applications.

SHALL - Indicates a mandatory requirement.

RISK – The measure of the probability of ignition and severity of adverse effects that result from an exposure to a wildland fire (direction flames, radiant heat, or firebrands (embers).

SLOPE – Is the variation of terrain from the horizontal; the number of feet, rise or fall per 100 feet, measured horizontally, expressed as a percentage.

TEN-HOUR FUELS – 10-hour fuels are those portions of plant material that are between (0.625 - 2.5 cm (0.25 to 1 in.) in diameter. Ten-hour fuels are readily consumed when dead fuel moistures are low.

WILDFIRE – Is any uncontrolled fire spreading through vegetative fuels that threaten to destroy life, property, or resources as defined in Public Resources Code sections 4103 and 4104.

WILDFIRE EXPOSURE – One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

WILDLAND-URBAN INTERFACE – The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

9.0 REFERENCES

1. *Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model,* General Technical Report RMRS-GTR-153. June 2005. Joe H. Scott, Robert E. Burgan, United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

2. *Behave Plus Fire Modeling System, Version 6.0.0,* General Technical Report RMRS-GRT-106WWW March 26, 2018. Patricia L. Andrews, Collin D. Bevins, Robert Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

3. County of San Diego 2023 Consolidated Fire Code

4. California Code of Regulations Title 14 section 1280 and Title 24 Part 9

5. California Public Resources Code Sections 4201 through 4204

6. California Government Code, sections 51175 through 51189

7. 2022 California Fire Code portion of the CBSC, including appendices to Chapters 1 & 4 and Appendices B, F & H and Local Amendments

8. 2022 California Building Code, Section 11B and Chapter 7A- *Materials and Construction Methods for Exterior Fire Exposure.*

9. 2021 International Wildland-Urban Interface Code

10. National Fire Protection Association - NFPA 13 Standard for the Installation of Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes, 13-R &13-D, 2022 Editions

11. 2022 California Residential Code (CRC) R337

12. *The California State and Local Responsibility Area Fire Hazard Severity Zone Map*

13. Western Region Climate Center. *Historic Climate Data from Remote Automated Weather Stations.* RAWS USA Climate Archive. Reno, NV. Data for all Remote Automated Weather Stations is available at: http://www.raws.dri.edu/index.html

14. https://www.nwcg.gov/publications/pms437/fuels/surface-fuel-model-descriptions

15. 2022 California Attorney General Rob Bonta 2022 *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act*

16. 2022 National Fire Protection Association - NFPA 1144 *Standard for Reducing Structure Ignition Hazards from Wildfire*.

17. *County of San Diego. Plant List and Acceptable Plants for a Defensible Space in Fire Prone Areas. Department of Planning and Land Use, December 1998*

APPENDIX ‘A’

Recommended Plant List

Appendix A

COUNTY OF SAN DIEGO

ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE IN FIRE PRONE AREAS

ALL NATIVE PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone they are found. Those that grow best in riparian areas, as indicated by the "R", are generally the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen to due to their high-water content, minimum amount of flammable resins and/or low fuel volume.

Firewise2000 Note: The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. Firewise 2000 believes that the planting of species suited to the site is essential to fire management goals and is an environmentally sound practice.

San Diego County
Customized Acceptable Plant List
for the ISKCON Project

No.	Type	Genus	Species	Common Name
1	Annual	Lupinus spp.	Nanus	Lupine
2	Groundcover	Achillea	Millefolium	Yarrow
3	Groundcover	Arctostaphylos spp.		Manzanita
4	Groundcover	Cerastium	Tomentosum	Snow-in-Summer
5	Groundcover	Cotoneaster spp.		Redberry
6	Groundcover	Eschscholzia	Californica	California Poppy
7	Groundcover	Euonymus	fortunei 'Carrierei'	Glossy Winter Creeper
8	Groundcover	Euonymus	fortunei 'Coloratata'	Purple-Leaf Winter Creeper
9	Groundcover	Gaillardia	Grandiflora	Blanket Flower
10	Groundcover	Helianthemum spp.		Sunrose
11	Groundcover	Lasthenia	Californica	Common Goldfields
12	Groundcover	Lasthenia	Glabrata	Coastal Goldfields
13	Groundcover	Lupinus spp.		Lupine
14	Groundcover	Pyracantha spp.		Firethorn
15	Groundcover	Rosmarinus	Officinalis	Rosemary
16	Groundcover	Santolina	Chamaecyparissus	Lavender Cotton
17	Groundcover	Santolina	Virens	Santolina
18	Groundcover	Trifolium	Frageriferum	O'Connor's Legume
19	Groundcover	Verbena	Rigida	Verbena
20	Groundcover	Viguiera	Laciniata	San Diego Sunflower
21	Groundcover	Vinca	Major	Periwinkle
22	Groundcover	Vinca	Minor	Dwarf Periwinkle
23	Perennial	Coreopsis	Grandiflora	Coreopsis
24	Perennial	Coreopsis	Maritima	Sea Dahlia
25	Perennial	Coreopsis	Verticillata	Coreopsis
26	Perennial	Iris	Douglasiana	Douglas Iris
27	Perennial	Kniphofia	uvaria	Red-Hot Poker
28	Perennial	Lavandula spp.		Lavender
29	Perennial	Penstemon spp.		Penstemon
30	Perennial	Satureja	Douglasii	Yerba Buena
31	Perennial	Sisyrinchium	Bellum	Blue-Eyed Grass
32	Perennial	Sisyrinchium	Californicum	Golden-Eyed Grass
33	Perennial	Solanum	Xantii	Purple Nightshade
34	Perennial	Zauschneria	'Catalina' ?	Catalina Fuschia
35	Perennial	Zauschneria	Californica	California Fuschia
36	Perennial	Zauschneria	Cana	Hoary California Fuschia
37	Shrub	Agave	Amorpha fruticose	False Indigobush
38	Shrub	Arbutus	Menziesii	Madrone
39	Shrub	Arctostaphylos spp.		Manzanita
40	Shrub	Atriplex	canescens	Hoary Saltbush
41	Shrub	Atriplex	lentiformis	Quail Saltbush
42	Shrub	Baccharis	pilularis	Coyote Bush
43	Shrub	Baccharis	salicifolia	Mule Fat "R"

44	Shrub	Ceanothus spp.		California Lilac
45	Shrub	Cistus spp.		Rockrose
46	Shrub	Comarostaphylis	diversifolia	Summer Holly
47	Shrub	Elaeagnus	pungens	Silverberry
48	Shrub	Encelia	californica	Coast Sunflower
49	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
50	Shrub	Eriophyllum	staechadifolium	Lizard Tail
51	Shrub	Escallonia spp.		Escallonia
52	Shrub	Feijoa	sellowiana	Pineapple Guava
53	Shrub	Fremontodendron	californicum	Flannelbush
54	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
55	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
56	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
57	Shrub	Garrya	elliptica	Coast Silktassel
58	Shrub	Garrya	flavescens	Ashy Silktassel
59	Shrub	Heteromeles	arbutifolia	Toyon
60	Shrub	Lotus	scoparius	Deerweed
61	Shrub	Mahonia spp.		Barberry
62	Shrub	Malacothamnus	clementinus	San Clemente Island Bush Mallow
63	Shrub	Malacothamnus	fasciculatus	Mesa Bushmallow
64	Shrub	Mimulus spp.		Monkeyflower
65	Shrub	Nolina	parryi	Parry’s Nolina
66	Shrub	Photinia spp.		Photinia
67	Shrub	Prunus	caroliniana	Carolina Laurel Cherry
68	Shrub	Prunus	ilicifolia	Hollyleaf Cherry
69	Shrub	Prunus	lyonii	Catalina Cherry
70	Shrub	Puncia	granatum	Pomegranate
71	Shrub	Pyracantha spp.		Firethorn
72	Shrub	Rhamus	alaternus	Italian Buckthorn
73	Shrub	Rhamus	californica	Coffeeberry
74	Shrub	Rhus	continus	Smoke Tree
75	Shrub	Rhus	trilobata	Squawbush
76	Shrub	Romneya	coulteri	Matilija Poppy
77	Shrub	Rosa	californica	California Wild Rose
78	Shrub	Salvia spp.		Sage
79	Shrub	Sambucus spp.		Elderberry
80	Shrub	Symphoricarpos	mollis	Creeping Snowberry
81	Shrub	Syringa	vulgaris	Lilac
82	Shrub	Teucrium	fruticans	Bush Germander
83	Shrub	Yucca	schidigera	Mojave Yucca
84	Shrub	Yucca	whipplei	Foothill Yucca
85	Tree	Acer	macrophyllum	Big Leaf Maple
86	Tree	Acer	platanoides	Norway Maple
87	Tree	Acer	rubrum	Red Maple
88	Tree	Acer	saccarum	Sugar Maple
89	Tree	Acer	saccharinum	Silver Maple
90	Tree	Alnus	rhombifolia	White Alder "R"
91	Tree	Arbutus	unedo	Strawberry Tree
92	Tree	Cercis	occidentalis	Western Redbud

93	Tree	Cornus	nuttallii	Mountain Dogwood
94	Tree	Cornus	stolonifera	Redtwig Dogwood
95	Tree	Elaeagnus	angustifolia	Russian Olive
96	Tree	Eriobotrya	japonica	Loquat
97	Tree	Gingko	biloba "Fairmount"	Fairmount Maidenhair Tree
98	Tree	Gleditisia	triacanthos	Honey Locust
99	Tree	Juglans	hindsii	California Black Walnut
100	Tree	Lagerstroemia	indica	Crape Myrtle
101	Tree	Ligustrum	lucidum	Glossy Privet
102	Tree	Liquidambar	styraciflua	Sweet Gum
103	Tree	Liriodendron	tulipifera	Tulip Tree
104	Tree	Pistacia	chinensis	Chinese Pistache
105	Tree	Pistacia	vera	Pistachio Nut
106	Tree	Platanus	acerifolia	London Plane Tree
107	Tree	Platanus	racemosa	California Sycamore "R"
108	Tree	Populus	alba	White Poplar
109	Tree	Populus	fremontii	Western Cottonwood "R"
110	Tree	Populus	trichocarpa	Black Cottonwood "R"
111	Tree	Prunus	caroliniana	Carolina Laurel Cherry
112	Tree	Prunus	cersifera ‘Newport’	Newport Purple-Leaf Plum
113	Tree	Prunus	ilicifolia	Hollyleaf Cherry
114	Tree	Prunus	lyonii	Catalina Cherry
115	Tree	Prunus	serrulata ‘Kwanzan’	Flowering Cherry
116	Tree	Prunus	xblireiana	Flowering Plum
117	Tree	Prunus	yedoensis ‘Akebono’	Akebono Flowering Cherry
118	Tree	Quercus	agrifolia	Coast Live Oak
119	Tree	Quercus	engelmannii	Engelmann Oak
120	Tree	Quercus	suber	Cork Oak
121	Tree	Salix spp.		Willow "R"
122	Tree	Ulmus	parvifolia	Chinese Elm
123	Tree	Ulmus	pumila	Siberian Elm
124	Tree	Umbellularia	californica	California Bay Laurel "R"
125	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
126	Vine	Lonicera	japonica ‘Halliana’	Hall’s Honeysuckle
127	Vine	Lonicera	subspicata	Chaparral Honeysuckle

APPENDIX ‘B’

Prohibited/Invasive Plant List

Prohibited/Invasive Plant List

The following species are highly flammable and avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding) may remain as long as the potential for spreading a fire has been reduced or eliminated.

BOTANICAL NAME	COMMON NAME
Abies species	Fir Trees
Acacia species	Acacia (trees, shrubs, groundcovers)
Adenostoma sparsifolium**	Red Shanks
Adenostoma fasciculatum**	Chamise
Agonis juniperina	Juniper Myrtle
Araucaria species	Monkey Puzzle, Norfolk Island Pine
Artemesia californica**	California Sagebrush
Bambusa species	Bamboo
Cedrus species	Cedar
Chamaecyparis species	False Cypress
Coprosma pumila	Prostrate Coprosma
Cryptomeria japonica	Japanese Cryptomeria
Cupressocyparis leylandii	Leylandii Cypress
Cupressus forbesii**	Tecate Cypress
Cupressus glabra	Arizona Cypress
Cupressus sempervirens	Italian Cypress
Dodonea viscosa	Hopseed Bush
Eriogonum fasciculatum**	Common Buckwheat
Eucalyptus species	Eucalyptus
Heterotheca grandiflora**	Telegraph Plant
Juniperus species	Junipers
Larix species	Larch
Lonicera japonica	Japanese Honeysuckle
Miscanthus species	Eulalia Grass
Muehlenbergia species**	Deer Grass
Palmae species	Palms
Picea species	Spruce Trees
Pickeringia Montana**	Chaparral Pea
Pinus species	Pines
Podocarpus species	Fern Pine
Pseudotsuga menziesii	Douglas Fir
Rosmarinus species	Rosemary
Salvia mellifera**	Black Sage
Taxodium species	Cypress
Taxus species	Yew
Thuja species	Arborvitae
Tsuga species	Hemlock

** San Diego County native species

APPENDIX 'B' References:

Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards 2020

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

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www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

Rob Bonta, Attorney General, State of California; *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act*

APPENDIX ‘C’

Fuel Treatment Map

Fuel Treatment Zone Exhibit

Appendix D

Non-Combustible & Fire-Resistant Building Materials

For Balconies, Carports, Decks, Patio Covers and Floors

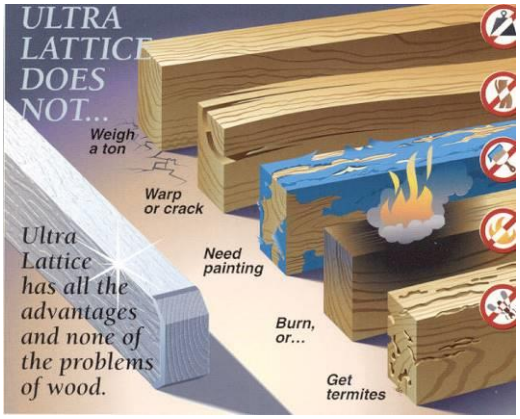
Examples of non-combustible & fire-resistant building materials for balconies, carports decks, patio covers and floors are as follow:

I. **NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS** - *Metals USA Building Products Group - Ultra-Lattice*

Ultra-Lattice Stand Alone Patio Cover

Ultra-Lattice Attached Patio Cover

Ultra-Lattice Solid Patio Cover



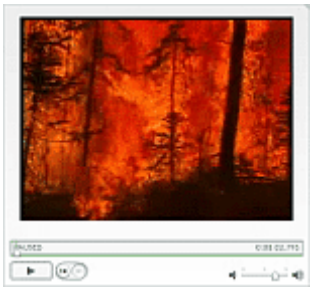
Ultra-Lattice Vs. Wood

I. FRX EXTERIOR FIRE-RETARDANT TREATED WOOD

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where: public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, or fire protection is inadequate or not readily available. The International Building, Residential and Urban-Wildland Interface Codes and regulations, permit the use of fire-retardant treated wood in specific instances. See below for typical exterior uses and typical residential uses.

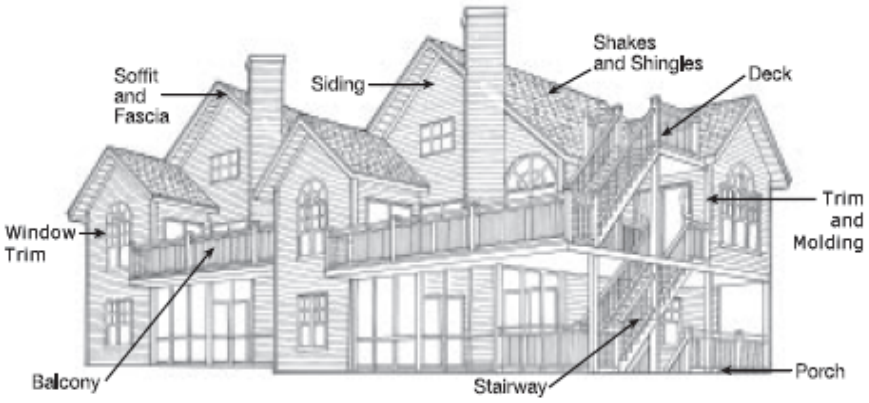
Typical Exterior Uses

- Wall coverings
- Balconies
- Decks
- Stairways
- Fences
- Sheds
- Gazebos
- Roof coverings
- Open-air roof systems
- Canopies and awnings
- Storefronts and facades
- Eaves, soffits and fascia
- Agricultural buildings and horse stalls
- Scaffolding and scaffold planks
- Construction staging
- Various other residential and commercial uses



Property owners and Architects: See this 2-minute video and the illustration below.

Typical Residential Uses



Rising concerns over fire damage and the adoption of urban-wildland interface codes have increased the use of FRT wood in residential structures.

For information on fire retardant treated wood for exterior uses, visit www.frxwood.com.

III. DECKING MATERIALS

Trex Company, Inc. – "Trex Transcend®, Trex Select® and Trex Enhance® wood and polyethylene composite deck board, nominal ranging in size from 1" x 5-1/2" to 1-3/8" x 5-1/2" installed per manufacturer maximum edge-to-edge gap of 3/16". All Trex decking products meet or exceed the SFM 12-7A-4A testing protocol.

Trex combines both beauty and fire defense. A few examples of installations are shown below:

IV. SOLID "WOOD" DECKING

Company Name: Various Manufacturers

Product Description: Solid "Wood" decking, when installed over minimum 2" x 6" solid "Douglas Fire" or better joists, space 24" or less on center, and decking and joints comply with American Softwood Lumber Standard PS2o as follows:

Minimum nominal 5/4"thick and nominal 6" wide decking boards with a maximum 3/8" radius edges made of solid wood species "Redwood", "Western Red Cedar", "Incense Cedar", "Port Orford Cedar", or "Alaska Yellow Cedar" having a Class B Flame Spread rating when tested in accordance with ASTM E84. Lumber grades; construction common, commercial or better grade for Redwood; 3 common, commercial or better grades for Cedars.

V. Vents

CBC, Chapter 7A Regulations for Vents:

Under the code, all ventilation openings for enclosed attics, soffit spaces, rafter spaces, and other openings must be covered with Wildland Urban Interface (WUI) Vents approved and listed by the California State Fire Marshal. This includes gable end, foundation, crawl spaces, garage, eave, soffit, ridge, roof, and dormer vents. Vents listed as CalFire approved must test to ASTM E2886 by complying with all the following requirements:

1. There shall be no flaming ignition of the cotton material during the Ember Intrusion test.
2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
3. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).

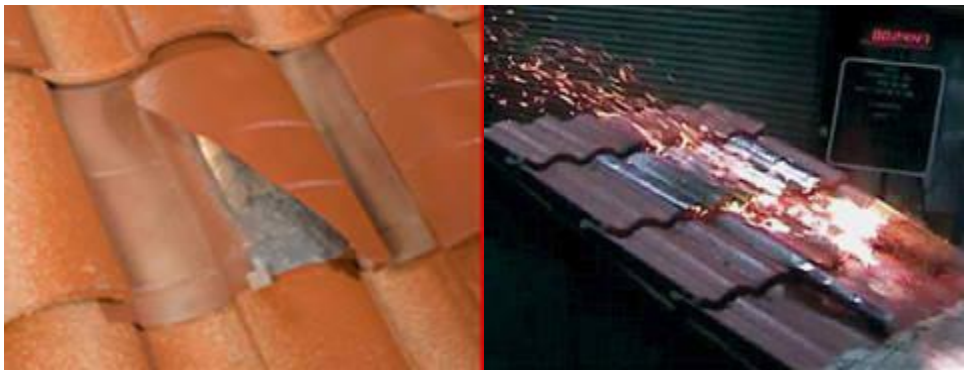
Examples of Ember Resistant Approved Vents

Brandguard

O'Hagin Fire & Ice® Line – Flame and Ember Resistant

An available option for all O'Hagin attic ventilation products, this attic vent not only features all the same design, construction elements and color choices as the O'Hagin Standard Line, but also features

an interior stainless-steel matrix that resists the intrusion of flames and embers. This patent-pending attic vent is accepted for use by many local fire officials for installation in Wildland Urban Interface (WUI) zones.



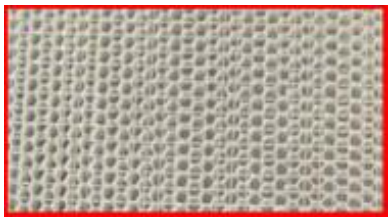
Vulcan Vents

The founders of Gunter Manufacturing worked closely with the scientists and inventors of Vulcan Technologies to bring to market this incredible product.

Combining our quality vent products with the fire-stopping honeycomb matrix core designed by Vulcan has produced unique and remarkable results.

New Cal Metals Inc purchased the product design of Vulcan Vents and continued the over 50 years of combined sheet metal manufacturing experience. Special orders are not a problem. Their vent frames are industry standard frames so there is little or no learning curve for installers and contractors. Their stated goal is to provide people with the vents they need to secure their homes with additional safety against wildfires and give them piece of mind from knowing that their home or structure is protected by a product that works!

The core of their fire and ember safe vents are manufactured out of hi-grade aluminum honeycomb and coated with an intumescent coating made by FireFree Coatings. The intumescent coating is designed to quickly swell up and close off when exposed to high heat. The expanded material acts as an insulator to heat, fire, and embers

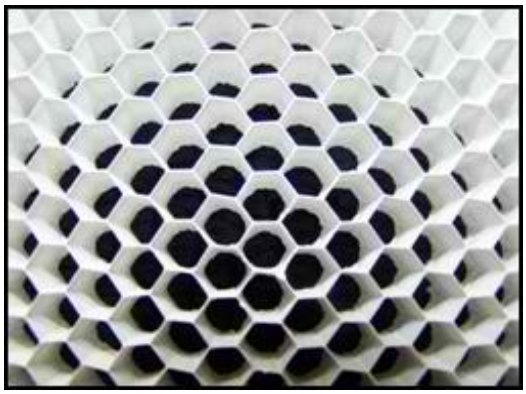


Before

After

After the cells close off, they are extremely well insulated, and fire or embers cannot penetrate.

Even before the cells close off, the vent is designed to protect against flying embers. In many cases embers will attack a structure before fire ever comes near, so this feature is very important.



Close-up of the coated honeycomb matrix.

Fire easily passes through a standard vent, on the left, but stops cold when it comes up against a Vulcan Vent shown on right.

APPENDIX ‘E’

Ignition Resistant
Construction Requirements

Appendix 'E'
Ignition Resistant Construction

The following is a summary of the current requirements for ignition resistant construction for high fire hazard areas under Chapter 7A of the California Building Code (CBC) 2019 edition. However the requirements listed below are not all inclusive and all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the current CBC Chapter 7A ignition resistance requirements, the California Fire Code, and any additional County and/or City codes in effect at the time of building permit application. See the currrent applicable codes for a detailed description of these requirements and any exceptions.

1. All structures will be built with a Class A Roof Assembly and shall comply with the requirements of Chapter 7A and Chapter 15 of the California Fire Code. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

2. Roof valley flashings shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72-pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909, at least 36-inch-wide (914 mm) running the full length of the valley.

3. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall be covered with a minimum of 1/16-inch and shall not exceed 1/8-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection.

4. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to resist the intrusion of flames and embers, be fire stopped with approved materials or have one layer of a minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.

5. Enclosed roof eaves and roof eave soffits with a horizontal underside, sloping rafter tails with an exterior covering applied to the under-side of the rafter tails, shall be protected by one of the following:
    - noncombustible material
    - Ignition-resistant material
    - One layer of $^{5}/_{8}$-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit
    - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section 707A.10 when tested in accordance with the test procedures set forth in ASTM E2957.
- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.
  Exceptions: The following materials do not require protection:
  1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
  2. Fascia and other architectural trim boards.

6. The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:
   - Noncombustible material, or
   - Ignition-resistant material, or
   - One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck, or
   - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association fire Resistance Design Manual.
     Exceptions: The following materials do not require protection:
     1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
     2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
     3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
     4. Fascia and other architectural trim boards.

7. Vents - ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials or other devices that meet one of the following requirements:
   A. Vents listed to ASTM E2886 and complying with all the following:
      i. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
      ii. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
      iii. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
   B. Vents shall comply with all of the following:
      i. The dimensions of the openings therein shall be a minimum of $^{1}/_{16}$-inch (1.6 mm) and shall not exceed $^{1}/_{8}$-inch (3.2 mm).

ii. The materials used shall be noncombustible.
Exception: Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.
iii. The materials used shall be corrosion resistant.

8. Vents shall not be installed on the underside of eaves and cornices.
Exceptions:
1. Vents listed to ASTM E2886 and complying with all the following:
   - There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
   - There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
   - The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
2. The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.
3. Vents complying with the requirements of Section 706A.2 shall be permitted to be installed on the underside of eaves and cornices in accordance with either one of the following conditions:
   3.1. The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or,
   3.2. The exterior wall covering, and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements

9. All chimney, flue or stovepipe openings that will burn solid wood will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, having a heat and corrosion resistance equivalent to 12-gauge wire, 19-game galvanized steel or 24-gage stainless steel. or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks nor block spheres having a diameter less than 3/8 inch (9.55 mm). It shall be installed to be visible for the purposes of inspection and maintenance and removeable to allow for cleaning of the chimney flue.

10. All residential structures will have automatic interior fire sprinklers installed according to the National Fire Protection Association (NFPA) 13D 2019 edition - *Standard for the Installation of Sprinkler Systems in One and Two-family Dwellings and Manufactured Homes*. Fire sprinklers are not required in unattached non-habitable structures greater than 50 feet from the residence.

11. The exterior wall covering, or wall assembly shall comply with one of the following requirements:
   - Noncombustible material, or

- Ignition resistant material, or
- Heavy timber exterior wall assembly, or
- Log wall construction assembly, or
- Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact expose test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.3.1 of the California Building Code, or
- Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.

  Exception: Any of the following shall be deemed to meet the assembly performance criteria and intent of this section including;
  - One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing, or
  - The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Associate Fire Resistance Design Manual.

12. Exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

13. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris within the gutter that contribute to roof edge ignition.

14. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

15. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.

16. Deck Surfaces shall be constructed with one of the following materials:
    - Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726, or
    - Ignition-resistant material that complies with the performance requirements of 704A.3 when tested in accordance with ASTM E84 or UL 723, or
    - Material that complies with the performance requirements of both SFM Standard 12-7A-4 and SFM Standard 12-7A-5, or
    - Exterior fire retardant treated wood, or

- Noncombustible material, or
  - Any material that complies with the performance requirements of SFM Standard 12-7A-4A when the attached exterior wall covering is also composed of noncombustible or ignition-resistant material.

17. Accessory structures attached to buildings with habitable spaces and projections shall be in accordance with the Building Code. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas and exterior wall construction in accordance with Chapter 7A of the Building Code.

18. Exterior windows, skylights and exterior glazed door assemblies shall comply with one of the following requirements:
    - Be constructed of multiplane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
    - Be constructed of glass block units, or
    - Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
    - Be tested to meet the performance requirements of SFM Standard 12-7A-2.

19. All eaves, fascia and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.

20. Detached accessory buildings that are less than 120 square feet in floor area and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2 of the California Building Code.
    Exception: Accessory structures less than 120 square feet in floor area located at least 30 feet from a building containing a habitable space.

21. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.

22. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustable material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

23. Exterior garage doors shall resist the intrusion of embers from entering by preventing gaps between doors and door openings, at the bottom, sides and tops

of doors, from exceeding 1/8 inch. Gaps between doors and door openings shall be controlled by one of the methods listed in this section.

- Weather-stripping products made of materials that:
  (a) have been tested for tensile strength in accordance with ASTM D638 (Standard Test Method for Tensile Properties of Plastics) after exposure to ASTM G155 (Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials) for a period of 2,000 hours, where the maximum allowable difference in tensile strength values between exposed and non-exposed samples does not exceed 10%; and (b) exhibit a V-2 or better flammability rating when tested to UL 94, Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.
- Door overlaps onto jambs and headers.
- Garage door jambs and headers covered with metal flashing.

24. Exterior doors shall comply with one of the following:
    1. The exterior surface or cladding shall be of noncombustible material or,
    2. The exterior surface or cladding shall be of ignition-resistant material or,
    3. The exterior door shall be constructed of solid core wood that complies with the following requirements:
        3.1. Stiles and rails shall not be less than 1-3/8 inches thick.
        3.2. Panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the panel that shall be permitted to taper to a tongue not less than 3/8 inch thick.
    4. The exterior door assembly shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252 or,
    5. The exterior surface or cladding shall be tested to meet the performance requirements of Section 707A.3.1 when tested in accordance with ASTM E2707 or,
    6. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

City of Escondido General Requirements

1. All awnings attached to any structure shall meet the 15-foot structure setback requirement and be identified as fire rated. Additionally, the awning shall be contained in a metal, self-enclosing or box-protected cover.
2. Portable awnings shall have UL Approved Fire-Retardant Rating and be no closer than 20 feet from any combustible structures.
3. The following requirements apply to both pool heating and power supply. Solar panels located less than 20 feet to a combustible structure shall have a metal frame, otherwise the size and type of materials of the entire solar panel system will determine the separation distance to combustible structures. All solar panels placed on a roof top shall comply with the Class “A” roof assembly and materials requirements.
4. Trash enclosures or trash can storage shall be located at least 10 feet or more from any structure. Trash enclosure trellis or roof should be non-combustible or made of heavy timber.

5. Small storage buildings shall be located at least 20 feet from any structure.
6. Clearance too combustibles shall be kept a minimum of 10 feet from any propane tanks or containers.

AUXILLARY STRUCTURES: PAVILIONS, TRELLISES, ARBORS, PERGOLAS, CABANAS, PALAPAS, AND PLAYGROUND EQUIPMENT

Auxiliary Structures are evaluated for a fire event (i.e., type of combustible materials, size of structure, distance from house and intended use). In addition, if structure is more than 50% covered, a Class A noncombustible roof is required.

ATTACHED, AUXILLARY STRUCTURE TO HOME; i.e., Overhead covers and decking not enclosed on three sides:

a. 100-foot Fuel Modification Zone extends from the attached structure perimeter.
b. Maximize the use of non-combustible material. Columns must be non-combustible masonry and/or stucco or pre-cast concrete.
c. Nominal timber size requirements (4”x 6”) for fire resistive construction will be required.
d. Attached structure may not extend into the pre-determined, structure setbacks.
e. Any covered area shall be required to be protected with fire sprinkler system when the dimensions from the wall of the structure to the edge of the covered area exceeds ten feet.

DETACHED, AUXILLARY STRUCTURES LESS THAN 250 SQUARE FEET; i.e., small playground equipment, gazebos, shed, trellis, palapas and arbor:

1. When structure is 250 square feet or less, the 100-foot Fuel Modification Zone extends from the house outwards, not the auxiliary structure.
2. The structures shall be a minimum of 20 feet from other combustible structures.
3. Maximize the use of non-combustible material. Columns must be non-combustible Masonry and/or stucco or pre-cast concrete.
4. Nominal timber size requirements (4”x 6”) for fire resistive construction will be required
5. Structure may not extend into the fuel modification setbacks from top of slope.
6. The canvas awnings for playground equipment shall be identified and maintained, annually, as fire retardant.
7. Structures enclosed on three or more sides may require an automatic fire sprinkler system.
8. All palapas with thatched roofs shall be at a minimum 30 feet from any combustible structure. Roofing materials shall be applied with a fire-retardant chemical. Proof of application and UL rating of fire-retardant chemical shall be provided to Fire District prior to installation of palapas.

DETACHED AUXILLARY STRUCTURES GREATER THAN 250 SQUARE FEET; i.e., large playground equipment (*e.g., King Kong Clubhouse*), guesthouse, cabana, palapas and pool house)

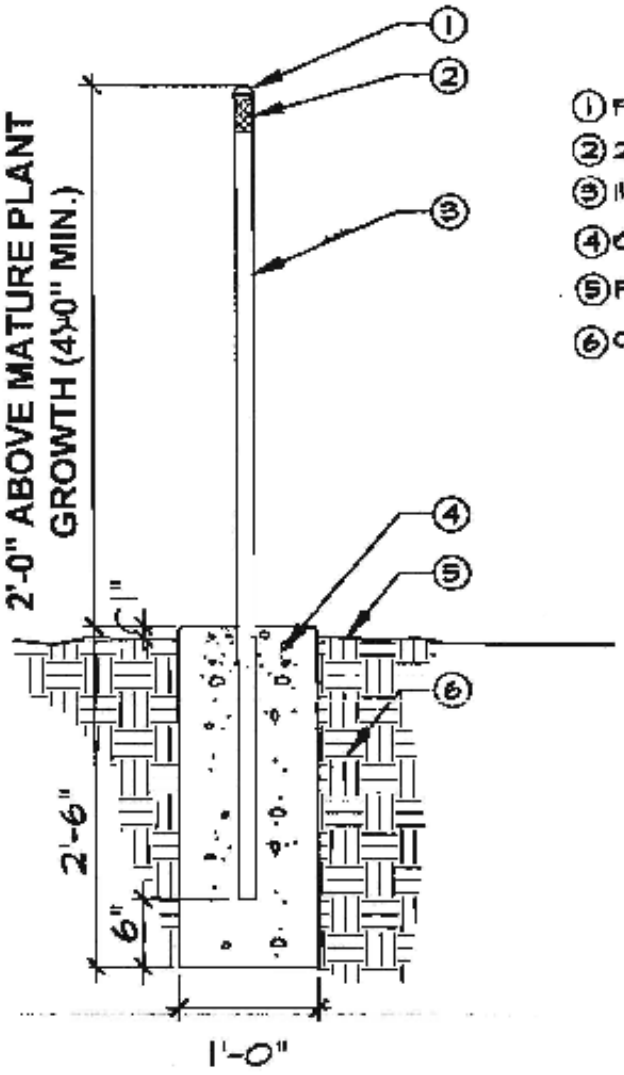
1. When structure is 250 square feet or greater, the 100-foot Fuel Modification Zone extends from the auxiliary structure.
2. The structures shall be a minimum of 30 feet from other combustible structures, unless otherwise permissible by local zoning requirements.
3. Maximize the use of non-combustible material. Columns must be non-combustible Masonry and/or stucco or pre-cast concrete.

4. Nominal timber size requirements (4”x 6”) for fire resistive construction will be required.
5. Structure may not extend into the fuel modification setbacks from top of slope.
6. The canvas awnings for playground equipment shall be identified and maintained, annually, as fire retardant.
7. Structures enclosed on three or more sides may require an automatic fire sprinkler system.10-30-2007 – cfh/ms.

APPENDIX ‘F’

Zone Marker Detail

ZONE MARKER DETAILS



1. POST CAP
2. 2"X8" ZONE INDICATOR
3. 1½" DIA. GALV. POST.
4. CONC. FTG. 2500 PSI @ 28 DAYS.
5. FINISH GRADE.
6. COMPACTED SUBGRADE

APPENDIX ‘G’

Behave Plus 6.0.0 Fire Behavior Calculations

Inputs: SURFACE

Description: ISKCON Fire Northeast Wind Untreated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model		SCAL18

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	60
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	45

Terrain

Slope Steepness	%	9
Site Aspect	deg	270

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON Fire Northeast Wind Untreated, East Exposure

Head Fire

Surface Fire Rate of Spread	221.2	ft/min
Surface Fireline Intensity	16067	Btu/ft/s
Surface Fire Flame Length	38.7	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description: ISKCON Fire Northeast Wind Treated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model		grl

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	60
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	45

Terrain

Slope Steepness	%	9
Site Aspect	deg	270

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON Fire Northeast Wind Treated, East Exposure

Head Fire

Surface Fire Rate of Spread	41.4	ft/min
Surface Fireline Intensity	67	Btu/ft/s
Surface Fire Flame Length	3.1	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description		ISKCON North Wind Untreated, South Slope

Fuel/Vegetation, Surface/Understory

Fuel Model		SCAL18

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	60
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	90

Terrain

Slope Steepness	%	9
Site Aspect	deg	180

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON North Wind Untreated, South Slope

Head Fire

Surface Fire Rate of Spread	221.7	ft/min
Surface Fireline Intensity	16102	Btu/ft/s
Surface Fire Flame Length	38.8	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description		ISKCON North Wind Treated, South Slope

Fuel/Vegetation, Surface/Understory

Fuel Model		gr1

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	
100-h Fuel Moisture	%	
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	

Weather

20-ft Wind Speed	mi/h	60
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	90

Terrain

Slope Steepness	%	9
Site Aspect	deg	180

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON North Wind Treated, South Slope

Head Fire

Surface Fire Rate of Spread	41.4	ft/min
Surface Fireline Intensity	67	Btu/ft/s
Surface Fire Flame Length	3.1	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description		ISKCON Southwest Wind Untreated North Facing Slope

Fuel/Vegetation, Surface/Understory

Fuel Model		SCAL18

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	220

Terrain

Slope Steepness	%	9
Site Aspect	deg	180

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON Southwest Wind Untreated North Facing Slope

Head Fire

Surface Fire Rate of Spread	144.6	ft/min
Surface Fireline Intensity	10451	Btu/ft/s
Surface Fire Flame Length	31.8	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description		ISKCON Southwest Wind Treated North Facing Slope

Fuel/Vegetation, Surface/Understory

Fuel Model		gr1

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	220

Terrain

Slope Steepness	%	9
Site Aspect	deg	180

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

ISKCON Southwest Wind Treated North Facing Slope

Head Fire

Surface Fire Rate of Spread	41.4	ft/min
Surface Fireline Intensity	67	Btu/ft/s
Surface Fire Flame Length	3.1	ft
Wind Adjustment Factor	0.30	

APPENDIX ‘H’

Will Serve Letter
Water Availability

Project Water Availability Letter

ESCONDIDO
City of Choice

Jimmy Nagle
Engineer I
1501 S. Hale Avenue, Escondido, CA 92029
Phone: 760-839-6290 X 7033

August 21, 2023

Dhiru Tantod
10707 El Caballo Ave
San Diego, CA 92127

Subject: Will Serve letter for the ISKCON Temple – Rincon Avenue (APN 224-100-84, 224-100-85)

Dear Sir or Madam:

The City of Escondido (City) received a request for a will-serve letter for the ISKCON Temple (APN 224-100-84, 224-100-85). The project consists of splitting the parcel into 10 lots for single family dwellings with driveway access, and access road and cul-de-sac. The remaining lot is being proposed as a religious temple hall with living area, patio, detached restrooms, parking lot, and driveway. There are existing City public sewer facilities located in streets adjacent to the sites. The following conditions of approval must be satisfied prior to obtaining sewer and water service from the City:

1. The project shall be required to design and construct any onsite and offsite public sewer and water infrastructure necessary to serve the project in accordance with the City of Escondido Design Standards and Standard Drawings.
    a. Extend public 12" water main and 8" sewer main from existing utility mains located on Rincon Avenue. Manholes will be required and sewer main shall end in a cleanout.
    b. Proposed water main located on private drive "A" will be required to be looped to proposed Temple site water main. Water mains shall be sized based on fire flow requirements.
    c. Provide a min 20-foot PUE for future sewer main extension and a private sewer lateral easement outside of the PUE for APN 224-100-73.
2. An all-weather, Vactor-truck drivable and accessible public utility easement shall be granted to the City for all proposed public sewer, including manholes. The minimum easement width shall be 20-feet, or the full width of the private easement road, whichever is greater. No private utilities/private infrastructure shall be allowed within the public utility easement.
3. Plans for the proposed public sewer and water systems shall be submitted to the City for review and approval.

If you have any additional questions, please feel free to contact me at (760) 839-6290 X 7033.

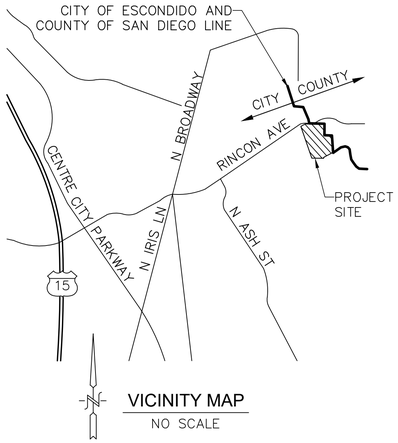
Sincerely,

Jimmy Nagle
Engineer I

APPENDIX ‘I’

Site Plan

TENTATIVE MAP
FOR
ISKCON OF ESCONDIDO.INC



VICINITY MAP
NO SCALE

SCOPE OF WORK:

PROPOSED SUBDIVISION OF EXISTING PARCELS INTO ELEVEN (11) PARCELS WITH TEN (10) LOTS FOR SINGLE FAMILY DWELLINGS WITH DRIVEWAY ACCESS, AN ACCESS ROAD AND CUL-DE-SAC. AND ONE (1) LOT FOR THE PROPOSED NEW DEVELOPMENT INCLUDING THE CONSTRUCTION OF A RELIGIOUS TEMPLE, HALL WITH LIVING AREA, PATIO, DETACHED RESTROOMS, PARKING LOT, AND DRIVEWAY.

GRADING QUANTITIES

CUT	30,000 CY	MAX CUT = 17.4'
FILL	30,000 CY	MAX FILL = 25.1'
NET	BALANCE	

TOPO SOURCE

TOPOGRAPHIC CONTOURS PROVIDED BY REC CONSULTANTS DATED 6-16-2022

SEWER NOTE

ALL LOTS ARE TO BE ON THE PROPOSED SANITARY SEWER SYSTEM THAT SHALL CONNECT TO THE EXISTING PUBLIC SEWER MAIN.

PROJECT AREA CALCULATIONS:

	RESIDENTIAL	TEMPLE
EXISTING PARCEL AREA:	182,961 SF	886,148 SF
PROPOSED PARCEL AREA:	182,968 SF	886,141 SF
EXISTING PERVIOUS AREA:	182,961 SF	863,888 SF
EXISTING IMPERVIOUS AREA:	N/A	22,260 SF
PROPOSED PERVIOUS AREA:	143,600 SF	796,007 SF
PROPOSED IMPERVIOUS AREA:	39,368 SF	90,134 SF
PROPOSED BUILDING AREA:	N/A	11,767 SF
ASSEMBLY AREA:	N/A	6,221 SF
MONKS QUARTERS:	N/A	4,733 SF
BATHROOM AREA:	N/A	813 SF
BUILDING CONSTRUCTION TYPE:	N/A	TYPE V (TEMPLE)

Parcel Area Table

Parcel #	Area (Net)	Ave. Width
1	12,069 SqFt 0.28 Ac	84'**
2	13,726 SqFt 0.32 Ac	92'**
3	12,496 SqFt 0.29 Ac	89'**
4	12,771 SqFt 0.29 Ac	81'**
5	24,056 SqFt 0.55 Ac	155'*
6	19,702 SqFt 0.45 Ac	136'*
7	11,528 SqFt 0.26 Ac	84'**
8	11,894 SqFt 0.27 Ac	81'**
9	12,555 SqFt 0.29 Ac	86'**
10	12,765 SqFt 0.29 Ac	90'**
11	861,804 SqFt 19.78 Ac	N/A

* MEETS CODE REQUIREMENTS

** LOT WIDTH DEVIATION INCLUDED IN THE AFFORDABLE HOUSING MODIFICATION REQUEST

REGISTERED PROFESSIONAL ENGINEER
JONATHAN RAAB RYDEEN
RCE ~ 64811
CIVIL
STATE OF CALIFORNIA

ENGINEER

JONATHAN RAAB RYDEEN

LEGAL DESCRIPTION

PARCELS A AND B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. SUB14-0004, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. SUB14-0017, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 7, 2014 AS DOCUMENT NO. 2014-0487232 OF OFFICIAL RECORDS

OWNER / APPLICANT DEVELOPER:

ISKCON OF ESCONDIDO, INC.
ATTN: DHIRU TANTOD
10707 EL CABALLO AVENUE
SAN DIEGO, CA, 52127
(858) 344-0892

I (WE) HEREBY CERTIFY THAT I (WE) AM (ARE) THE RECORD OWNER OF THE PROPERTY SHOWN ON THE TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS ALL MY (OUR) CONTIGUOUS OWNERSHIP IN WHICH I (WE) HAVE ANY DEED OR TRUST INTEREST. I (WE) UNDERSTAND THAT MY (OUR) PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS-OF-WAY.

(SIGNTURE)

SITE ADDRESS:

1315 & 1356 RINCON AVENUE ESCONDIDO, CA 92026

ASSESSOR'S PARCEL NO.:

224-100-84, 224-100-85

ZONING:

EXISTING: RE-20
PROPOSED: RE-20

DENSITY YIELD CALCULATIONS

EXISTING SLOPE AREAS ~ TOTAL RESIDENTIAL PROPERTY (4.198 Ac GROSS)*					
Number	Minimum Slope	Maximum Slope	Area (Ac)	Dwelling Units per Acre	Allowable Dwelling Units
1	0.00%	25.00%	4.129	2.0	8.26
2	25.00%	35.00%	0.069	1.0	0.07
3	35.00%	100+	0.000	1.0/20Ac	0.00
				Total Allowable Units	8.33

PROPOSED RESIDENTIAL LOTS = 10
AN AFFORDABILITY DENSITY BONUS HAS BEEN APPLIED FOR UNDER THIS MAP.

PARKING REQUIREMENT CALCULATIONS

MAIN TEMPLE BUILDING (6,221 TOTAL SF)
- TEMPLE ASSEMBLY AREA (USED FOR SERVICES AND MEAL AFTER SERVICE) 3,322 SF AT 1:100 SF RATIO (33.22 SPACES REQUIRED)
- ALTER – 658 SF AT 1:100 SF RATIO (6.85 SPACES REQUIRED)
- SERVICE AREA – 1,114 SF (USED BY MONKS FOR PREPARATION NOT FOR PUBLIC ASSEMBLY PURPOSES) PARKING NOT REQUIRED
- MEETING ROOM – 186 SF AT 1:100 SF PARKING RATIO (1.8 PARKING SPACES REQUIRED)
- REMAINING SPACES TYPICALLY SUPPORT SPACES AND NOT USED FOR PUBLIC ASSEMBLY (ENTRANCE LOBBY, STORAGE/SOUND ROOM, FOOD PREP, RISE ROOM, STORAGE, SERVICE, ETC.)

TOTAL PARKING REQUIRED MAIN TEMPLE – 41.93 SPACES

BUILDING B MONKS RESIDENCE AND ACCESSORY SPACES (5,166 TOTAL SF)
- 4 BEDROOMS (1 PER 2 SPACES) 2 PARKING SPACES REQUIRED
- YOGA – 434 SF AT 1:100 SF RATIO (4.34 SPACES REQUIRED)
- OFFICE – 100 SF AT 1:300 SF RATIO (0.33 SPACES REQUIRED)
- GIFT SHOP – 184 SF AT 1:250 SF RATIO (0.76 SPACES REQUIRED)
- DINING – IF USED BY GENERAL PUBLIC
- HALL – 1,247 USED FOR ACCESS TO VARIOUS SPACES, BUT NOT FOR GENERAL PUBLIC EVENTS? PARKING WOULD NOT BE NECESSARY IF NOT USED BY PUBLIC FOR ASSEMBLY PURPOSES
- DINING – 572 SF – IF USED BY PUBLIC 1:100 RATIO (5.72 SPACES REQUIRED)
- REMAINING ACCESSORY AREA NOT USED BY THE GENERAL PUBLIC INCLUDE: STORAGE, KITCHEN, RESTROOMS, ETC.

TOTAL PARKING REQUIRED BUILDING B (HALL) – (13.12 SPACES REQUIRED)

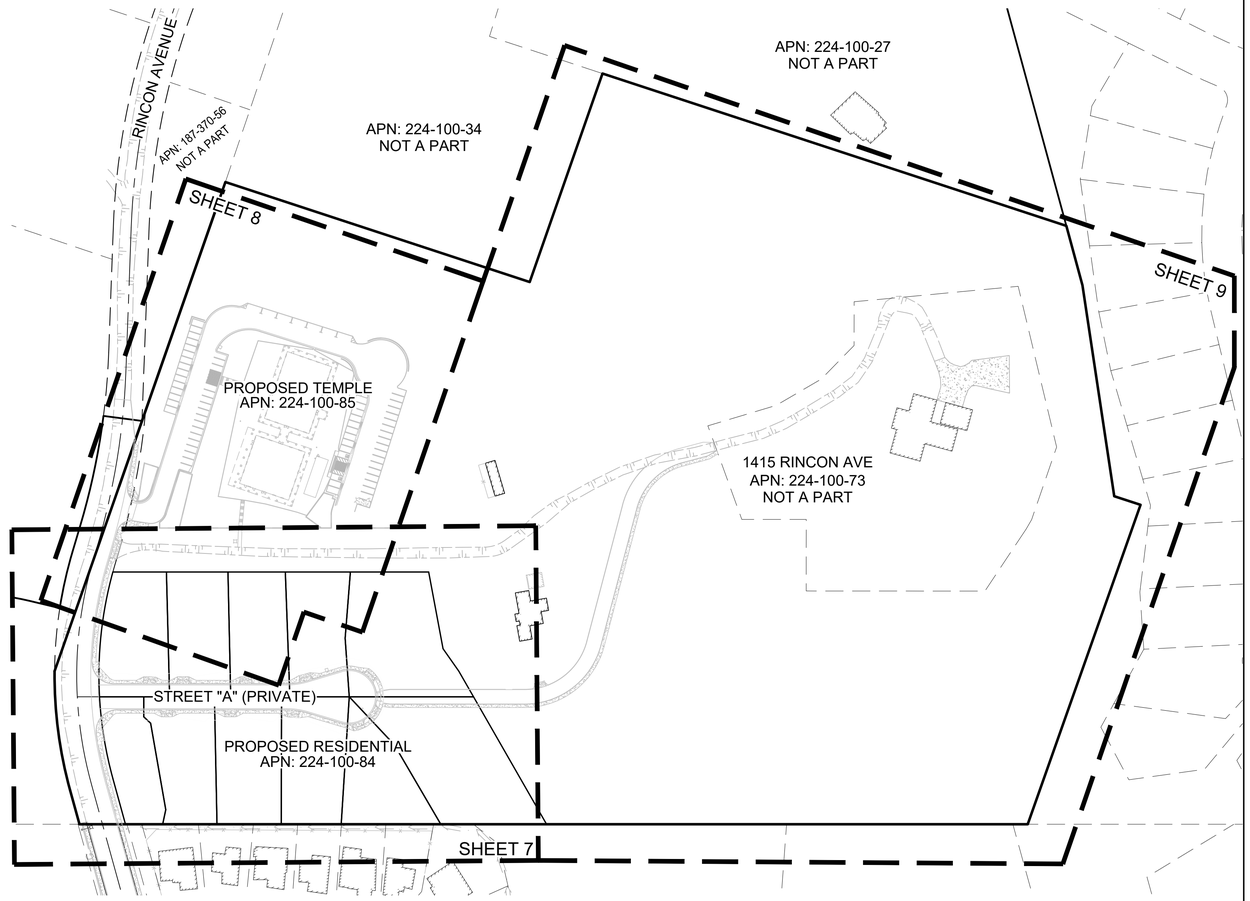
TOTAL PARKING ENTIRE PROJECT – 41.93 PLUS 13.12 = 55 SPACES

PROPOSED PARKING INFORMATION (RESIDENTIAL):

REQUIRED: 2 CAR GARAGE OR CARPORT REQUIRED FOR EACH UNIT PER SINGLE FAMILY RESIDENCE
PROPOSED: 10 LOTS X 2 SPACES = 20 SPACES

PROPOSED PARKING INFORMATION (TEMPLE):

PROPOSED: 55 REQUIRED PARKING SPACES
PROPOSED 70 STANDARD PARKING SPACES
PROPOSED 2 ADA PARKING SPACES



KEY MAP:
SCALE: 1"=100'

SHEET LIST

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	STREET SECTIONS AND DETAILS
3	KEY MAP
4-5	LOT DIMENSIONS
6	PROJECT BOUNDARY AND EASEMENTS
7	RESIDENTIAL SITE
8	TEMPLE SITE
9	ACCESS AND UTILITIES TO EX HOME (NOT A PART)
10-11	SITE GRADING
12-16	UTILITY AND STORM DRAIN PLANS
17-18	SITE SECTIONS
19-20	DMA AND BMP PLAN AND DETAILS
21-23	LANDSCAPE CONCEPT PLAN
24	TEMPLE FLOOR PLAN
25	TEMPLE ROOF PLAN
26-28	TEMPLE ELEVATIONS
29	TEMPLE PERSPECTIVES AND COLORS

ESCONDIDO
City of Choice

REVISIONS

NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

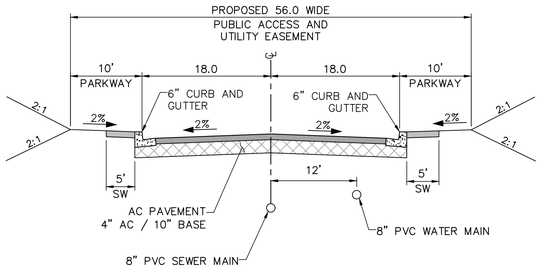
DATE: 1-20-2025
SCALE: 1" = 100'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: TM - SITE PLAN ~ TITLE SHEET
PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO.INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 1 OF 29 SHEETS

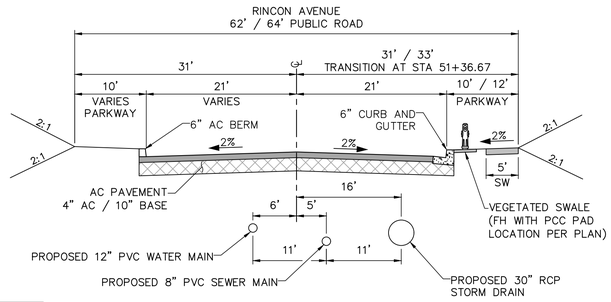
SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

NOTE: STRUCTURAL SECTIONS OF PUBLIC AND PRIVATE ROADS IS BASED ON "R-VALUE" OF +30 BASED ON SOILS REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION" DATED AUGUST 25, 2023, PREPARED BY CONSTRUCTION TESTING & ENGINEERING, INC.



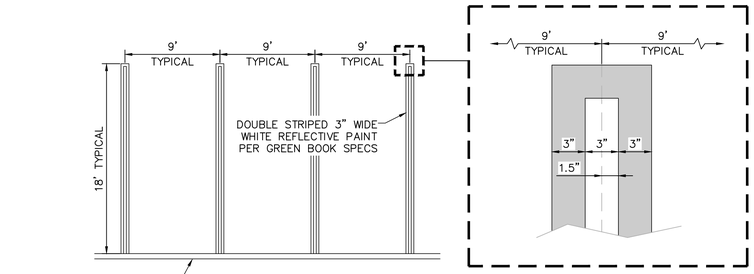
SECTION C ~ STREET "A"

NO SCALE
PER CITY OF ESCONDIDO FIGURE No 3 and No 6



SECTION D ~ RINCON AVENUE

NO SCALE
PER CITY OF ESCONDIDO FIGURE No 3 and No 5
(LOOKING EAST)

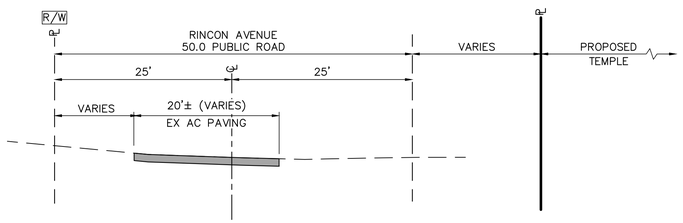


STRIPING DETAIL

NOT TO SCALE

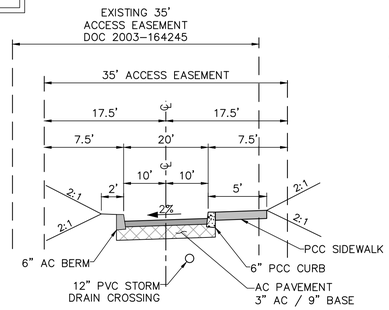
① DENOTES TEMPLE PARKING COUNT
SEE SHEET 2 FOR STRIPING DETAIL

UPPER 12 INCHES OF SUBGRATE AND ANY/ALL BASE MATERIALS SHOULD BE COMPACTED SUBGRADE (COMPACTED TO 95% RELATIVE COMPACTION (BASED ON THE ASTM D1557 TEST), AND AT A MINIMUM OF TWO PERCENT ABOVE OPTIMUM MOISTURE CONTENT.)



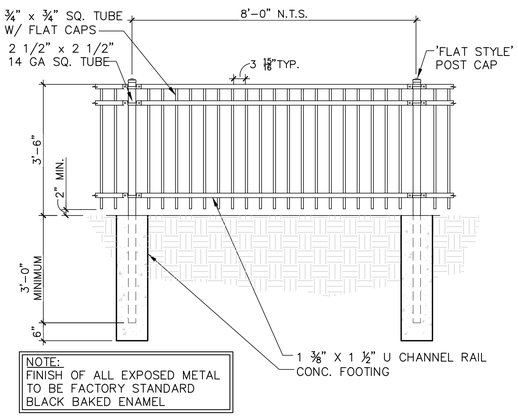
SECTION F ~ RINCON AVENUE (OFF-SITE EAST OF PROPERTY)

NO SCALE
EXISTING ROAD SECTION ALONG PROJECT FRONTAGE
(LOOKING EAST)



SECTION G ~ PRIVATE DRIVEWAY

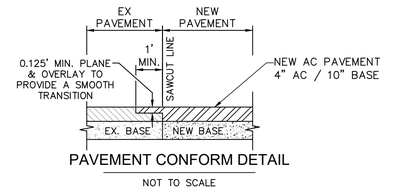
NO SCALE
(LOOKING SOUTH)



NOTE:
FINISH OF ALL EXPOSED METAL TO BE FACTORY STANDARD BLACK BAKED ENAMEL

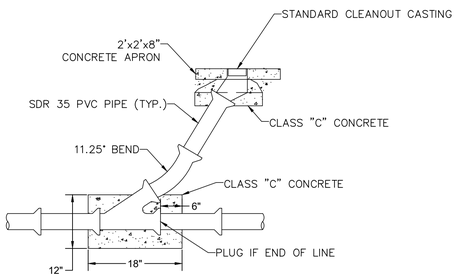
ORNAMENTAL FENCE DETAIL

NO SCALE



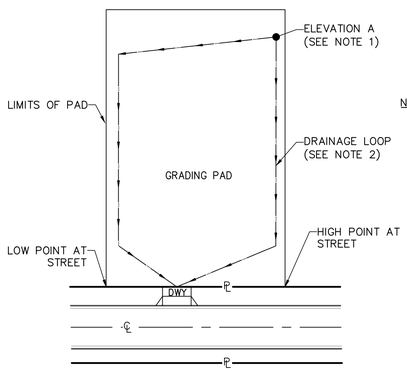
PAVEMENT CONFORM DETAIL

NOT TO SCALE



SANITARY SEWER CLEANOUT DETAIL

SCALE : N.T.S.

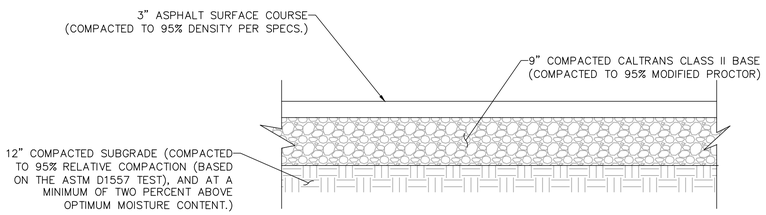


NOTES:

1. ELEVATION "A" IS LOCATED AT THE MOST REMOTE CORNER OF THE PAD FROM THE DRIVEWAY.
2. MINIMUM 1% SWALE TO STREET OR OTHER DISCHARGE POINT.
3. ALL SLOPE SURFACES SHALL BE PROTECTED BY APPROVED EROSION CONTROL MATERIAL.
4. ALL PADS TO BE BERMED TO PREVENT RUN-OFF TO ADJACENT PADS.

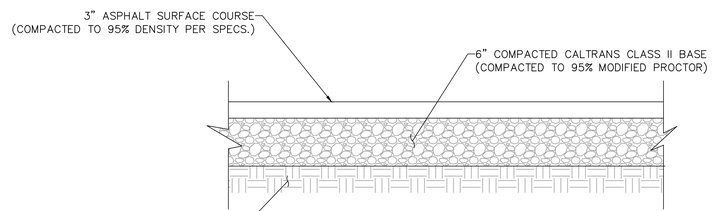
1 TYPICAL RESIDENTIAL PAD DRAINAGE

NOT TO SCALE



ASPHALT PAVEMENT SECTION

HEAVY DUTY ASPHALT ~ TEMPLE DRIVEWAY AREAS



ASPHALT PAVEMENT SECTION

LIGHT DUTY ASPHALT ~ TEMPLE PARKING AREAS

Underground Service Alert

CALL BEFORE YOU DIG

CALL 811

TWO WORKING DAYS BEFORE YOU DIG

AC PAVING NOTES:

CONSTRUCTION CONFORM WITH SECTION 201 OF THE STANDARD SPECIFICATIONS OF PUBLIC WORKS

1. A.B. IS AGGREGATE BASE, CONFORMING TO THE CLASS II REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS MINIMUM R VALUE IS 78, MINIMUM S.E. IS 30.
2. RECYCLE CLASS 2 BASE SHALL BE PER SECTION 26 OF THE CURRENT CALTRANS STANDARD
3. SPECIFICATIONS "AGGREGATE BASES", AND MEET THE QUALITY REQUIREMENTS IN SECTION 26-1.02A, "CLASS 2 AGGREGATE BASE", ¾ INCH MAXIMUM.
4. TOP 142" AC SURFACE PAVING COURSE SHALL BE V AGGREGATE FOR ALL STREET CLASSIFICATIONS WITH TRAFFIC INDEX OF 6 AND BELOW.

PAVING SECTIONS ARE FROM A GEOTECH REPORT PREPARED FOR THIS PROJECT BY CTE A UNIVERSAL ENGINEERING SCIENCES COMPANY DATED AUGUST 25TH, 2023.

PAVEMENT DETAILS

SCALE : N.T.S.

ESCONDIDO
City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 1-20-2025
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: DETAILS

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 2
OF 29 SHEETS

SAVE DATE 3/27/2025 ~ PLOT DATE 3/27/2025 ~ FILE NAME P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg

SHEET 9

SHEET 8

SHEET 7

N0°47'30"W 682.30'

N89°43'40"W 308.65'

N0°47'30"W 447.55'

APN: 224-100-34

APN: 187-370-30

N89°43'40"W 385.95'

N55°53'30"E 865.07'

TIE LINE N70°28'34"W 108.04'

N62°26'30"E 288.10'

N00°47'30"W 38.64'

N89°31'30"W 473.41'

230.24' N24°20'15"W

230.91' N51°34'16"E

N71°07'31"E 61.23'

65.87' N64°34'21"W

72.78' N49°10'55"W

99.48' N35°38'43"W

N51°06'00"E 139.13'

N18°56'33"W 90.02'

N71°03'27"E 100.00'

N18°56'33"W 249.75'

N89°58'40"W 107.26'

N78°45'34"W 15.42'

N75°23'00"W 104.01'

N18°58'40"W 1325.13'

1415 RINCON AVE
APN: 224-100-73
NOT A PART

APN: 224-901-46

PROPOSED TEMPLE
APN: 224-100-85

PROPOSED RESIDENTIAL
APN: 224-100-84

100' FUEL MANAGEMENT ZONE (BUILDING FIRE REDUCTION)

NEW 35' ACCESS EASEMENT FOR LANDLOCKED PARCEL

EX 40.0' ACCESS AND UTILITIES EASEMENT

EXISTING STRUCTURE TO REMAIN

EX 60.0' ACCESS AND UTILITIES EASEMENT

NEW 35' ACCESS EASEMENT

EXISTING STRUCTURE TO REMAIN

EX 40.0' ACCESS AND UTILITIES EASEMENT

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435. EXACT LOCATION NOT DISCLOSED IN DEED.

EX SDG&E EASEMENT DOC No 218234 DATED 11-3-1960

EXISTING 35' ACCESS EASEMENT DOC 2003-164245

PROPOSED WATER METER LOCATION FOR APN 224-100-73

PROPOSED WATER METER LOCATION FOR APN 224-100-85

NEW 35' ACCESS EASEMENT FOR LAND LOCKED PARCEL

EXISTING TREES, TO BE REMOVED (TYPICAL)

APPROX. LOCATION OF EXISTING WATER LATERALS

EX WATER EASEMENT DOC No 193508 DATED 11-4-1968

STREET "A" (PRIVATE)

RINCON AVENUE

Δ=15°57'54"
L=168.80'
R=606.00'

N55°35'40"E 48.77'

EXISTING WATER METER LOCATION FOR APN 224-100-85

EXISTING WATER METER LOCATION FOR APN 224-100-73

EXISTING WATER AND SEWER UTILITIES

EXISTING STORM DRAIN

① DENOTES TEMPLE PARKING COUNT
SEE SHEET 2 FOR STRIPING DETAIL

KEY MAP:

SCALE: 1"=60'

60 30 0 60 120 180
SCALE: 1" = 60'

ESCONDIDO City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: KEY MAP

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 3 OF 29 SHEETS

SAVE DATE 3/27/2025 ~ PLOT DATE 3/27/2025 ~ FILE NAME P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

APN: 187-370-56
NOT A PART

APN: 224-100-34
NOT A PART

APN: 224-100-27
NOT A PART

RINCON AVENUE

50'

R/W

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

N89°43'40"W 338.23'

N0°47'30"W 447.55'

N89°43'40"W 308.65'

N0°47'30"W 682.30'

PROPOSED TEMPLE
APN: 224-100-85

LOT 11
19.78 AC
(GROSS/NET)

APN: 224-100-73
NOT A PART
3.27 AC

TIE LINE
N70°26'34"W
108.04'

N55°53'30"E 86.07'

N24°20'15"W 230.24'

N71°07'31"E 61.23'

N64°34'21"W 65.87'

N49°10'55"W 72.76'

N35°38'43"W 99.48'

N51°08'00"E 139.13'

N18°56'33"W 90.02'

N71°03'27"E 100.00'

N18°56'33"W 249.75'

104.01'
N75°23'00"W

107.26'
N89°38'40"W

N57°34'16"E 230.91'

N0°47'30"W 38.64'

N69°26'30"E 298.10'

N89°31'30"W 473.41'

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

N89°43'40"W 385.95'

Δ=11°23'09" L=204.88' R=1031.00'

31'

N87°34'20"E 14.76'
L=11.07', Δ=1°09'57"

N18°58'40"W 441.30'

PROPOSED RESIDENTIAL
APN: 224-100-84

Δ=31°58'40" L=303.62' R=544.00'
L=292.55', Δ=30°48'43"

N60°24'35"E 109.17'

N35°54'39"E 38.27'

N41°11'23"E 41.33'

N41°11'23"E 205.28'

RINCON AVE
0.56 AC.

31' 31'

Δ=15°57'34" L=168.80' R=606.00'

N55°39'11"E 65.88'

N55°35'40"E 48.77'

64.25'
N18°58'40"W

SEE SHEET 5

N18°58'40"W 672.35'

APN: 224-901-46

50 25 0 50 100 150
SCALE: 1" = 50'

ESCONDIDO
City of Choice

NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

Civil Engineering · Environmental
Land Surveying
R·E·C
Consultants, Inc.
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

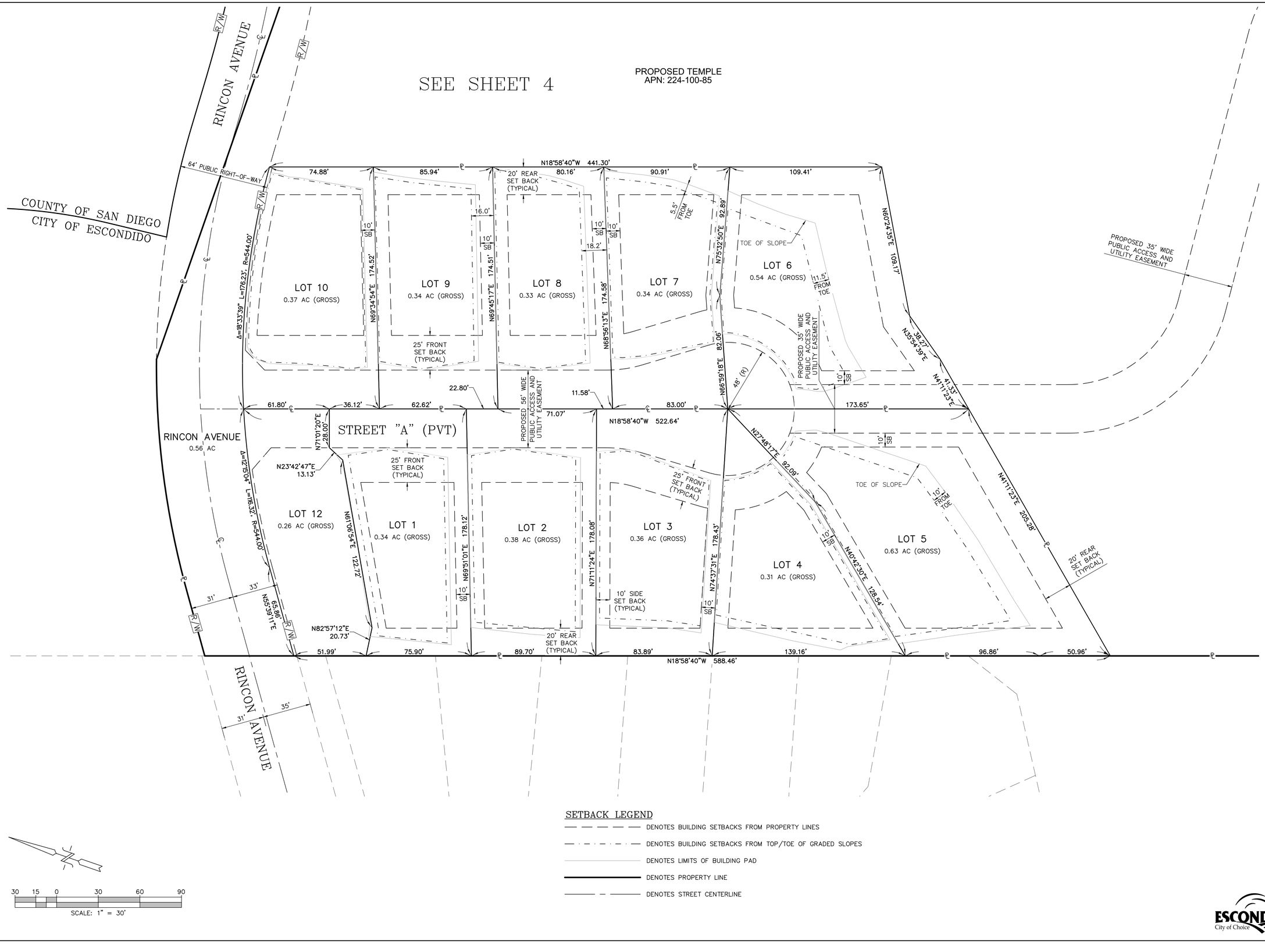
DATE: 1-20-2025
SCALE: 1" = 50'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: LOT DIMENSIONS

PROJECT:
KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 4 OF 29 SHEETS

SAVE_DATE 3/27/2025 ~ PLOT_DATE 3/27/2025 ~ FILE_NAME: P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg



NO.	DESCRIPTION	DATE	APP'D

REVISIONS

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 50'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: LOT DIMENSIONS

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 5 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Accel\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

APN: 187-370-56
NOT A PART

APN: 224-100-34
NOT A PART

APN: 224-100-27
NOT A PART

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

RINCON AVENUE

R/W

℄

N89°43'40"W 385.95'

N0°47'30"W 447.55'

N89°43'40"W 308.65'

N0°47'30"W 682.30'

TIE LINE
N72°26'34"W
108.04'

N55°53'30"E
85.07'

230.24'
N24°20'15"W

N71°07'31"E
61.23'

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435. EXACT LOCATION NOT DISCLOSED IN DEED.

N57°34'16"E
259.91'

N62°26'30"E 298.10'

PROPOSED PUBLIC UTILITY EASEMENT

20'

10'

PROPOSED TEMPLE
APN: 224-100-85

EX 40.0' ACCESS AND UTILITIES EASEMENT

99.48'
N35°38'43"W

72.78'
N49°10'55"W

65.87'
N64°34'21"W

NEW 35' ACCESS EASEMENT
PER DOC _____
DATED _____

N51°08'00"E
139.13'

APN: 224-100-73
NOT A PART

N78°45'34"W
15.42'

N89°59'40"W
107.26'

N00°47'30"W
38.64'

N18°56'33"W
90.02'

100.00'
N71°03'27"E

N75°53'00"W
104.01'

N18°56'33"W
249.75'

EXISTING 35' ACCESS EASEMENT DOC 2003-164245

N89°31'30"W 473.41'

LOT 11

PUBLIC STREET EASEMENT
DOC NO. 2008-0145655
RECORDED MARCH 19, 2008

PROPOSED PUBLIC UTILITY EASEMENT

EX 60.0' ACCESS AND UTILITIES EASEMENT

STA 51+36.67

PROPOSED PUBLIC UTILITY EASEMENT

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

PROPOSED RESIDENTIAL
APN: 224-100-84

PUBLIC STREET EASEMENT
DOC NO. 2008-0145655
RECORDED MARCH 19, 2008

EX PUBLIC UTILITIES EASEMENT
DOC NO 2008-0146646
DATED MARCH 19, 2008

STREET "A" (PRIVATE)

L=78.8'

L=39'

L=39'

EX 40.0' ACCESS AND UTILITIES EASEMENT

NEW 35' ACCESS EASEMENT
PER DOC _____
DATED _____

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435

PROPOSED 56.0' WIDE PUBLIC ACCESS AND UTILITY EASEMENT

EX WATER EASEMENT
DOC No 193508
DATED 11-4-1968

TEMPORARY EMERGENCY VEHICLE EASEMENT
DOC NO 2008-0130665
DATED MARCH 12, 2008

EXISTING 35' ACCESS EASEMENT DOC 2003-164245

Δ=15°57'34"
L=898.80'
R=806.00'

LOT "A"
HOA

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

EX SDG&E EASEMENT
DOC No 218234
DATED 11-3-1960

EX SDG&E EASEMENT
DOC No 218234
DATED 11-3-1960

N55°35'40"E
48.77'

N18°58'40"W 1325.13'

APN: 224-901-46

50 25 0 50 100 150
SCALE: 1" = 50'

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REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C
Consultants, Inc.

DATE: 11-20-2025
SCALE: 1" = 50'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: EASEMENTS

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 6
OF 29 SHEETS

SAVE DATE 3/27/2025 - PLOT DATE 3/27/2025 - FILE NAME P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

FIRE NOTE:

MINIMUM FIRE FLOW OF 1500 GPM AT 20 PSI WILL BE PROVIDED.

PROPOSED TEMPLE
APN: 224-100-85

RINCON AVENUE

SEE SHEET 8

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

64' PUBLIC RIGHT-OF-WAY

PROPOSED WATER METER LOCATION FOR APN 224-100-85

PROPOSED WATER METER LOCATION FOR APN 224-100-73

EXISTING DRIVEWAY

EX OVERHEAD LINES PROTECT IN PLACE (TYPICAL)

ORNAMENTAL FENCE. SEE DETAIL SHEET 2

B 17

PROPOSED SIDEWALK

PUBLIC STREET EASEMENT DOC NO. 2008-0145655 RECORDED MARCH 19, 2008

LIMITS OF GRADING

EXISTING PROP LINE

PROPOSED 2 CAR GARAGE

EXISTING STRUCTURE TO REMAIN

NEW 35' ACCESS EASEMENT PER DOC _____ DATED _____

APN: 224-100-85

LOT 11
19.78 AC

6" AC BERM

6" CURB, GUTTER AND SIDEWALK

VEGETATED SWALE

6" AC BERM

EX OVERHEAD LINES TO BE PROTECTED IN PLACE

PAD 762.0

LOT 10
0.37 AC (GROSS)
0.29 AC (NET)

PAD 766.0

LOT 9
0.34 AC (GROSS)
0.29 AC (NET)

PAD 772.5

LOT 8
0.33 AC (GROSS)
0.27 AC (NET)

PAD 780.0

LOT 7
0.34 AC (GROSS)
0.26 AC (NET)

PAD 783.0

LOT 6
0.54 AC (GROSS)
0.45 AC (NET)

2:1 MAX

PROPOSED 15' PUBLIC WATER EASEMENT

PROPOSED PED RAMP

PROPOSED PCC SIDEWALK (TYPICAL)

PROPOSED PCC DRIVEWAY (TYPICAL)

FH

PROPOSED 35.0' WIDE PUBLIC ACCESS AND UTILITY EASEMENT

ORNAMENTAL FENCE. SEE DETAIL SHEET 2

EXISTING 35' ACCESS EASEMENT DOC 2003-164245

EX PUBLIC UTILITIES EASEMENT DOC NO 2008-0146646 DATED MARCH 19, 2008

CURB AND SIDEWALK

6" AC BERM

STREET "A" (PVT)

PROPOSED 56.0' WIDE PUBLIC ACCESS AND UTILITY EASEMENT

CURB AND SIDEWALK

6" AC BERM

10' AC BERM OPENING TO DIRECT STORM WATER TO BROW DITCH

PROPOSED PED RAMP

PROPOSED PCC DRIVEWAY (TYPICAL)

PROPOSED PCC SIDEWALK (TYPICAL)

ORNAMENTAL FENCE. SEE DETAIL SHEET 2

TEMPORARY EMERGENCY VEHICLE EASEMENT DOC NO 2008-0130665 DATED MARCH 12, 2008

PROPOSED BASIN

6" CURB, GUTTER AND SIDEWALK

VEGETATED SWALE

BASIN
755.0 FS

LOT 5
0.63 AC (GROSS)
0.55 AC (NET)

PAD 783.0

LOT 1
0.34 AC (GROSS)
0.28 AC (NET)

PAD 764.0

LOT 2
0.38 AC (GROSS)
0.32 AC (NET)

PAD 771.0

LOT 3
0.36 AC (GROSS)
0.29 AC (NET)

PAD 776.7

LOT 4
0.31 AC (GROSS)
0.29 AC (NET)

PAD 781.2

A 17

LOT "A"
0.26 AC
0.21 AC (NET)

3 FT CHAIN LINK SAFETY FENCE PER SDRSD M-6 WITH BLACK VINYL FINISH

EX WATER EASEMENT DOC No 193508 DATED 11-4-1968

ORNAMENTAL FENCE. SEE DETAIL SHEET 2

EX STREET LIGHT

EX HEADWALL

PROPOSED SIDEWALK

CONNECT TO EX SD CLEANOUT

EXISTING WATER METERS FOR APNS 224-100-85 AND 224-100-73, TO BE RELOCATED, SEE SHEET 8 FOR NEW LOCATION

EXISTING 8" PVC SEWER LINE PER DWG. NO. P-1755

EXISTING 12" ACP CL. 150 WATER LINE PER DWG. NO. P-1755

EXISTING 30" RCP STORM DRAIN PER DWG. NO. P-1865

3" GAS

±140 FEET TO NEAREST EXISTING HYDRANT

RINCON AVENUE

ELEC VAULT

EX SDG&E EASEMENT DOC No 218234 DATED 11-3-1960

H 18 | I 18 | J 18 | K 18 | L 18 | M 18

30 15 0 30 60 90
SCALE: 1" = 30'

SETBACK LEGEND

— — — — — DENOTES BUILDING SETBACKS FROM PROPERTY LINES

— · — · — · — DENOTES BUILDING SETBACKS FROM TOP/TOE OF GRADED SLOPES

ESCONDIDO City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C Consultants, Inc.

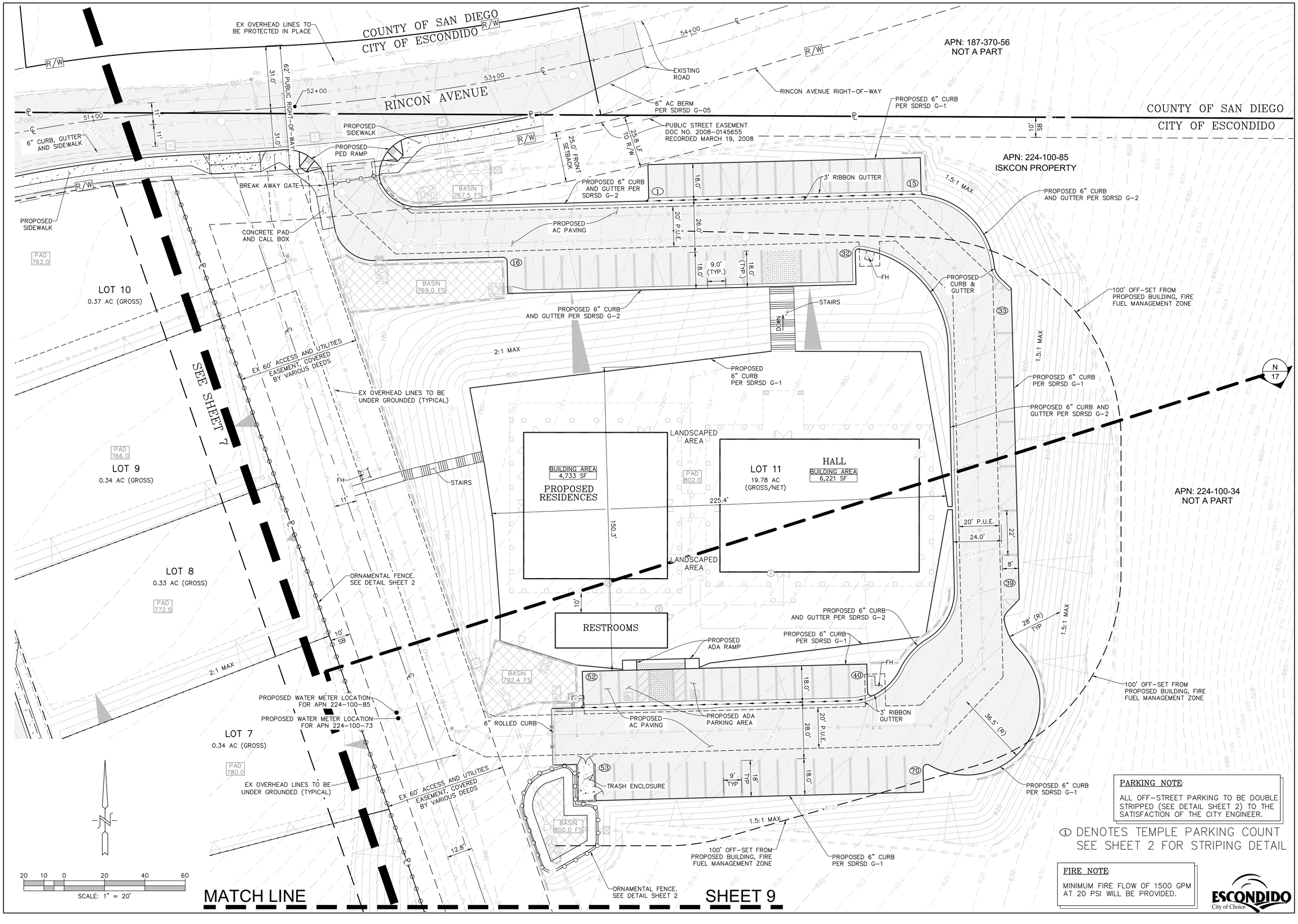
DATE: 1-20-2025
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: RESIDENTIAL ~ SITE PLAN

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 7 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg



PARKING NOTE:

ALL OFF-STREET PARKING TO BE DOUBLE STRIPPED (SEE DETAIL SHEET 2) TO THE SATISFACTION OF THE CITY ENGINEER.

① DENOTES TEMPLE PARKING COUNT
SEE SHEET 2 FOR STRIPING DETAIL

FIRE NOTE:

MINIMUM FIRE FLOW OF 1500 GPM AT 20 PSI WILL BE PROVIDED.

ESCONDIDO
City of Choice

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NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C
Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TEMPLE ~ SITE PLAN

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 8
OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Accd\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg

APN: 187-370-57
NOT A PART

APN: 187-370-56
NOT A PART

APN: 224-100-34
NOT A PART

APN: 224-100-27
NOT A PART

RINCON AVENUE

SHEET 8

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

N0°47'30"W 447.55'

N89°43'40"W 308.65'

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

N0°47'30"W 682.30'

TIE LINE
N70°26'34"W
1108.04'

N55°53'30"E
85.07'

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435. EXACT LOCATION NOT DISCLOSED IN DEED. TO REMAIN

230.24'
N24°20'15"W

N71°07'31"E
61.23'

EX AC PAVING

N57°54'16"E
230.91'

N62°26'30"E 298.10'

PROPOSED TEMPLE
APN: 224-100-85

PROPOSED RIP-RAP
PER SDRSD D-40

EX 40.0' ACCESS
AND UTILITIES EASEMENT

65.87'
N64°34'21"W

72.78'
N49°10'55"W

99.48'
N35°38'43"W

N5°06'00"E
139.13'

EXISTING STRUCTURE

APN: 224-100-73
NOT A PART

PROPOSED BROW DITCH
PER SDRSD D-75

EXISTING STRUCTURE
TO REMAIN

PROPOSED BROW DITCH
PER SDRSD D-75

PROPOSED TYPE "A" CLEAN
OUT PER SDRSD D-09

EX OVERHEAD LINES TO
BE UNDER GROUNDED

EX AC PAVING

N89°58'40"W
107.26'

N78°45'34"W
15.42'

N00°47'30"W
38.64'

N18°56'33"W
90.02'

100.00'
N71°03'27"E

N75°23'00"W
104.01'

EX 60'
ACCESS AND
UTILITIES
EASEMENT

6" AC BERM

6" PCC CURB
AND SIDEWALK

N18°56'33"W
249.75'

PROPOSED WATER METER LOCATION
FOR APN 224-100-73

PROPOSED WATER METER LOCATION
FOR APN 224-100-85

PROPOSED TYPE
"F" INLET PER
SDRSD D-07

SHEET 7

EXISTING
STRUCTURE
TO REMAIN

EX 40.0' ACCESS
AND UTILITIES
EASEMENT

PROPOSED RESIDENTIAL
APN: 224-100-84

NEW 35' ACCESS
EASEMENT

STREET "A" (PRIVATE)

EXISTING 35'
ACCESS EASEMENT
DOC 2003-164245

NEW 35' ACCESS
EASEMENT

N89°31'30"W 473.41'

APPROXIMATE LOCATION OF EXISTING
FLUME EASEMENT FOR VISTA CANAL,
PER BOOK 1107, PAGE 435, TO REMAIN

EX WATER EASEMENT
DOC No 193508
DATED 11-4-1968

EX OVERHEAD LINES TO
BE UNDER GROUNDED

EX SDG&E EASEMENT
DOC No 218234
DATED 11-3-1960

APPROX. LOCATION OF
EXISTING WATER LATERALS

EXISTING WATER METER LOCATION
FOR APN 224-100-85

EXISTING WATER METER LOCATION
FOR APN 224-100-73

N18°58'40"W 1325.13'

APN: 224-901-46

50 25 0 50 100 150
SCALE: 1" = 50'

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R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 1-20-2025
SCALE: 1" = 50'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: ACCESS TO APN 224-100-73

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 9 OF 29 SHEETS

SAVE_DATE: 3/27/2025 ~ PLOT_DATE: 3/27/2025 ~ FILE_NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

FIRE NOTE:

MINIMUM FIRE FLOW OF 1500 GPM AT 20 PSI WILL BE PROVIDED.

PROPOSED TEMPLE
APN: 224-100-85

RINCON AVENUE

SEE SHEET 11

EX OVERHEAD LINES TO BE UNDER GROUNDED (TYPICAL)

EXISTING DRIVEWAY

64' PUBLIC RIGHT-OF-WAY

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

EX OVERHEAD LINES TO BE PROTECTED IN PLACE

LIMITS OF GRADING

BROW DITCH

EXISTING STRUCTURE TO REMAIN

APN: 224-100-85

LOT 11
19.78 AC

LOT 10
0.37 AC (GROSS)
0.29 AC (NET)
PAD 762.0

LOT 9
0.34 AC (GROSS)
0.29 AC (NET)
PAD 766.0

LOT 8
0.33 AC (GROSS)
0.27 AC (NET)
PAD 772.5

LOT 7
0.34 AC (GROSS)
0.26 AC (NET)
PAD 780.0

LOT 6
0.54 AC (GROSS)
0.45 AC (NET)
PAD 783.0

STREET "A" (PVT)

PROPOSED 56.0' WIDE PUBLIC ACCESS AND UTILITY EASEMENT

LOT 1
0.34 AC (GROSS)
0.28 AC (NET)
PAD 764.0

LOT 2
0.38 AC (GROSS)
0.32 AC (NET)
PAD 771.0

LOT 3
0.36 AC (GROSS)
0.29 AC (NET)
PAD 776.7

LOT 4
0.31 AC (GROSS)
0.29 AC (NET)
PAD 781.2

LOT 5
0.63 AC (GROSS)
0.55 AC (NET)
PAD 783.0

LOT "A"
0.26 AC
0.21 AC (NET)
BASIN 755.0 FS

RINCON AVENUE

30 15 0 30 60 90
SCALE: 1" = 30'

LEGEND

- - - - - - - - - - DENOTES PAD LIMITS

— · — · — · — · — DENOTES BUILDING SETBACKS FROM TOP/TOE OF GRADED SLOPES

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City of Choice

REVISIONS			
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Land Surveying
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San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C
Consultants, Inc.

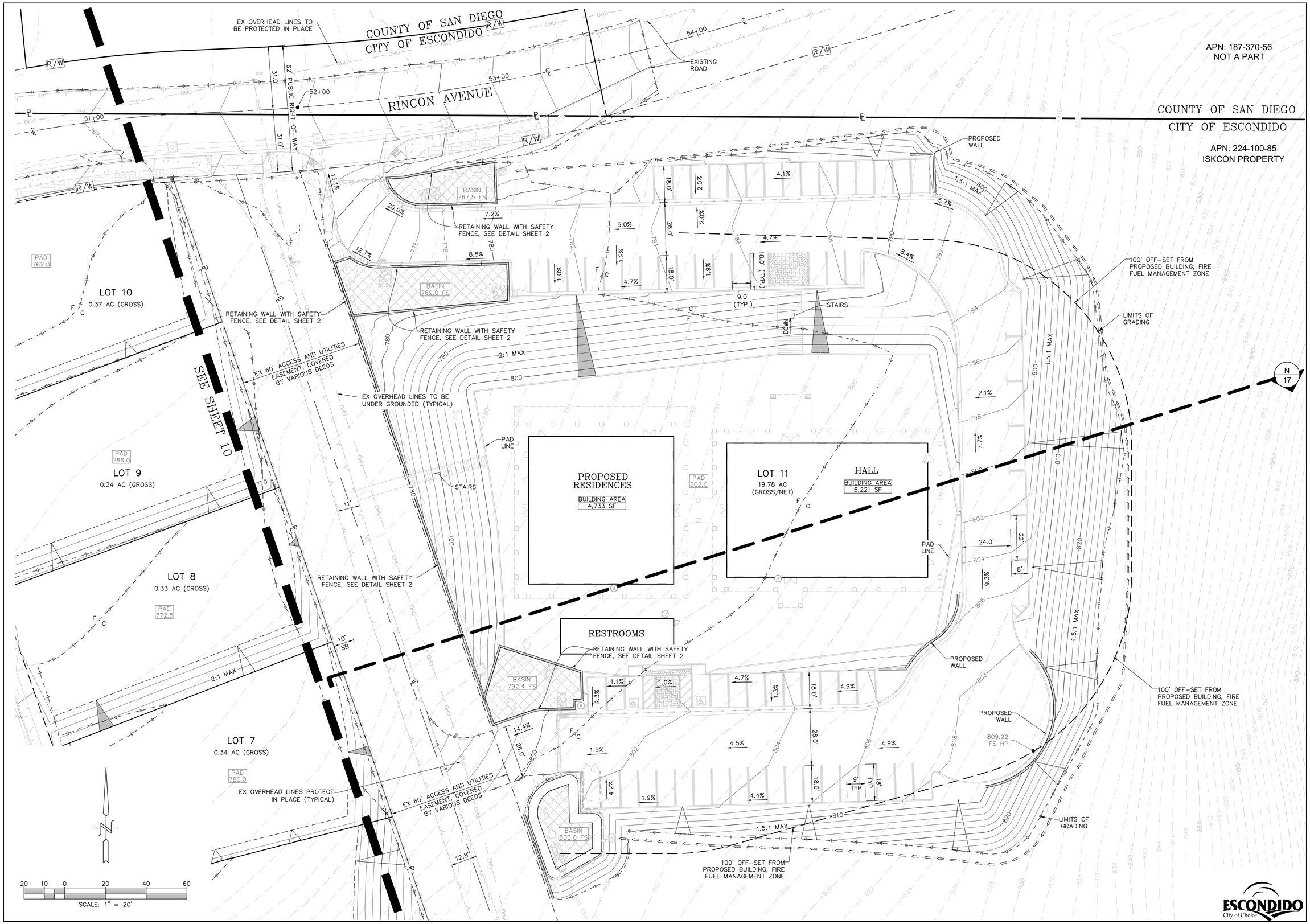
DATE: 1-20-2025
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: RESIDENTIAL ~ GRADING

PROJECT:
KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 10 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1839 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg



NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C
Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TEMPLE ~ GRADING

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 11 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg

APN: 224-100-27
NOT A PART

APN: 187-370-56
NOT A PART

APN: 224-100-34
NOT A PART

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

APN: 224-100-85
ISKCON PROPERTY

RINCON AVENUE

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435. EXACT LOCATION NOT DISCLOSED IN DEED.

EX AC PAVING

8" PVC WATER MAIN

PROPOSED TEMPLE
APN: 224-100-85

FDC

FH

CAP 12" PVC WATER MAIN

8" SEWER MAIN

LOT 11

CONNECT TO EX WATER LATERAL

EXISTING STRUCTURE TO REMAIN

EXISTING STRUCTURE

APN: 224-100-73
NOT A PART

8" WATER MAIN

EX OVERHEAD LINES TO BE UNDER GROUNDED (TYPICAL)

NEW 35' ACCESS EASEMENT

WATER LATERAL TO EXISTING HOUSE

PROPOSED WATER METER LOCATION FOR APN 224-100-73

PROPOSED WATER METER LOCATION FOR APN 224-100-85

EXISTING STRUCTURE TO REMAIN

PROPOSED 8" SEWER MAIN

LOT 10

8" PVC WATER MAIN

LOT 9

LOT 8

LOT 7

12" PVC WATER MAIN

REMOVE EX SEPTIC SYSTEM AND CONNECT LATERAL TO NEW MANHOLE

10' PUBLIC WATER ESM'T

PROPOSED RESIDENTIAL
APN: 224-100-84

LOT 6

8" WATER MAIN

NEW 35' ACCESS EASEMENT

STREET "A" (PRIVATE)

APPROX. LOCATION OF EXISTING WATER LATERALS

8" SEWER MAIN

LOT "A"
HOA

PROPOSED 1" WATER SERVICE WITH WATER METER AND BACK FLOW ASSEMBLY (TYPICAL)

PROPOSED 4" SEWER LATERAL (TYPICAL)

LOT 5

LOT 1

LOT 2

LOT 3

LOT 4

EXISTING WATER METER LOCATION FOR APN 224-100-85

EXISTING WATER METER LOCATION FOR APN 224-100-73

EX 12" ACP WATER MAIN

EX 8" PVC SEWER MAIN

APPROXIMATE LOCATION OF EXISTING FLUME EASEMENT FOR VISTA CANAL, PER BOOK 1107, PAGE 435

APN: 224-901-46

50 25 0 50 100 150

SCALE: 1" = 50'

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City of Choice

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Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C
Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 50'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: UTILITY LAYOUT

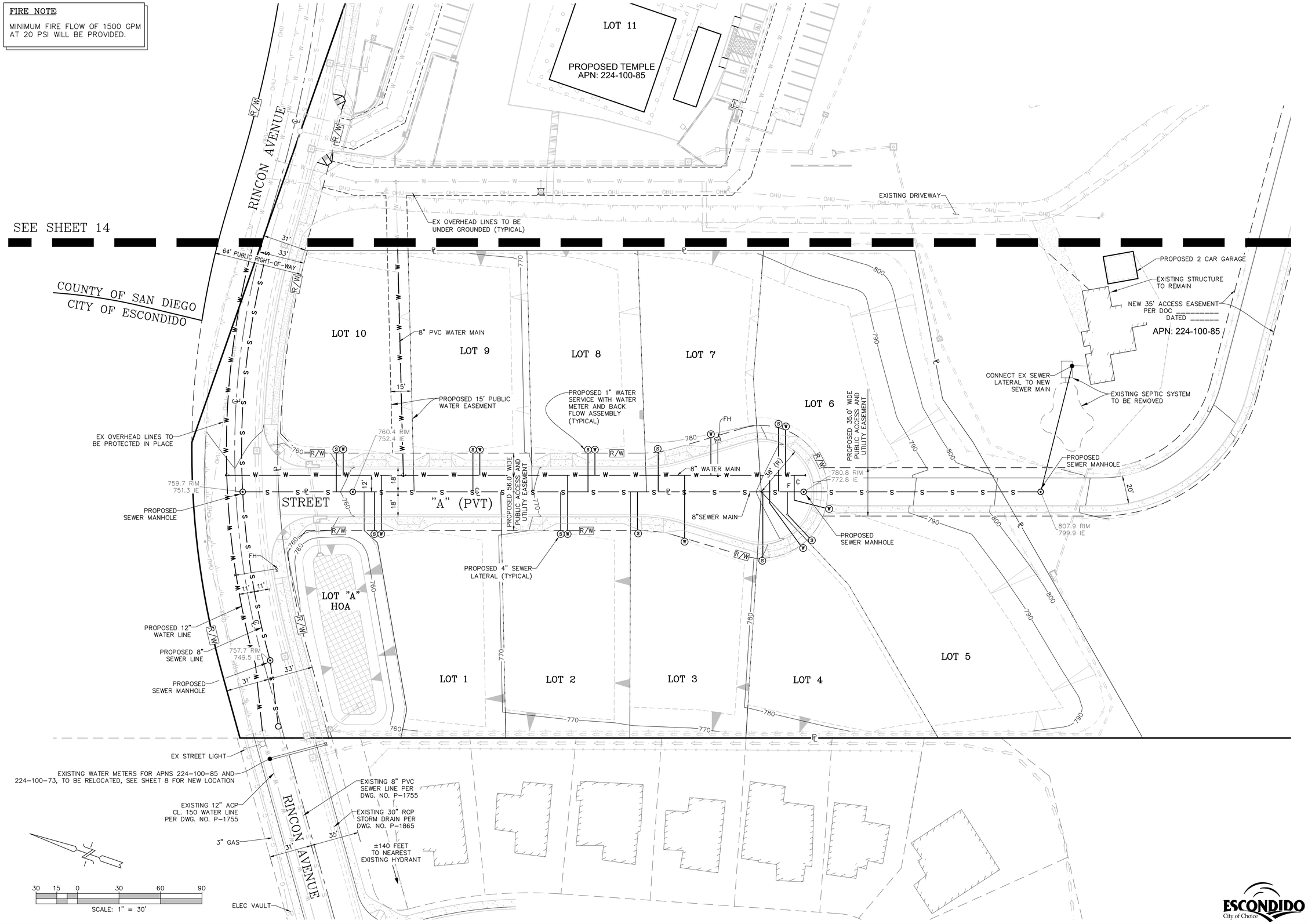
PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 12 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Accd\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg

FIRE NOTE:

MINIMUM FIRE FLOW OF 1500 GPM AT 20 PSI WILL BE PROVIDED.



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City of Choice

NO.	DESCRIPTION	DATE	APP'D
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R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

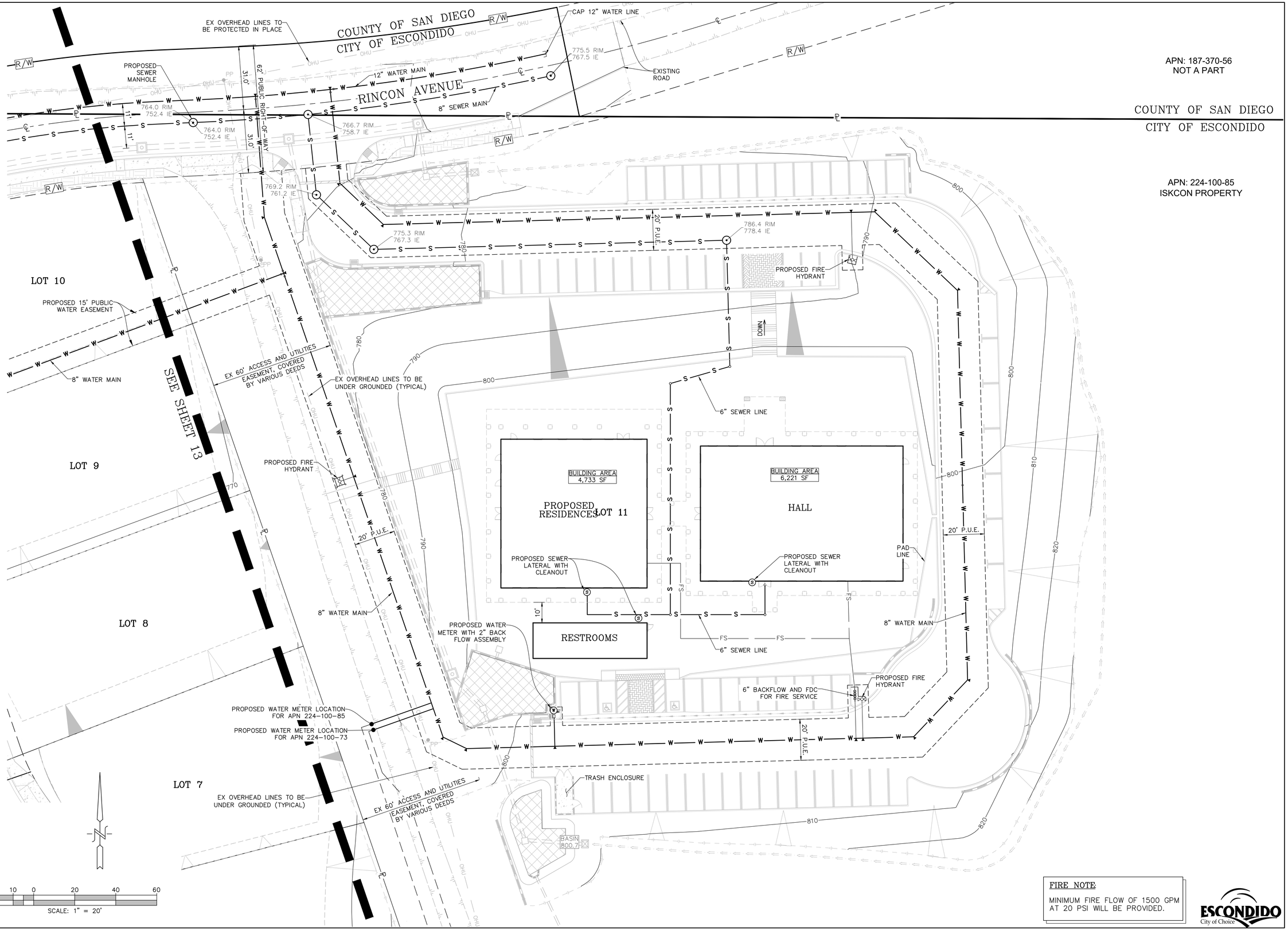
DATE: 1-20-2025
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: RESIDENTIAL ~ UTILITY PLAN

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 13 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg



FIRE NOTE:

MINIMUM FIRE FLOW OF 1500 GPM AT 20 PSI WILL BE PROVIDED.

ESCONDIDO
City of Choice

NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TEMPLE ~ UTILITY PLAN

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 14 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg

SEE SHEET 16

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

RINCON AVENUE

PROPOSED TEMPLE
APN: 224-100-85

PROPOSED BROW DITCH PER SDRSD D-75

PROPOSED TYPE "F" INLET PER SDRSD D-07 IE 800.00

PROPOSED HEADWALL PER SDRSD D-34 AND RIP-RAP PER SDRSD D-40

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 803.22

EXISTING DRIVEWAY

NEW 35' ACCESS EASEMENT, PER DOC _____ DATED _____

PROPOSED 2 CAR GARAGE

EXISTING STRUCTURE TO REMAIN

APN: 224-100-85

EXISTING 35' ACCESS EASEMENT DOC 2003-164245

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 755.02

PUBLIC STREET EASEMENT DOC NO. 2008-0145655 RECORDED MARCH 19, 2008

PROPOSED BROW DITCH PER SDRSD D-75

LOT 11

PROPOSED TYPE "F" INLET PER SDRSD D-07 IE 804.46

PROPOSED BROW DITCH PER SDRSD D-75

PAD 762.0

LOT 10
0.37 AC (GROSS)
0.29 AC (NET)

PAD 766.0

LOT 9
0.34 AC (GROSS)
0.29 AC (NET)

PAD 772.5

LOT 8
0.33 AC (GROSS)
0.27 AC (NET)

PAD 780.0

LOT 7
0.34 AC (GROSS)
0.26 AC (NET)

PAD 783.0

LOT 6
0.54 AC (GROSS)
0.45 AC (NET)

VEGETATED SWALE

15' PUBLIC WATER EASEMENT

PROPOSED TYPE "B" INLET PER SDRSD D-02 IE 757.14

PROPOSED 35.0' WIDE PRIVATE ACCESS AND UTILITY EASEMENT

FH

10' OPENING TO DISCHARGE STORM WATER RUN-OFF INTO PROPOSED BROW DITCH

PROPOSED SEWER MANHOLE

ACCESS DRIVEWAY – 6" AC BERM, CURB AND SIDEWALK

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 754.11

755.9 TOP WATER MAIN

751.58 IE SEWER MAIN

752.21 IE SEWER MAIN

STREET "A" (PVT)

PROPOSED 56.0' WIDE PUBLIC ACCESS AND UTILITY EASEMENT

38' (R)

PROPOSED HEADWALL PER SDRSD D-34

PROPOSED TYPE "B" INLET PER SDRSD D-02 IE 756.35

PROPOSED HEADWALL PER SDRSD D-34 AND RIP-RAP PER SDRSD D-40

NEW 35' ACCESS EASEMENT, PER DOC _____ DATED _____

PROPOSED HEADWALL PER SDRSD D-34

3 FT CHAIN LINK SAFETY FENCE PER SDRSD M-6 WITH BLACK VINYL FINISH

PROPOSED BASIN SEE SHEET 20

LOT 1
0.34 AC (GROSS)
0.28 AC (NET)

PAD 764.0

LOT 2
0.38 AC (GROSS)
0.32 AC (NET)

PAD 771.0

LOT 3
0.36 AC (GROSS)
0.29 AC (NET)

PAD 776.7

LOT 4
0.31 AC (GROSS)
0.29 AC (NET)

PAD 781.2

LOT 5
0.63 AC (GROSS)
0.55 AC (NET)

PAD 783.0

BASIN 755.0 FS

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 750.00

LOT "A"
0.26 AC
0.21 AC (NET)

BASIN OUTLET STRUCTURE SEE SHEET 20 IE 750.8

EX WATER EASEMENT DOC No 193508 DATED 11-4-1968

PROPOSED BROW DITCH PER SDRSD D-75

VEGETATED SWALE

REMOVE EX HEADWALL AND CMP STORM DRAIN

PROPOSED TYPE "F" INLET PER SDRSD D-07 IE 749.8

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 749.4

EX HEADWALL

EX TYPE "A" CLEANOUT

EX BROW DITCH

EX SDG&E EASEMENT DOC No 218234 DATED 11-3-1960

CONNECT TO EXISTING CLEANOUT IE 749.1

EXISTING 8" PVC SEWER LINE PER DWG. NO. P-1755

EXISTING 12" ACP CL. 150 WATER LINE PER DWG. NO. P-1755

EXISTING 30" RCP STORM DRAIN PER DWG. NO. P-1865

RINCON AVENUE

30 15 0 30 60 90
SCALE: 1" = 30'

ESCONDIDO
City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 1-20-2025
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: RESIDENTIAL ~ STORM DRAINS

PROJECT
KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 15 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple – Residential\Civil\Site Plan\TM – Site Plan.dwg

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

RINCON AVENUE

62' PUBLIC RIGHT-OF-WAY

31.0'

12'

18'

31.0'

51+00

52+00

53+00

54+00

EXISTING ROAD

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 755.83

PROPOSED TYPE "A" CLEANOUT PER SDRSD D-09 IE 755.18

BASIN OUTLET STRUCTURE, SEE SHEET 20 IE 758.50

PROPOSED TYPE "F" INLET PER SDRSD D-07 IE 762.0

PROPOSED BROW DITCH PER SDRSD D-75

APN: 187-370-56
NOT A PART

COUNTY OF SAN DIEGO
CITY OF ESCONDIDO

APN: 224-100-85
ISKCON PROPERTY

BASIN 767.5 FS

PROPOSED BASIN SEE SHEET 20

3' RIBBON GUTTER

4" TRENCH DRAIN, TRAFFIC RATED, OUTLET TO BASIN VIA 6" PVC STORM DRAIN

PROPOSED TYPE "C" INLET PER SDRSD D-03, OUTLET TO BASIN VIA 12" PVC STORM DRAIN

PAD 762.0

LOT 10
0.37 AC (GROSS)

PROPOSED BASIN SEE SHEET 20

FL OUT 775.0

BASIN 769.0 FS

PROPOSED TYPE "C" INLET PER SDRSD D-03, OUTLET TO BASIN VIA 12" PVC STORM DRAIN IE 775.5

BASIN OUTLET STRUCTURE, SEE SHEET 20 IE 767.24

FH

PROPOSED BROW DITCH PER SDRSD D-75

SEE SHEET 15

EX 60' ACCESS AND UTILITIES EASEMENT, COVERED BY VARIOUS DEEDS

PAD 766.0

LOT 9
0.34 AC (GROSS)

LANDSCAPED AREA

PAD 802.0

LOT 11
19.78 AC
(GROSS/NET)

PROPOSED RESIDENCES
BUILDING AREA
4,733 SF

HALL
BUILDING AREA
6,221 SF

LANDSCAPED AREA

36x36 BROOKS BOX INLET, OUTLET TO BASIN VIA 12" PVC STORM DRAIN

RESTROOMS

LOT 8
0.33 AC (GROSS)

PAD 772.5

PROPOSED BASIN SEE SHEET ___

BASIN OUTLET STRUCTURE, SEE SHEET 20 IE 786.91

BASIN 792.4 FS

FL OUT 794.5

FL OUT 794.5

PROPOSED TYPE "C" INLET PER SDRSD D-03, OUTLET TO BASIN VIA 12" PVC STORM DRAIN

3' RIBBON GUTTER

FH

PROPOSED BROW DITCH PER SDRSD D-75

795.5 TOP WATER MAIN

LOT 7
0.34 AC (GROSS)

PAD 780.0

PROPOSED BASIN SEE SHEET 20

EX 60' ACCESS AND UTILITIES EASEMENT, COVERED BY VARIOUS DEEDS

BASIN OUTLET STRUCTURE, SEE SHEET 20 IE 793.50

BASIN 800.0 FS

PROPOSED BROW DITCH PER SDRSD D-75

PROPOSED HEADWALL PER SDRSD D-34 AND RIP-RAP PER SDRSD D-40

20 10 0 20 40 60
SCALE: 1" = 20'

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2970 Fifth Avenue, Suite 340
San Diego, CA 92103
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R·E·C Consultants, Inc.

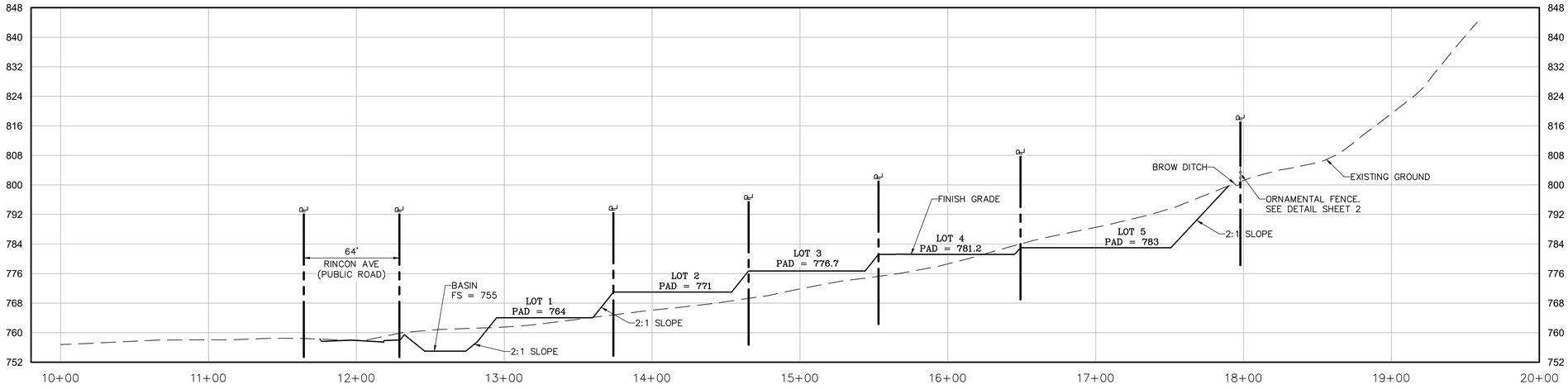
DATE: 1-20-2025
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TEMPLE ~ STORM DRAINS

PROJECT
KRISHNA PROPERTY
ISKCON OF ESCONDIDO.INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 16 OF 29 SHEETS

SAVE_DATE: 3/27/2025 ~ PLOT_DATE: 3/27/2025 ~ FILE_NAME: P:\Acad\1829 Iskcon Temple — Residential\Civil\Site Plan\TM — Site Plan.dwg



SECTION A - LOOKING EAST - PROFILE

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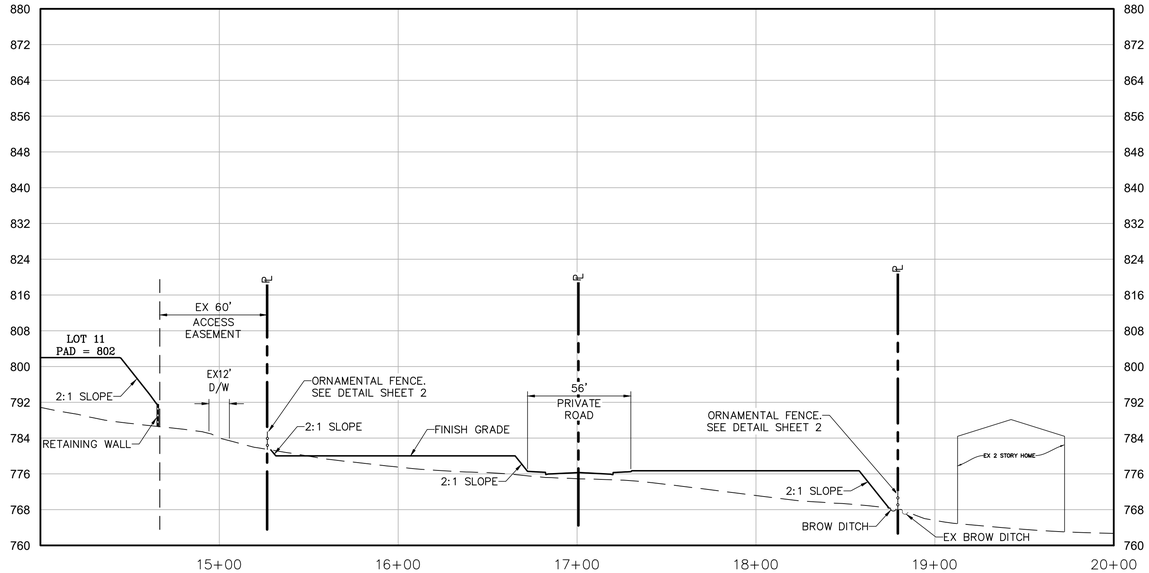
VERT: 1" = 16'



SECTION B - LOOKING SOUTH - PROFILE

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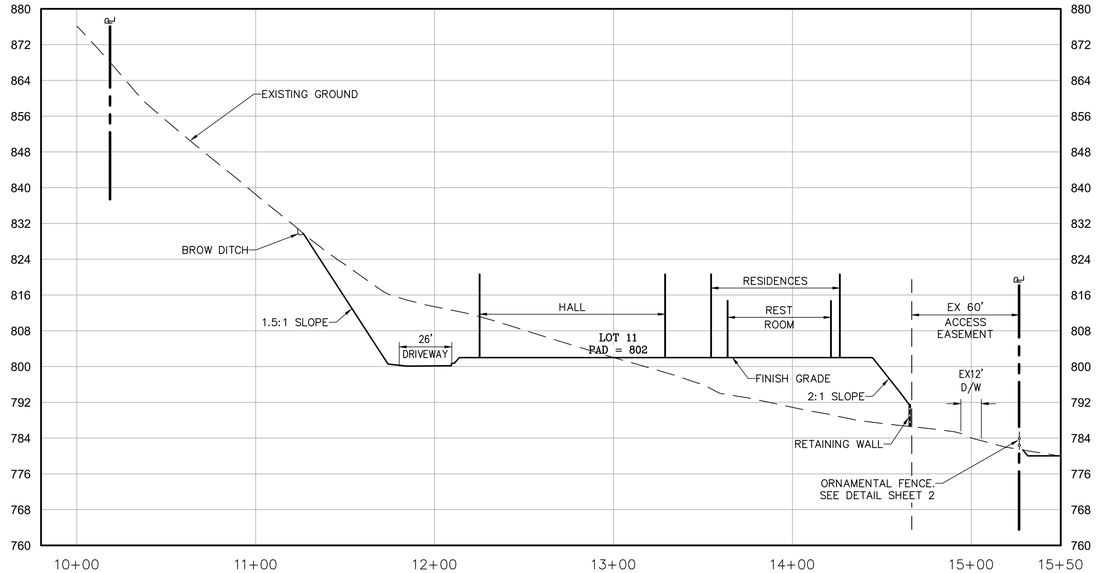
VERT: 1" = 16'



SECTION N - LOOKING SOUTH - PROFILE

SCALE: HORZ: 1" = 40'
VERT: 1" = 16'

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Land Surveying
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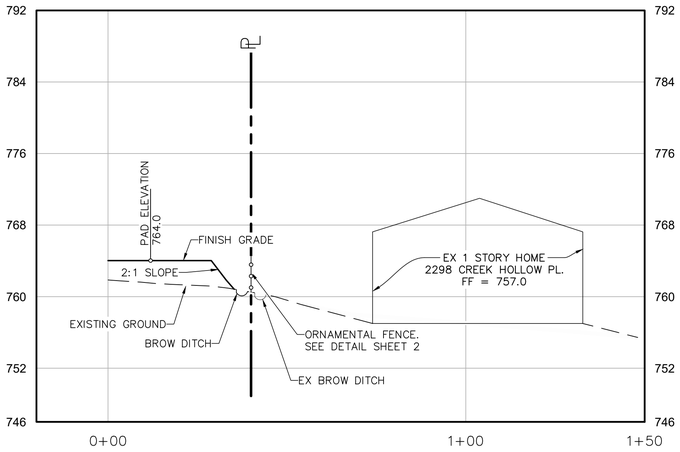
DATE: 1-20-2025
SCALE: N/A
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: SITE SECTIONS

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

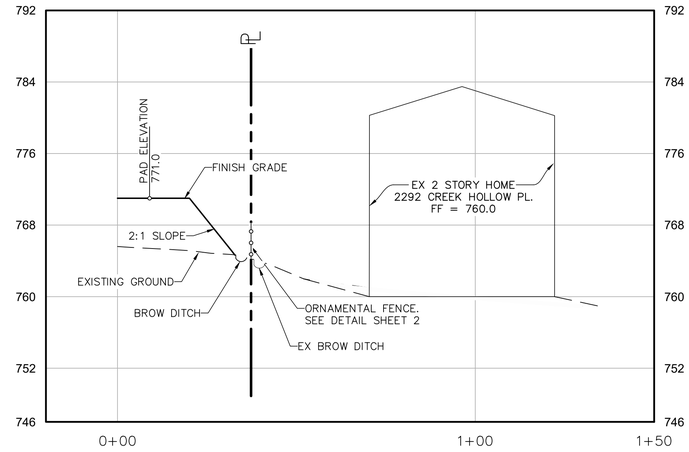
SHEET 17 OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg



SECTION H - PROFILE

SCALE: HORZ: 1" = 20'
VERT: 1" = 8'



SECTION I - PROFILE

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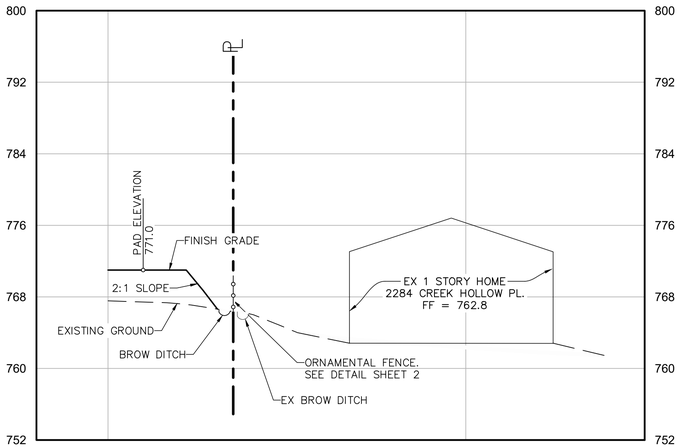
VERT: 1" = 8'



SECTION J - PROFILE

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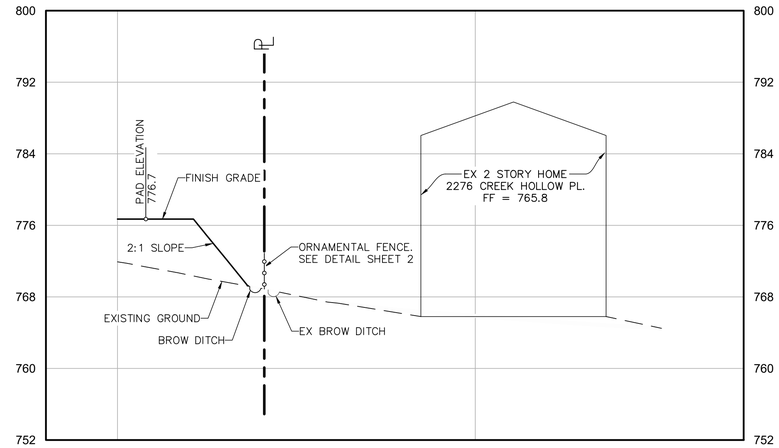
VERT: 1" = 8'



SECTION K - PROFILE

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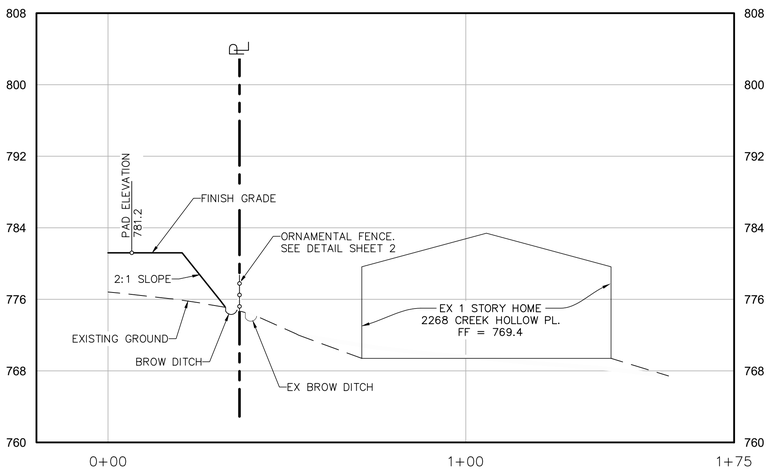
VERT: 1" = 8'



SECTION L - PROFILE

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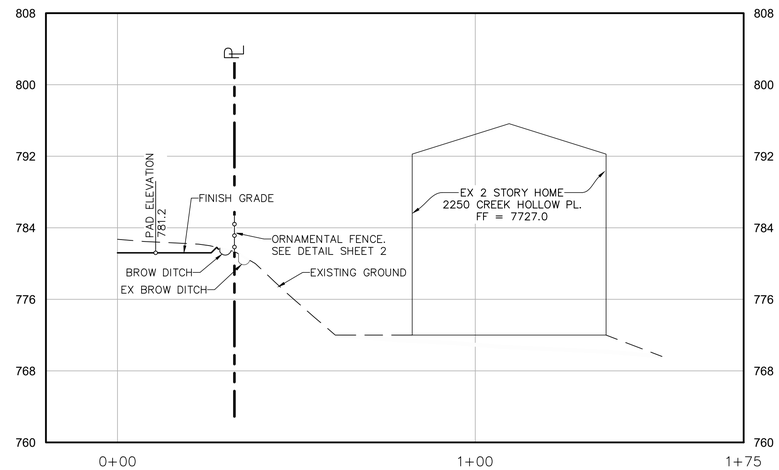

SECTION M - PROFILE

SCALE: HORZ: 1" = 20'
VERT: 1" = 8'

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Land Surveying
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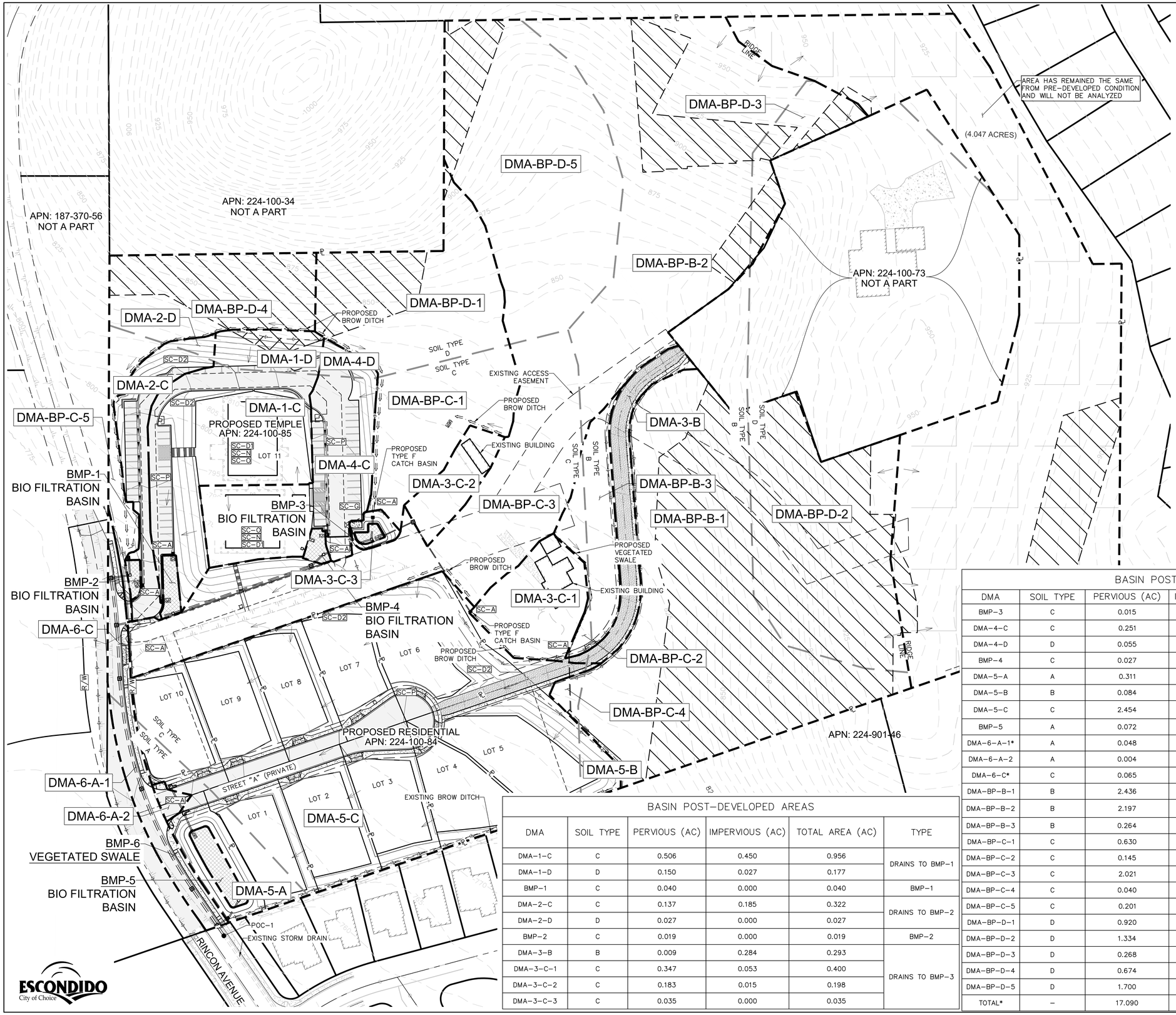
DATE: 1-20-2025
SCALE: N/A
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: SITE SECTIONS

PROJECT
KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 18
OF 29 SHEETS

SAVE DATE: 3/27/2025 ~ PLOT DATE: 3/27/2025 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan.dwg



LEGEND

- POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREA PER CARLSBAD WMAA
- PROJECT AREA ENCROACHING INTO PCCSYA
- DMA BOUNDARY
- SOIL TYPE BOUNDARY
- AREA NOT BEING ANALYZED
- BMP BASIN
- RETAILING WALL

PCCSYA CALCS		
EXISTING PCCSYA	225,262	SF
PROJECT AREA IN PCCSYA	1,221	SF
PERCENT OF ENCROACHED AREA	0.54	%

SOURCE CONTROL BMP'S

SC-A: ON-SITE STORM DRAIN INLETS
SC-D1: NEED FOR FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC-D2: LANDSCAPE/OUTDOOR PESTICIDE USE
SC-G: REFUSE AREAS
SC-N: FIRE SPRINKLER TEST WATER
SC-O: MISCELLANEOUS DRAIN OR WASH WATER
SC-P: PLAZAS, SIDEWALKS, AND PARKING LOTS

NOTE:
1. DEPTH TO GROUNDWATER > 20 FT
2. THE AVERAGE ASSUMED IMPERVIOUS AREA FOR THE PADS IN THE RESIDENTIAL AREA IS 25% FOR LOW DENSITY RESIDENTIAL (LDR) RESIDENTIAL, 2.9 DU/A OR LESS.

60 30 0 60 120 180
SCALE: 1" = 60'

NOTE: BYPASS AREA IS SHOWN IN TABLE BELOW FOR HMP ONLY

* FOR WATER QUALITY ONLY BECAUSE AREA IS WITHIN PUBLIC RIGHT OF WAY (NOT INCLUDED IN HMP MODEL)

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
DMA-1-C	C	0.506	0.450	0.956	DRAINS TO BMP-1
DMA-1-D	D	0.150	0.027	0.177	
BMP-1	C	0.040	0.000	0.040	BMP-1
DMA-2-C	C	0.137	0.185	0.322	DRAINS TO BMP-2
DMA-2-D	D	0.027	0.000	0.027	
BMP-2	C	0.019	0.000	0.019	BMP-2
DMA-3-B	B	0.009	0.284	0.293	DRAINS TO BMP-3
DMA-3-C-1	C	0.347	0.053	0.400	
DMA-3-C-2	C	0.183	0.015	0.198	
DMA-3-C-3	C	0.035	0.000	0.035	

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
BMP-3	C	0.015	0.000	0.015	BMP-3
DMA-4-C	C	0.251	0.483	0.734	DRAINS TO BMP-4
DMA-4-D	D	0.055	0.003	0.058	
BMP-4	C	0.027	0.000	0.027	BMP-4
DMA-5-A	A	0.311	0.078	0.389	DRAINS TO BMP-5
DMA-5-B	B	0.084	0.000	0.084	
DMA-5-C	C	2.454	1.241	3.695	
BMP-5	A	0.072	0.000	0.072	BMP-5
DMA-6-A-1*	A	0.048	0.184	0.231	GREENSTREET / DRAINS TO BMP-6
DMA-6-A-2	A	0.004	0.027	0.031	
DMA-6-C*	C	0.065	0.066	0.130	
DMA-BP-B-1	B	2.436	0.000	2.436	BYPASS (AREA NOT DISTURBED, FOR HMP ONLY)
DMA-BP-B-2	B	2.197	0.000	2.197	
DMA-BP-B-3	B	0.264	0.000	0.264	
DMA-BP-C-1	C	0.630	0.000	0.630	
DMA-BP-C-2	C	0.145	0.000	0.145	
DMA-BP-C-3	C	2.021	0.000	2.021	
DMA-BP-C-4	C	0.040	0.000	0.040	
DMA-BP-C-5	C	0.201	0.000	0.201	
DMA-BP-D-1	D	0.920	0.000	0.920	
DMA-BP-D-2	D	1.334	0.000	1.334	
DMA-BP-D-3	D	0.268	0.000	0.268	
DMA-BP-D-4	D	0.674	0.000	0.674	
DMA-BP-D-5	D	1.700	0.000	1.700	
TOTAL*	–	17.090	2.845	19.934	–

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San Diego, CA 92103
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R·E·C Consultants, Inc.

DATE: 1-20-2025
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: POST-DEVELOPED DMA EXHIBIT
PROJECT: ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 19 OF 29 SHEETS

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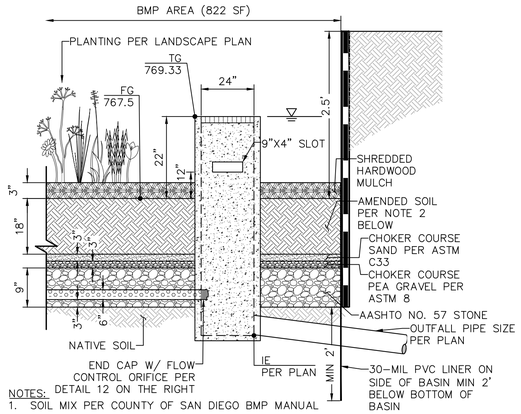
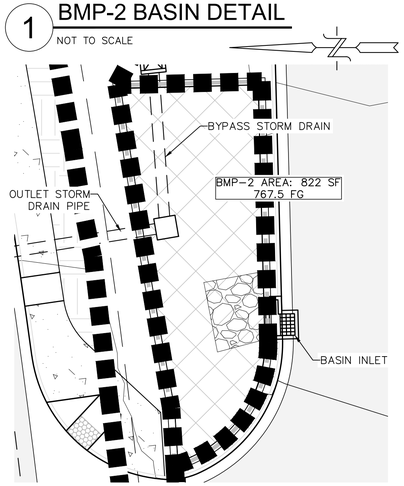
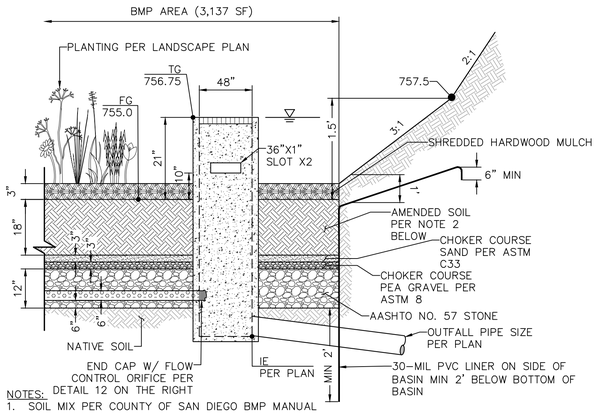


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

1 BMP-2 BASIN DETAIL
NOT TO SCALE

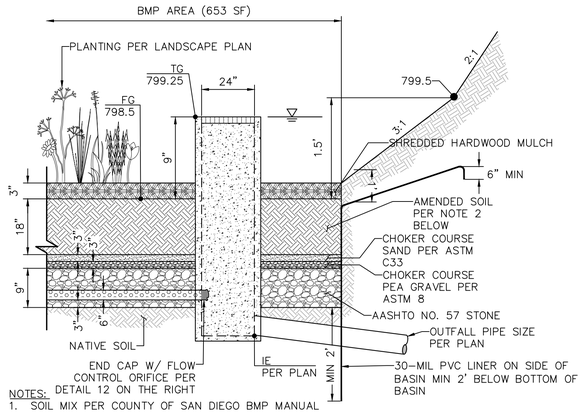


2 BMP-2 BASIN PLAN VIEW
SCALE: 1" = 10'



NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

7 BMP-5 BASIN DETAIL
NOT TO SCALE



NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
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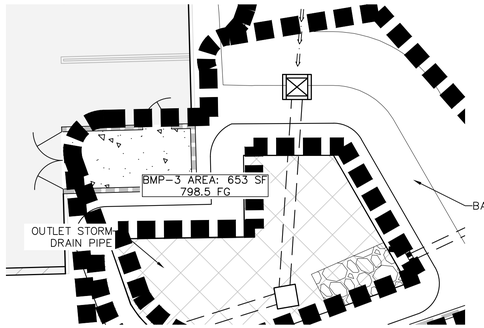
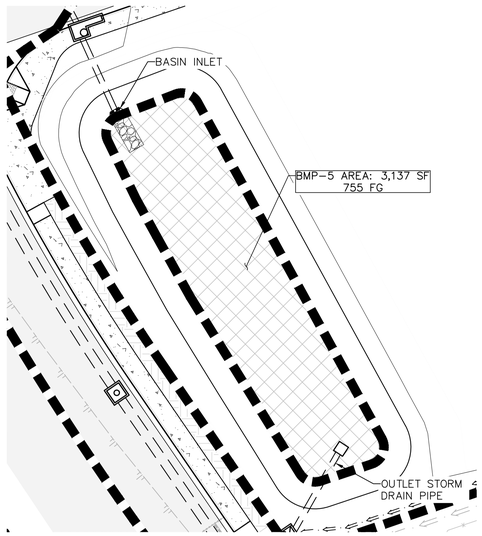
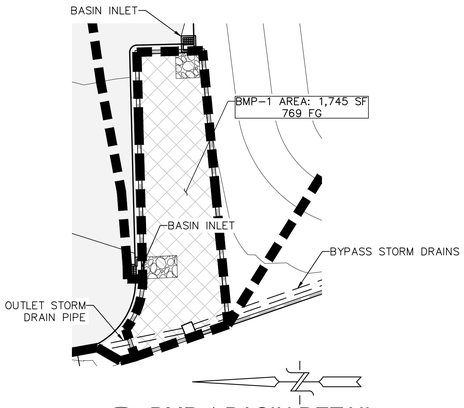
3 BMP-3 BASIN DETAIL
NOT TO SCALE



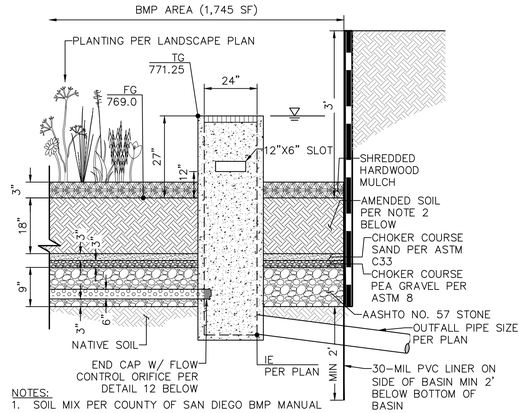
4 BMP-3 BASIN PLAN VIEW
SCALE: 1" = 10'



8 BMP-5 BASIN DETAIL
SCALE: 1" = 20'

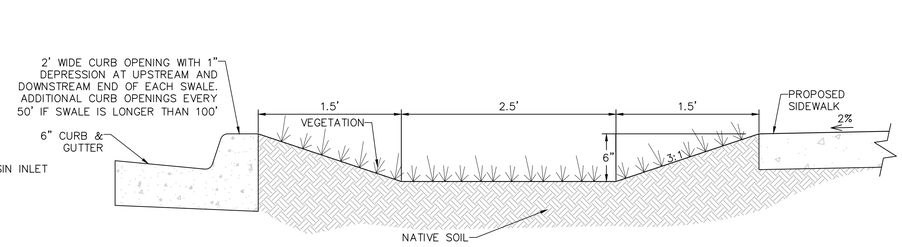


5 BMP-1 BASIN DETAIL
SCALE: 1" = 20'



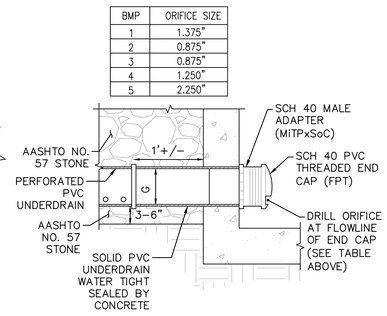
NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

6 BMP-1 BASIN DETAIL
NOT TO SCALE



11 BMP-6 VEGETADED SWALE DETAIL
NOT TO SCALE

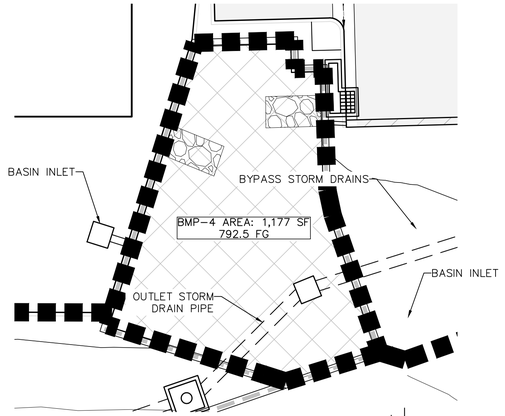
BMP	ORIFICE SIZE
1	1.375"
2	0.875"
3	0.875"
4	1.250"
5	2.250"



12 BMP ORIFICE DETAIL
NOT TO SCALE

NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

9 BMP-4 BASIN DETAIL
NOT TO SCALE



NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

10 BMP-4 BASIN PLAN VIEW
SCALE: 1" = 10'

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San Diego, CA 92103
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R·E·C Consultants, Inc.

DATE: 1-20-2025
SCALE: N/A
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: POST-DEVELOPED DMA / BMP DETAILS

PROJECT:
ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 20 OF 29 SHEETS

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APPENDIX G

Preliminary Drainage Study
Technical Memorandum: SWMM Modeling for Hydromodification Compliance
Priority Development Project (PDP) SWQMP

PRELIMINARY DRAINAGE STUDY

For

ISKCON KRISHNA TEMPLE & RESIDENTIAL
ESCONDIDO, CA

Prepared for:

Iskcon of Escondido, Inc.

10707 El Caballo Avenue

San Diego, CA 52127

(858) 344-0892

Prepared by:

REC Consultants, Inc.

2970 Fifth Avenue, Suite 340

San Diego, CA 92103

(619) 232-9200

Prepared March 8th, 2023

Prepared by:

R·E·C
Consultants, Inc.

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CHAPTER 1 - EXECUTIVE SUMMARY

1.1 – Introduction

The Iskcon Krishna Temple & Residential project site is located south of Rincon Ave. and east of Conway Dr. in Escondido, California. The site is split into two parcels, one parcel will have a religious temple while the other parcel will be residential and split into 10 lots.

For drainage analysis, one (1) points of discharge (POD) has been designated within the project site for hydrologic analysis purposes.

This study analyzes existing and developed condition 50-year peak flowrates from the development to the POD-from the project site in accordance with section 1.B of the City of Escondido's Drainage Design Standards.

The project site lies outside any FEMA 100-year floodplain zones. Therefore, no Letters of Map Revision will be required.

Treatment of storm water runoff from the site has been addressed in a separate report - the "Storm Water Quality Management Plan for Iskcon Krishna Temple & Residential" by REC. Hydromodification (HMP) analysis has been presented within the "Technical Memorandum: SWMM Modeling for Hydromodification Compliance of: Iskcon Krishna Temple and Residential Development, Escondido, CA", by REC.

Methodology used for the computation of design rainfall events, runoff coefficients, and rainfall intensity values are consistent with criteria set forth in the "City of Escondido Design Standards and Standard Drawings". A more detailed explanation of methodology used for this analysis is listed in Chapter 4 of this report.

Per Chapter 6 of the County of San Diego Hydrology Design Manual (see chapter 2.3 of this report), hydrographs were developed for each drainage basin assuming the minimum time of concentration for the City of Escondido of 10 min (see chapter 2.1 of this report). The hydrographs for each basin can be found in chapter 4.1 of this report. Modified-Puls detention basin routing was performed using the Army Corps of Engineers HEC-HMS software. The software requires the inflow hydrograph and stage-storage-discharge relationship of each basin to be inputted. In turn, the software generates an outflow hydrograph and calculates the peak depth, volume, and flow rate out from the basin.

1.2 – Summary of Existing Conditions

In existing conditions, the Iskcon Krishna Temple & Residential project site is mostly undisturbed vegetated landscape with just over 14,000 sf of existing impervious features. Generally the site flows from south-east to north-west with some steep and some flat areas.

Runoff from the existing site flows to one (1) POD. POD 1 is a cleanout located at the north-west corner of the property. Runoff from the existing site reaches POD 1 either via sheet flow or an existing brow ditch located along the western property boundary.

Per Figure 1 in the City of Escondido Design Standards and Standard Drawings, the Runoff Coefficient for *undeveloped land, open space* is 0.35 which was used for the entire existing project site. The intensity (inches/hour) was estimated based on the Run-Off Intensity Duration Curve also on Figure 1 in the City of Escondido Design Standards and Standard Drawings (see chapter 2.2 of this report).

Table 1 below summarizes the existing condition design 50-year peak flow from the project site.

Table 1– SUMMARY OF EXISTING CONDITIONS FLOWS

Discharge Location	Drainage Area (Ac)	Rainfall Intensity (in/hr)	Runoff Coefficient (C)	50-Year Peak Flow (cfs)
POD-1	25.19	3.16	0.35	27.86

1.3 – Summary of Developed Conditions

The Iskcon Krishna Temple & Residential project proposes the construction of a religious temple, hall and living area, patio, detached restrooms, parking lot, and driveway. The intended use of the new development will be for religious purposes and practices for area under APN: 224-100-85. For the proposed residential area under APN: 224-100-84, 10 lots are proposed for future residential construction.

The tributary area draining to POD-1 includes both developed and undisturbed/bypass areas. Developed flow runoff is conveyed via street flow, brow ditches, and storm drains to one (1) of five (5) BMPs (BMPs 1-5), for both treatment and detention. Runoff from the bypass area is conveyed directly to POD-1 via a series of brow ditches, swales, and storm drains.

Per Figure 1 in the City of Escondido Design Standards and Standard Drawings, the Runoff Coefficient for *undeveloped land, open space* is 0.35, *Single Family* is 0.55, and *Commercial* is 0.85. The intensity (inches/hour) was calculated using the Run-Off Intensity Duration Curve also on Figure 1 in the City of Escondido Design Standards and Standard Drawings (see chapter 2.2 of this report).

Table 2 below summarizes the unmitigated condition design 50-year peak flow rates to each BMP and to the POD.

Table 2– SUMMARY OF DEVELOPED CONDITIONS FLOWS-UNMITIGATED

Discharge Location	Drainage Area (Ac)	Rainfall Intensity (in/hr)	Runoff Coefficient (C)	50-Year Peak Flow (cfs)
BMP-1	1.385	3.16	0.85	3.72
BMP-2	0.622	3.16	0.85	1.67
BMP-3	0.691	3.16	0.55	1.20
BMP-4	0.862	3.16	0.85	2.32
BMP-5	4.307	3.16	0.55	7.49
Bypass	17.323	3.16	0.35	19.16
POD-1	25.190	3.16	-	35.56

Five (5) biofiltration basins are located within the project site and are responsible for addressing water quality, hydromodification flow control, and 50-year peak flow rate attenuation for the project. The basins will have surface ponding for water treatment and a riser with an outlet structure to control flow rates (see dimensions in Tables 3 and 4). Flows will discharge from the basin via the outlet structures or infiltrate through the

amended soil to the low flow orifice. The riser structure will act as an overflow such that peak flows can be safely discharged to the receiving storm drain systems.

Beneath the basins' invert lies a 3-inch layer of mulch, an 18-inch layer of amended soil (a highly sandy, organic rich composite with an infiltration capacity of at least 5 inches/hr) and an 15"-18" layer of gravel. The volume below the invert of the lowest surface orifice, including the soil layers, are not used in Q50 routing.

Table 3– SUMMARY OF BMP BASIN DIMENSIONS

BMP	Tributary Area (Ac)	DIMENSIONS				
		BMP Area[(1)], (ft^2)	Amended Soil (in)	Gravel Depth (in)	Total Surface Depth[(4)] (ft)	Total Detention Volume[(5)] (Ac-ft)
BMP-1	1.385	1,468	18	15	3.00	0.0674
BMP-2	0.622	650	18	15	2.50	0.0224
BMP-3	0.691	539	18	15	1.50	0.0156
BMP-4	0.862	1,202	18	15	3.00	0.0552
BMP-5	4.307	3,137	18	18	2.50	0.1764

Notes:
(1): Area of amended soil = area of gravel = area of the BMP
(2): Depth of ponding beneath riser structure's surface spillway to bottom of mulch layer.
(3): Overflow length, the internal perimeter of the square riser.
(4): Total surface depth of BMP from bottom of mulch layer to crest elevation.
(5): Total Detention Volume is the volume between the lowest surface outlet and crest of the basin used for Q50 routing.

Table 4– SUMMARY OF OUTLET DETAILS

Basin	Low Flow Orifice (in)	Slot			Riser
		B x H (in)	Elev. (ft)[(1)]	Length[(2)] (ft)	Elev.[(1)] (ft)
BMP 1	1.375	12 x 6	1.00	8	2.167
BMP 2	0.875	8 x 4	1.00	8	1.833
BMP 3	0.875	-	-	8	0.750
BMP 4	1.25	13 x 4	1.00	8	2.250
BMP 5	2.25	66 x 1.5	0.833	16	1.750

Notes: (1): Lowest surface outlet elevation assumed to be 0.00 ft elevation. (1 ft above FG of basins 1,2&4, 0.75 ft above FG of basin 3, and 0.83 ft above FG of basin 5)
(2): Overflow length is the internal perimeter of the riser structure.

The hydrographs were generated using the (2/3, 1/3) rainfall distribution method from chapter 6 of The San Diego County Hydrology Design Manual, 2003 (see chapter 2.3 of this report for methodology). These hydrographs were then routed through the proposed on-site detention facilities in HEC-HMS. The HMS Modified-Puls results are summarized in Table 5.

Table 5– SUMMARY OF DETENTION BASIN ROUTING

Detention Basin	50-Year Peak Inflow (cfs)	50-Year Peak Outflow (cfs)	Peak Water Surface Elevation[(1)] (ft)	Peak Detention Volume (Ac-Ft)
BMP-1	3.72	2.34	1.13	0.038
BMP-2	1.67	1.38	0.88	0.013
BMP-3	1.20	1.15	0.12	0.002
BMP-4	2.32	1.46	0.82	0.023
BMP-5	7.49	4.18	0.98	0.096

Notes: (1): Lowest surface outlet elevation assumed to be 0.00 ft elevation. (1 ft above FG of basins 1,2&4, 0.75 ft above FG of basin 3, and 0.83 ft above FG of basin 5)

It should be noted that as a conservative design approach, it has been assumed that the water quality storm event volume was stored in the detention facilities prior to the routing of the 50-year event storm. Therefore, the detention basin routing begins at the elevation of the lowest surface and all volume below this is not utilized.

Rational method hydrographs, stage-storage, stage-discharge relationships and HEC-HMS model output is provided in Chapter 7 of this report.

1.4 – Summary of Results and Conclusion

Table 6 summarizes developed and existing condition drainage areas and resultant 50-year peak flow rates at the POD from the Iskcon Krishna Temple & Residential project.

Table 6– SUMMARY OF PEAK FLOWS

Discharge Location	Area (ac)			50 Year Peak Flow (cfs)			
	Existing	Developed	Difference	Existing	Unmitigated	Mitigated	Difference
POD-1	25.19	25.19	0.00	27.86	35.55	27.79	-0.07

As shown in the above table, the proposed Iskcon Krishna Temple & Residential project site will result in a net decrease of peak flow discharged from POD-1 by approximately 0.07 cfs.

1.5 – Hydraulic Sizing

The project will utilize the combination of storm drain pipes, grated inlets, rip raps, curb inlets, brow ditches and gutters to convey the runoff to the BMPs prior to reaching the point of compliance. All sizing calculations will be performed during final engineering.

1.6 – References

"*County of San Diego Hydrology Manual*", June 2003.

"City of Escondido Design Standards and Standard Drawings", April 2014.

"*Stormwater Quality Management Plan for Iskcon Krishna Temple & Residential*", by REC Consultants.

"*Technical Memorandum: SWMM Modeling for Hydromodification Compliance of: Iskcon Krishna Temple and Residential Development, Escondido, CA*", by REC Consultants

1.7 – Declaration of Responsible Charge

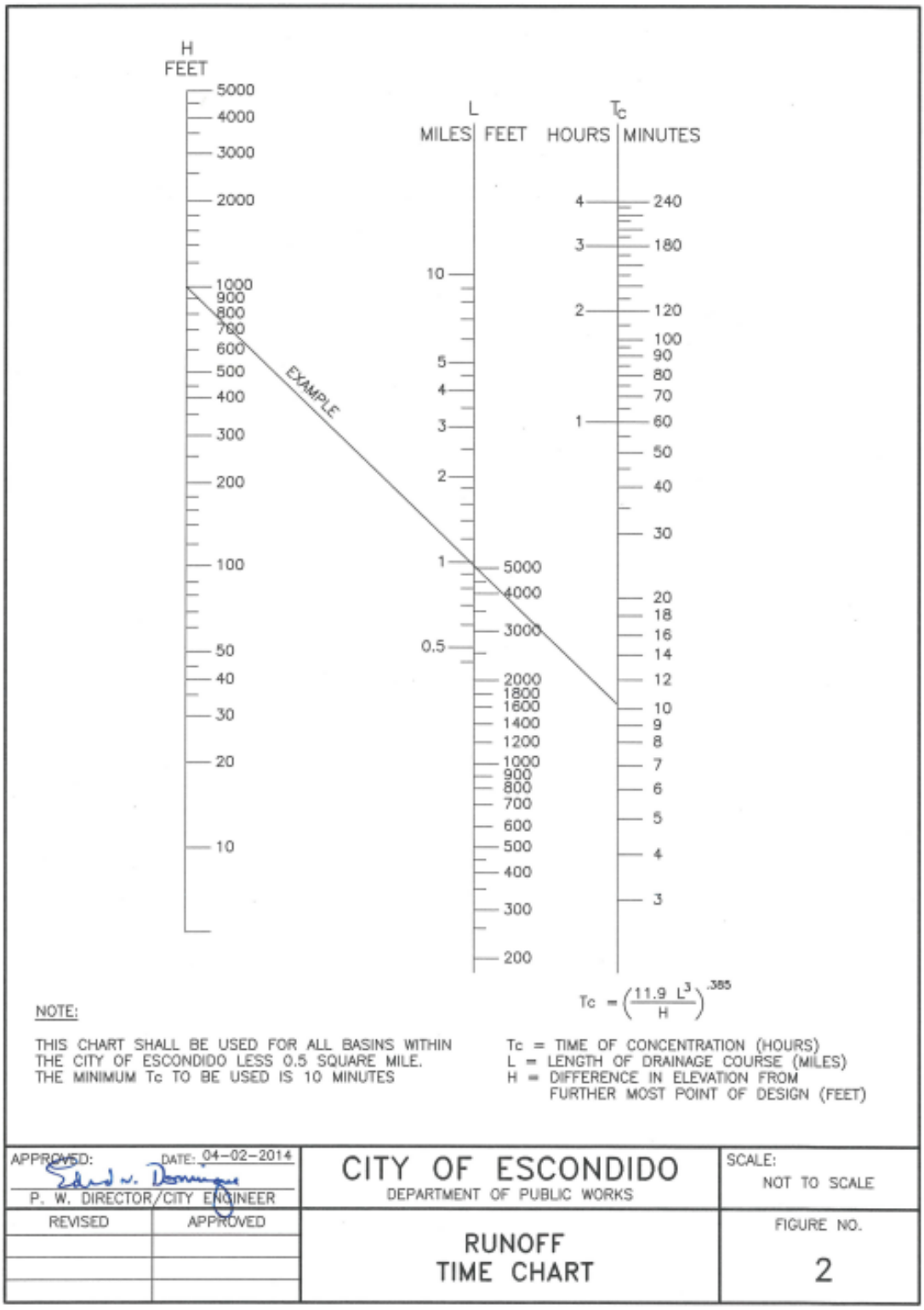
I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH THE CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF ESCONDIDO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

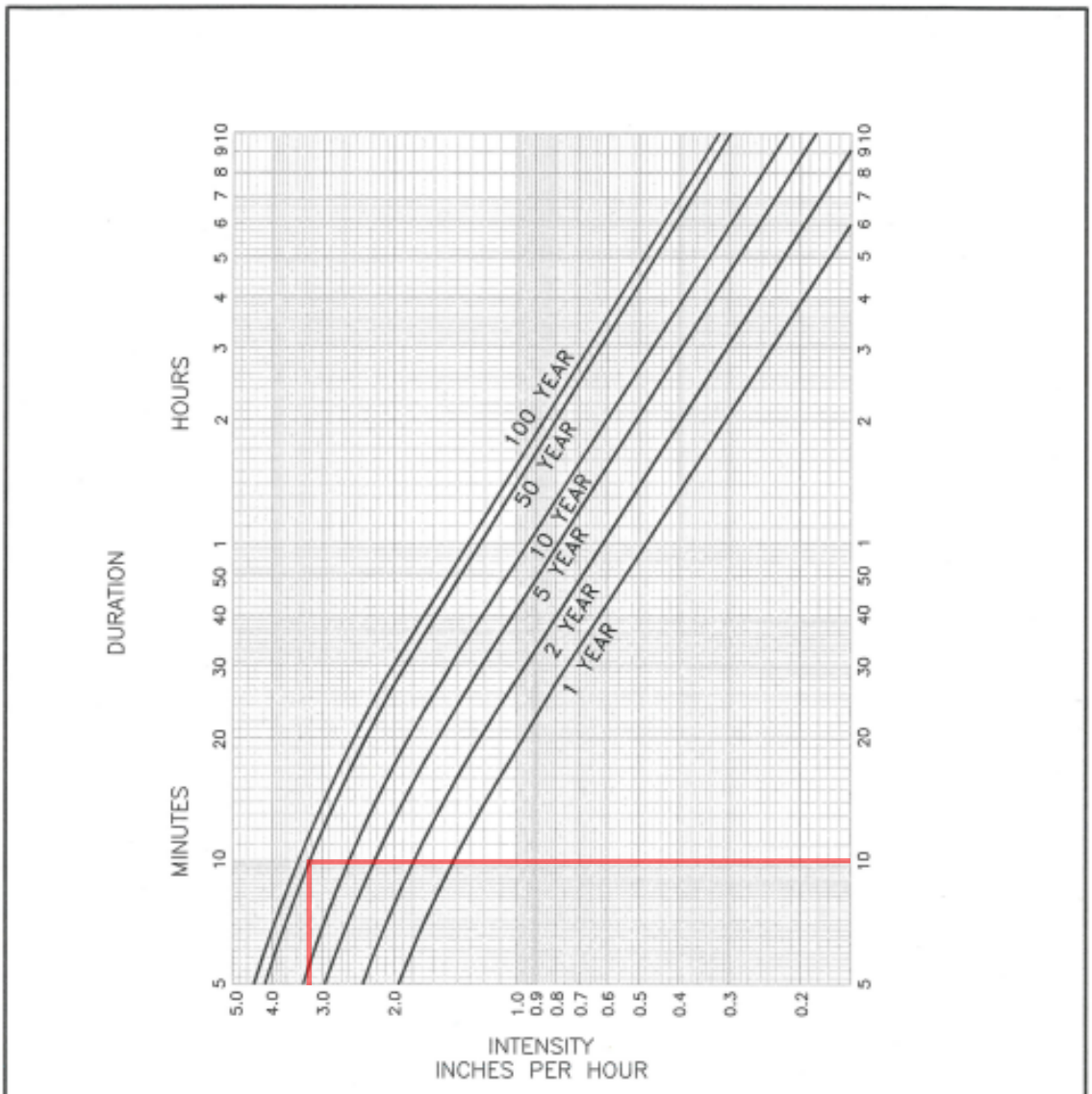
William O'Gorman R.C.E. 88286

CHAPTER 2 - METHODOLOGY

2.1 – Runoff Time of Concentration (hours) Determination



2.2 – City of Escondido Run-Off Intensity Duration Curve and Runoff Coefficients



ESCONDIDO RUNOFF COEFFICIENTS

PARKS, GOLF COURSES, CEMETERIES	0.25
UNDEVELOPED LAND, OPEN SPACE	0.35
RURAL – OVER 1/2 ACRE LOTS	0.45
SINGLE FAMILY	0.55
MOBILE HOME	0.65
MULTIPLE UNITS	0.70
COMMERCIAL	0.85
INDUSTRIAL	0.95

APPROVED: DATE: 04-02-2014 P. W. DIRECTOR/CITY ENGINEER	CITY OF ESCONDIDO DEPARTMENT OF PUBLIC WORKS	SCALE: NOT TO SCALE
REVISED / APPROVED	RUN-OFF INTENSITY DURATION CURVE	FIGURE NO. 1

2.3 –Rainfall Distribution - Construction of Hydrograph (from County of San Diego Hydrology Manual)

6.2.1 Rainfall Distribution

Figure 6-2 shows a 6-hour rainfall distribution consisting of blocks of rain over increments of time equal to T_c. The number of blocks is determined by rounding T_c to the nearest whole number of minutes, dividing 360 minutes (6 hours) by T_c, and rounding again to the nearest whole number. The blocks are distributed using a (2/3, 1/3) distribution in which the peak rainfall block is placed at the 4-hour time within the 6-hour rainfall duration. The additional blocks are distributed in a sequence alternating two blocks to the left and one block to the right of the 4-hour time (see Figure 6-2). The total amount of rainfall ($P_{T(N)}$) for any given block (N) is determined as follows:

$$P_{T(N)} = (I_{T(N)}\ T_{T(N)}) / 60$$

Where: $P_{T(N)}$ = total amount of rainfall for any given block (N)
$I_{T(N)}$ = average rainfall intensity for a duration equal to $T_{T(N)}$ in inches per hour
$T_{T(N)}$ = NT_c in minutes (N is an integer representing the given block number of rainfall)

Intensity is calculated using the following equation (described in detail in Section 3):

$$I = 7.44\ P_6\ D^{-0.645}$$

Where: I = average rainfall intensity for a duration equal to D in inches per hour
P_6 = adjusted 6-hour storm rainfall
D = duration in minutes

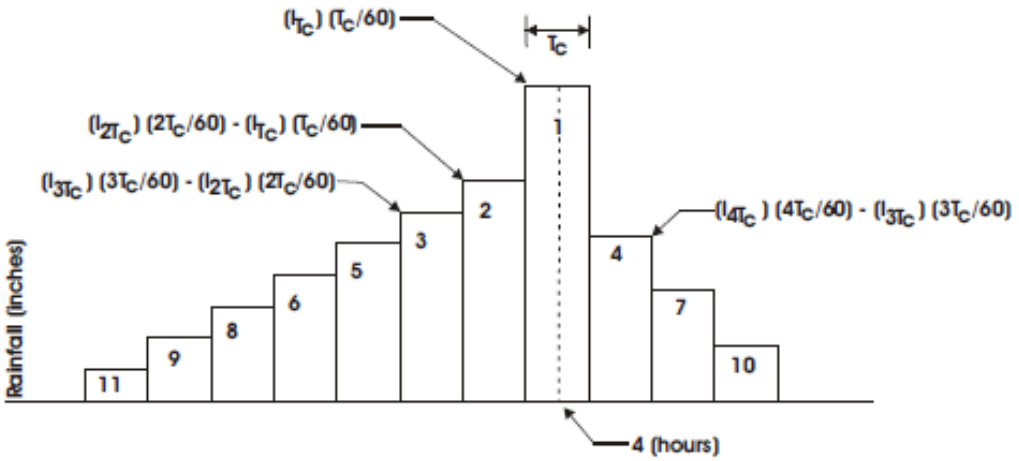


FIGURE 6-2

Rainfall Distribution

Substituting the equation for I in the equation above for $P_{T(N)}$ and setting the duration (D) equal to $T_{T(N)}$ yields:

$$P_{T(N)} = [(7.44\ P_6/T_{T(N)}^{0.645})(T_{T(N)})] / 60$$
$$P_{T(N)} = 0.124\ P_6 T_{T(N)}^{0.355}$$

Substituting NT_c for T_T (where N equals the block number of rainfall) in the equation above yields:

$$P_{T(N)} = 0.124\ P_6\ (NT_c)^{0.355} \qquad \text{(Eq. 6-2)}$$

Equation 6-2 represents the total rainfall amount for a rainfall block with a time base equal to $T_{T(N)}$ (NT_c). The actual time base of each rainfall block in the rainfall distribution is T_c, as shown in Figure 6-2. The actual rainfall amount (P_N) for each block of rain is equal to P_T at N ($P_{T(N)}$) minus the previous P_T at N–1 ($P_{T(N-1)}$) at any given multiple of T_c (any NT_c). For example, the rainfall for block 2 is equal to $P_{T(N)}$ at $T_{T(N)} = 2T_c$ minus the $P_{T(N)}$ at $T_{T(N)} = 1T_c$, and the rainfall for block 3 equals $P_{T(N)}$ at $T_{T(N)} = 3T_c$ minus the $P_{T(N)}$ at $T_{T(N)} = 2T_c$, or P_N can be represented by the following equation:

$$P_N = P_{T(N)} - P_{T(N-1)} \qquad \text{(Eq. 6-3)}$$

For the rainfall distribution, the rainfall at block N = 1, ($1T_c$), is centered at 4 hours, the rainfall at block N = 2, ($2T_c$), is centered at 4 hours – $1T_c$, the rainfall at block N = 3, ($3T_c$), is centered at 4 hours – $2T_c$, and the rainfall at at block N = 4, ($4T_c$), is centered at 4 hours + $1T_c$. The sequence continues alternating two blocks to the left and one block to the right (see Figure 6-2).

2.4 –Storm Frequency Determination – 50-year storm (from City of Escondido Drainage Design Standards)

DRAINAGE - DESIGN STANDARDS

1. GENERAL

A. All drainage design and requirements shall be in accordance with the City adopted SUSMP, the latest Drainage Master Plan, Flood Insurance Rate Maps; the City's Floodplain Ordinance, and/or the requirements of the City Engineer.

B. All public and private drainage facilities shall be designed for a 50-year frequency storm, except that a 100-year frequency storm shall be used for all tributary areas over one square mile.

C. The use of underground storm drain systems, in addition to standard curb and gutter, shall be required:

(1) When the depth of flow in a public street exceeds 5 inches or more than 16 feet of roadway is flooded in a 50-year frequency storm.

(2) When existing drainage facilities discharge into the proposed development.

(3) When the depth-velocity product of flow in the street (expressed in feet and feet per second) exceeds six.

(4) To minimize the installation of cross gutters.

D. When the above conditions require an underground storm drain, the combined street and storm drain design shall be based on a 50-year frequency storm.

E. Permanent open drainage ditches will not be permitted in the right-of-way of a public street.

F. Open channels may be considered in lieu of underground systems when the design flow exceeds the capacity of a 48 inch diameter reinforced concrete pipe (R.C.P.)

G. The Developer shall be responsible for accepting all drainage flows tributary to his property, and providing permanent drainage facilities in conformance with these standards and the requirements of the City Engineer through the limits of the development to a point of satisfactory disposal as approved by the City Engineer.

H. Concentrated discharges into unimproved areas shall only be permitted into natural channels with "defined bed and banks". An energy dissipater shall be considered at these locations.

I. The type of drainage facility shall be selected on the basis of physical adaptability to the proposed land use. Environmental channels are encouraged in areas where substantial open space can be preserved. A low-flow pipe or swale shall be included in the design of the channel. Maximum design velocity shall be 6 F.P.S. in the channel.

J. Concentrated drainage over 10 C.F.S. shall not be discharged to city streets.

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CHAPTER 3 – HYDRAULIC SIZING

WILL BE COMPLETED IN FINAL ENGINEERING

CHAPTER 4 - MODIFIED-PULS DETENTION ROUTING

4.1 – Rational Method Hydrograph

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Pre-Dev. Area**

A: 25.19 acre

C: 0.35

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	1.345
2	20	0.155	1.369
3	30	0.161	1.421
4	40	0.164	1.448
5	50	0.171	1.509
6	60	0.175	1.541
7	70	0.183	1.613
8	80	0.187	1.652
9	90	0.197	1.738
10	100	0.202	1.785
11	110	0.215	1.892
12	120	0.221	1.951
13	130	0.237	2.087
14	140	0.246	2.165
15	150	0.266	2.346
16	160	0.278	2.452
17	170	0.307	2.709
18	180	0.325	2.867
19	190	0.371	3.270
20	200	0.401	3.535
21	210	0.460	4.056
22	220	0.500	4.408
23	230	0.972	8.570
24	240	1.508	13.295
25	250	3.160	**27.860**
26	260	0.720	6.348
27	270	0.438	3.864
28	280	0.346	3.051
29	290	0.292	2.573
30	300	0.255	2.251
31	310	0.229	2.016
32	320	0.208	1.836
33	330	0.192	1.693
34	340	0.179	1.576
35	350	0.168	1.478
36	360	0.158	1.394

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Basin-1**

A: 1.385 acre

C: 0.85

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.180
2	20	0.155	0.183
3	30	0.161	0.190
4	40	0.164	0.193
5	50	0.171	0.201
6	60	0.175	0.206
7	70	0.183	0.215
8	80	0.187	0.221
9	90	0.197	0.232
10	100	0.202	0.238
11	110	0.215	0.253
12	120	0.221	0.261
13	130	0.237	0.279
14	140	0.246	0.289
15	150	0.266	0.313
16	160	0.278	0.327
17	170	0.307	0.362
18	180	0.325	0.383
19	190	0.371	0.437
20	200	0.401	0.472
21	210	0.460	0.542
22	220	0.500	0.589
23	230	0.972	1.144
24	240	1.508	1.775
25	250	3.160	**3.720**
26	260	0.720	0.848
27	270	0.438	0.516
28	280	0.346	0.407
29	290	0.292	0.344
30	300	0.255	0.301
31	310	0.229	0.269
32	320	0.208	0.245
33	330	0.192	0.226
34	340	0.179	0.210
35	350	0.168	0.197
36	360	0.158	0.186
37	370		0

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Basin 2**

A: 0.622 acre

C: 0.85

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.081
2	20	0.155	0.082
3	30	0.161	0.085
4	40	0.164	0.087
5	50	0.171	0.090
6	60	0.175	0.092
7	70	0.183	0.097
8	80	0.187	0.099
9	90	0.197	0.104
10	100	0.202	0.107
11	110	0.215	0.113
12	120	0.221	0.117
13	130	0.237	0.125
14	140	0.246	0.130
15	150	0.266	0.141
16	160	0.278	0.147
17	170	0.307	0.162
18	180	0.325	0.172
19	190	0.371	0.196
20	200	0.401	0.212
21	210	0.460	0.243
22	220	0.500	0.264
23	230	0.972	0.514
24	240	1.508	0.797
25	250	3.160	**1.671**
26	260	0.720	0.381
27	270	0.438	0.232
28	280	0.346	0.183
29	290	0.292	0.154
30	300	0.255	0.135
31	310	0.229	0.121
32	320	0.208	0.110
33	330	0.192	0.102
34	340	0.179	0.095
35	350	0.168	0.089
36	360	0.158	0.084
	370		0

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Basin 3**

A: 0.691 acre

C: 0.55

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.058
2	20	0.155	0.059
3	30	0.161	0.061
4	40	0.164	0.062
5	50	0.171	0.065
6	60	0.175	0.066
7	70	0.183	0.070
8	80	0.187	0.071
9	90	0.197	0.075
10	100	0.202	0.077
11	110	0.215	0.082
12	120	0.221	0.084
13	130	0.237	0.090
14	140	0.246	0.093
15	150	0.266	0.101
16	160	0.278	0.106
17	170	0.307	0.117
18	180	0.325	0.124
19	190	0.371	0.141
20	200	0.401	0.152
21	210	0.460	0.175
22	220	0.500	0.190
23	230	0.972	0.369
24	240	1.508	0.573
25	250	3.160	**1.201**
26	260	0.720	0.274
27	270	0.438	0.167
28	280	0.346	0.132
29	290	0.292	0.111
30	300	0.255	0.097
31	310	0.229	0.087
32	320	0.208	0.079
33	330	0.192	0.073
34	340	0.179	0.068
35	350	0.168	0.064
36	360	0.158	0.060
	370		0.000

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Basin 4**

A: 0.862 acre

C: 0.85

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.112
2	20	0.155	0.114
3	30	0.161	0.118
4	40	0.164	0.120
5	50	0.171	0.125
6	60	0.175	0.128
7	70	0.183	0.134
8	80	0.187	0.137
9	90	0.197	0.144
10	100	0.202	0.148
11	110	0.215	0.157
12	120	0.221	0.162
13	130	0.237	0.173
14	140	0.246	0.180
15	150	0.266	0.195
16	160	0.278	0.204
17	170	0.307	0.225
18	180	0.325	0.238
19	190	0.371	0.272
20	200	0.401	0.294
21	210	0.460	0.337
22	220	0.500	0.366
23	230	0.972	0.712
24	240	1.508	1.105
25	250	3.160	**2.315**
26	260	0.720	0.528
27	270	0.438	0.321
28	280	0.346	0.254
29	290	0.292	0.214
30	300	0.255	0.187
31	310	0.229	0.168
32	320	0.208	0.153
33	330	0.192	0.141
34	340	0.179	0.131
35	350	0.168	0.123
36	360	0.158	0.116
	370		0

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Basin 5**

A: 4.307 acre

C: 0.55

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.361
2	20	0.155	0.368
3	30	0.161	0.382
4	40	0.164	0.389
5	50	0.171	0.405
6	60	0.175	0.414
7	70	0.183	0.433
8	80	0.187	0.444
9	90	0.197	0.467
10	100	0.202	0.480
11	110	0.215	0.508
12	120	0.221	0.524
13	130	0.237	0.561
14	140	0.246	0.582
15	150	0.266	0.630
16	160	0.278	0.659
17	170	0.307	0.728
18	180	0.325	0.770
19	190	0.371	0.879
20	200	0.401	0.950
21	210	0.460	1.090
22	220	0.500	1.184
23	230	0.972	2.303
24	240	1.508	3.572
25	250	3.160	**7.486**
26	260	0.720	1.706
27	270	0.438	1.038
28	280	0.346	0.820
29	290	0.292	0.691
30	300	0.255	0.605
31	310	0.229	0.542
32	320	0.208	0.493
33	330	0.192	0.455
34	340	0.179	0.423
35	350	0.168	0.397
36	360	0.158	0.375
	370		0

ESCONDIDO HYDROGRAPHS PER FIGURE 1 and SDCHM Method

(valid for Tc ≤ 10 min) Description: **Post-Dev. Area Bypass**

A: 17.323 acre

C: 0.35

POSITION	T (min)	I_{50} (in/hr)	Q_{50} (cfs)
	0	0	0.000
1	10	0.153	0.925
2	20	0.155	0.941
3	30	0.161	0.977
4	40	0.164	0.996
5	50	0.171	1.038
6	60	0.175	1.060
7	70	0.183	1.109
8	80	0.187	1.136
9	90	0.197	1.195
10	100	0.202	1.228
11	110	0.215	1.301
12	120	0.221	1.342
13	130	0.237	1.435
14	140	0.246	1.489
15	150	0.266	1.613
16	160	0.278	1.686
17	170	0.307	1.863
18	180	0.325	1.972
19	190	0.371	2.249
20	200	0.401	2.431
21	210	0.460	2.789
22	220	0.500	3.032
23	230	0.972	5.893
24	240	1.508	9.143
25	250	3.160	**19.159**
26	260	0.720	4.365
27	270	0.438	2.658
28	280	0.346	2.098
29	290	0.292	1.769
30	300	0.255	1.548
31	310	0.229	1.387
32	320	0.208	1.263
33	330	0.192	1.164
34	340	0.179	1.084
35	350	0.168	1.016
36	360	0.158	0.959
37	370		0.000

4.2 – Stage-Storage & Stage-Discharge Relationships

Stage-Area for BMP 1

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	1468	**0**	0.0000	**BIOFILTRATION[1]**
0.08	1468	49	0.0000	
0.17	1468	98	0.0000	
0.25	1468	147	0.0000	**TOP OF MULCH[2]**
0.33	1468	269	0.0000	
0.42	1468	391	0.0000	
0.50	1468	514	0.0000	
0.58	1468	636	0.0000	
0.67	1468	758	0.0000	
0.75	1468	881	0.0000	
0.83	1468	1003	0.0000	
0.92	1468	1125	0.0000	
1.00	1468	1248	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	1468	1370	0.0028	
1.17	1468	1492	0.0056	
1.25	1468	1615	0.0084	
1.33	1468	1737	0.0112	
1.42	1468	1859	0.0140	
1.50	1468	1982	0.0169	
1.58	1468	2104	0.0197	
1.67	1468	2226	0.0225	
1.75	1468	2349	0.0253	
1.83	1468	2471	0.0281	
1.92	1468	2593	0.0309	
2.00	1468	2716	0.0337	
2.08	1468	2838	0.0365	
2.17	1468	2960	0.0393	**EMERGENCY WEIR[4]**
2.25	1468	3083	0.0421	
2.33	1468	3205	0.0449	
2.42	1468	3327	0.0477	
2.50	1468	3450	0.0506	
2.58	1468	3572	0.0534	
2.67	1468	3694	0.0562	
2.75	1468	3817	0.0590	
2.83	1468	3939	0.0618	
2.92	1468	4061	0.0646	
3.00	1468	4184	0.0674	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 2

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	650	**0**	0.0000	**BIOFILTRATION[1]**
0.08	650	22	0.0000	
0.17	650	43	0.0000	
0.25	650	65	0.0000	**TOP OF MULCH[2]**
0.33	650	119	0.0000	
0.42	650	173	0.0000	
0.50	650	228	0.0000	
0.58	650	282	0.0000	
0.67	650	336	0.0000	
0.75	650	390	0.0000	
0.83	650	444	0.0000	
0.92	650	498	0.0000	
1.00	650	553	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	650	607	0.0012	
1.17	650	661	0.0025	
1.25	650	715	0.0037	
1.33	650	769	0.0050	
1.42	650	823	0.0062	
1.50	650	878	0.0075	
1.58	650	932	0.0087	
1.67	650	986	0.0099	
1.75	650	1040	0.0112	
1.83	650	1094	0.0124	**EMERGENCY WEIR[4]**
1.92	650	1148	0.0137	
2.00	650	1203	0.0149	
2.08	650	1257	0.0162	
2.17	650	1311	0.0174	
2.25	650	1365	0.0187	
2.33	650	1419	0.0199	
2.42	650	1473	0.0211	
2.50	650	1528	0.0224	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 3

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	538	**0**	0.0000	**BIOFILTRATION(1)**
0.08	563	18	0.0000	
0.17	587	37	0.0000	
0.25	612	57	0.0000	**TOP OF MULCH(2)**
0.33	637	109	0.0000	
0.42	663	164	0.0000	
0.50	689	220	0.0000	
0.58	717	279	0.0000	
0.67	744	339	0.0000	
0.75	772	403	0.0000	**SURFACE DISCHARGE(3)(5)**
0.83	801	468	0.0015	
0.92	831	536	0.0031	
1.00	861	607	0.0047	
1.08	891	680	0.0064	
1.17	922	755	0.0081	
1.25	954	833	0.0099	
1.33	986	914	0.0117	
1.42	1019	998	0.0137	
1.50	1052	1084	0.0156	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 4

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	1202	**0**	0.0000	**BIOFILTRATION[1]**
0.08	1202	40	0.0000	
0.17	1202	80	0.0000	
0.25	1202	120	0.0000	**TOP OF MULCH[2]**
0.33	1202	220	0.0000	
0.42	1202	321	0.0000	
0.50	1202	421	0.0000	
0.58	1202	521	0.0000	
0.67	1202	621	0.0000	
0.75	1202	721	0.0000	
0.83	1202	821	0.0000	
0.92	1202	922	0.0000	
1.00	1202	1022	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	1202	1122	0.0023	
1.17	1202	1222	0.0046	
1.25	1202	1322	0.0069	
1.33	1202	1422	0.0092	
1.42	1202	1523	0.0115	
1.50	1202	1623	0.0138	
1.58	1202	1723	0.0161	
1.67	1202	1823	0.0184	
1.75	1202	1923	0.0207	
1.83	1202	2023	0.0230	
1.92	1202	2124	0.0253	
2.00	1202	2224	0.0276	
2.08	1202	2324	0.0299	
2.17	1202	2424	0.0322	
2.25	1202	2524	0.0345	**EMERGENCY WEIR[4]**
2.33	1202	2624	0.0368	
2.42	1202	2725	0.0391	
2.50	1202	2825	0.0414	
2.58	1202	2925	0.0437	
2.67	1202	3025	0.0460	
2.75	1202	3125	0.0483	
2.83	1202	3225	0.0506	
2.92	1202	3326	0.0529	
3.00	1202	3426	0.0552	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 5

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	3137	**0**	0.0000	**BIOFILTRATION[1]**
0.08	3207	106	0.0000	
0.17	3277	214	0.0000	
0.25	3347	324	0.0000	**TOP OF MULCH[2]**
0.33	3418	606	0.0000	
0.42	3489	894	0.0000	
0.50	3561	1188	0.0000	
0.58	3633	1487	0.0000	
0.67	3705	1793	0.0000	
0.75	3778	2105	0.0000	
0.83	3851	2423	0.0000	**SURFACE DISCHARGE[3][5]**
0.92	3925	2747	0.0074	
1.00	3999	3077	0.0150	
1.08	4073	3413	0.0227	
1.17	4148	3756	0.0306	
1.25	4223	4105	0.0386	
1.33	4299	4460	0.0468	
1.42	4375	4821	0.0551	
1.50	4451	5189	0.0635	
1.58	4528	5563	0.0721	
1.67	4605	5943	0.0808	
1.75	4682	6330	0.0897	**EMERGENCY WEIR[4]**
1.83	4760	6724	0.0987	
1.92	4839	7124	0.1079	
2.00	4917	7530	0.1173	
2.08	4996	7943	0.1267	
2.17	5076	8363	0.1364	
2.25	5156	8789	0.1462	
2.33	5236	9222	0.1561	
2.42	5317	9662	0.1662	
2.50	5398	10108	0.1764	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage Discharge

		BMP-1	BMP-2	BMP-3	BMP-4	BMP-5
SLOT	W (ft):	1.000	0.750	-	1.083	5.500
SLOT	h (in):	6	4	-	4	1.5
Inv slot:	(ft):	1.00	1.00	-	1.00	0.833
Weir	W (ft):	8	8	8	8	16
inv weir:	(ft):	2.167	1.833	0.750	2.250	1.750
$Q_{100,\ unrouted}$ (cfs):		3.72	1.67	1.20	2.32	7.49
h for $Q_{100,u}$ (in):		3.39	1.99	1.59	2.47	3.40
Dorif:	(in):	1.375	0.875	0.875	1.25	2.25
Qorif:	(cfs):	0.049	0.020	0.020	0.041	0.102

Discharges with h measured over invert of slot (and not including low orifice)

h	Q1	Q2	Q3	Q4	Q5
0.00	0	0	0	0	0
0.08	0.075	0.056	***0.597***	0.081	0.410
0.17	0.211	0.158	***1.687***	0.229	1.160
0.25	0.388	0.291	***3.100***	0.420	1.457
0.33	0.597	0.447	***4.773***	0.646	1.751
0.42	0.834	0.612	***6.670***	0.884	2.003
0.50	1.096	0.707	***8.768***	1.021	2.226
0.58	1.381	0.790	***11.049***	1.141	2.429
0.67	1.580	0.865	***13.499***	1.250	2.616
0.75	1.731	0.935	***16.108***	1.350	2.790
0.83	1.869	***0.999***		1.443	2.955
0.92	1.998	***1.656***		1.531	3.110
1.00	2.120	***2.805***		1.614	***4.452***
1.08	2.234	***4.272***		1.692	***6.775***
1.17	***2.343***	***5.997***		1.768	***9.736***
1.25	***3.044***	***7.944***		***1.840***	***13.213***
1.33	***4.235***	***10.090***		***2.506***	***17.134***
1.42	***5.744***	***12.417***		***3.664***	***21.453***
1.50	***7.509***	***14.913***		***5.141***	***26.133***
1.58	***9.496***			***6.877***	***31.149***
1.67	***11.681***			***8.835***	***36.479***
1.75	***14.047***			***10.992***	
1.83	***16.579***			***13.331***	
1.92	***19.268***			***15.838***	
2.00	***22.104***			***18.502***	

Discharges with 0 = surface elevation of BMP. For Q100 purposes, initial level is in blue bold. Includes low flow orifice.

BMP-1

h (ft)	Q (cfs)
0.000	0
0.001	0.0489
1.000	0.049
1.083	0.124
1.167	0.260
1.250	0.437
1.333	0.646
1.417	0.883
1.500	1.145
1.583	1.430
1.667	1.629
1.750	1.780
1.833	1.918
1.917	2.047
2.000	2.169
2.083	2.283
2.167	2.392
2.250	3.093
2.333	4.284
2.417	5.793
2.500	7.558
2.583	9.545
2.667	11.730
2.750	14.096
2.833	16.628
2.917	19.317
3.000	22.153

BMP-2

h (ft)	Q (cfs)
0.000	0
0.001	0.0199
1.000	0.020
1.083	0.076
1.167	0.178
1.250	0.311
1.333	0.467
1.417	0.632
1.500	0.727
1.583	0.810
1.667	0.885
1.750	0.955
1.833	1.019
1.917	1.676
2.000	2.825
2.083	4.292
2.167	6.017
2.250	7.964
2.333	10.110
2.417	12.437
2.500	14.933

BMP-3

h (ft)	Q (cfs)
0.000	0
0.001	0.0199
0.750	0.020
0.833	0.617
0.917	1.707
1.000	3.120
1.083	4.793
1.167	6.690
1.250	8.788
1.333	11.069
1.417	13.519
1.500	16.128

BMP-4

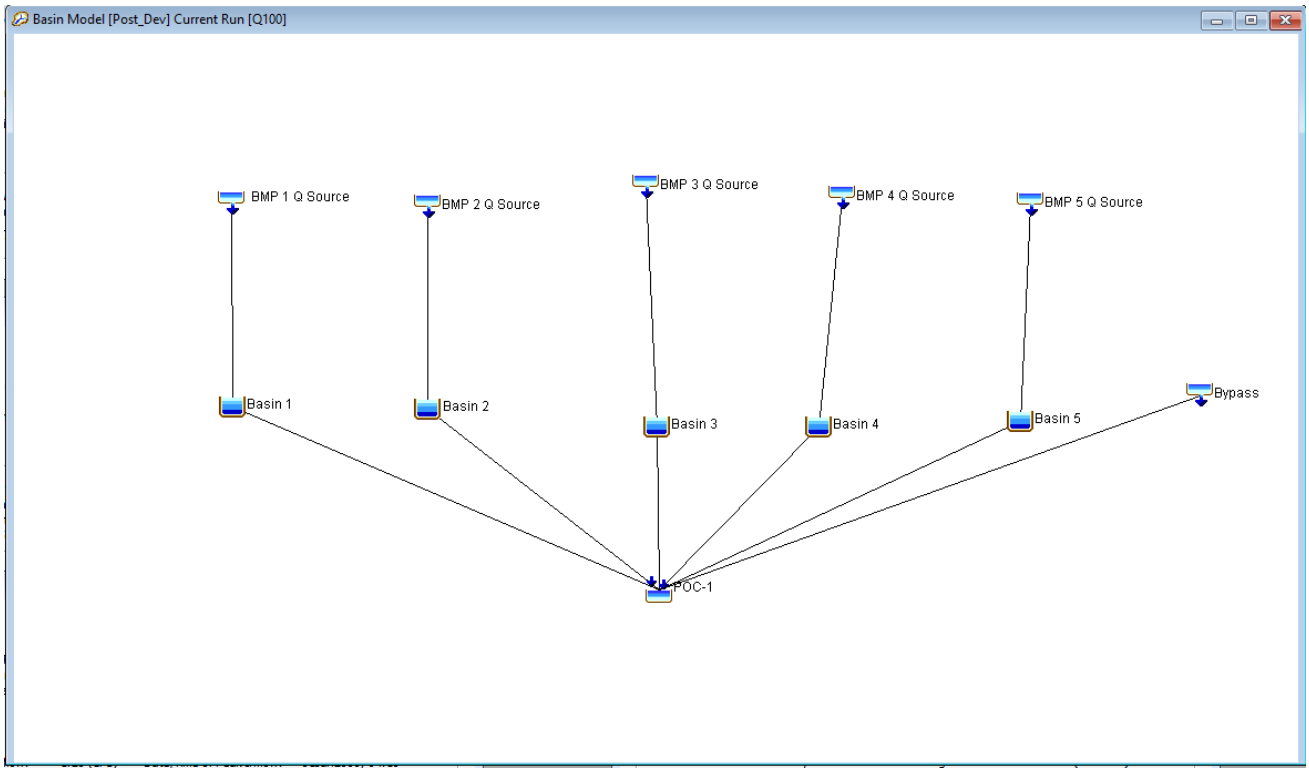
h (ft)	Q (cfs)
0.000	0
0.001	0.0409
1.000	0.041
1.083	0.122
1.167	0.270
1.250	0.461
1.333	0.687
1.417	0.925
1.500	1.062
1.583	1.182
1.667	1.291
1.750	1.391
1.833	1.484
1.917	1.572
2.000	1.655
2.083	1.733
2.167	1.809
2.250	1.881
2.333	2.547
2.417	3.705
2.500	5.182
2.583	6.918
2.667	8.876
2.750	11.033
2.833	13.372
2.917	15.879
3.000	18.543

BMP-5

h (ft)	Q (cfs)
0.000	0
0.001	0.1019
0.833	0.102
0.917	0.512
1.000	1.262
1.083	1.559
1.167	1.853
1.250	2.105
1.333	2.328
1.417	2.531
1.500	2.718
1.583	2.892
1.667	3.057
1.750	3.212
1.833	4.554
1.917	6.877
2.000	9.838
2.083	13.315
2.167	17.236
2.250	21.555
2.333	26.235
2.417	31.251
2.500	36.581

4.3 – HEC-HMS Modified-Puls Routing Results

HEC-HMS Post Development



HEC-HMS Post Development Results POC-1

Summary Results for Sink "POC-1"

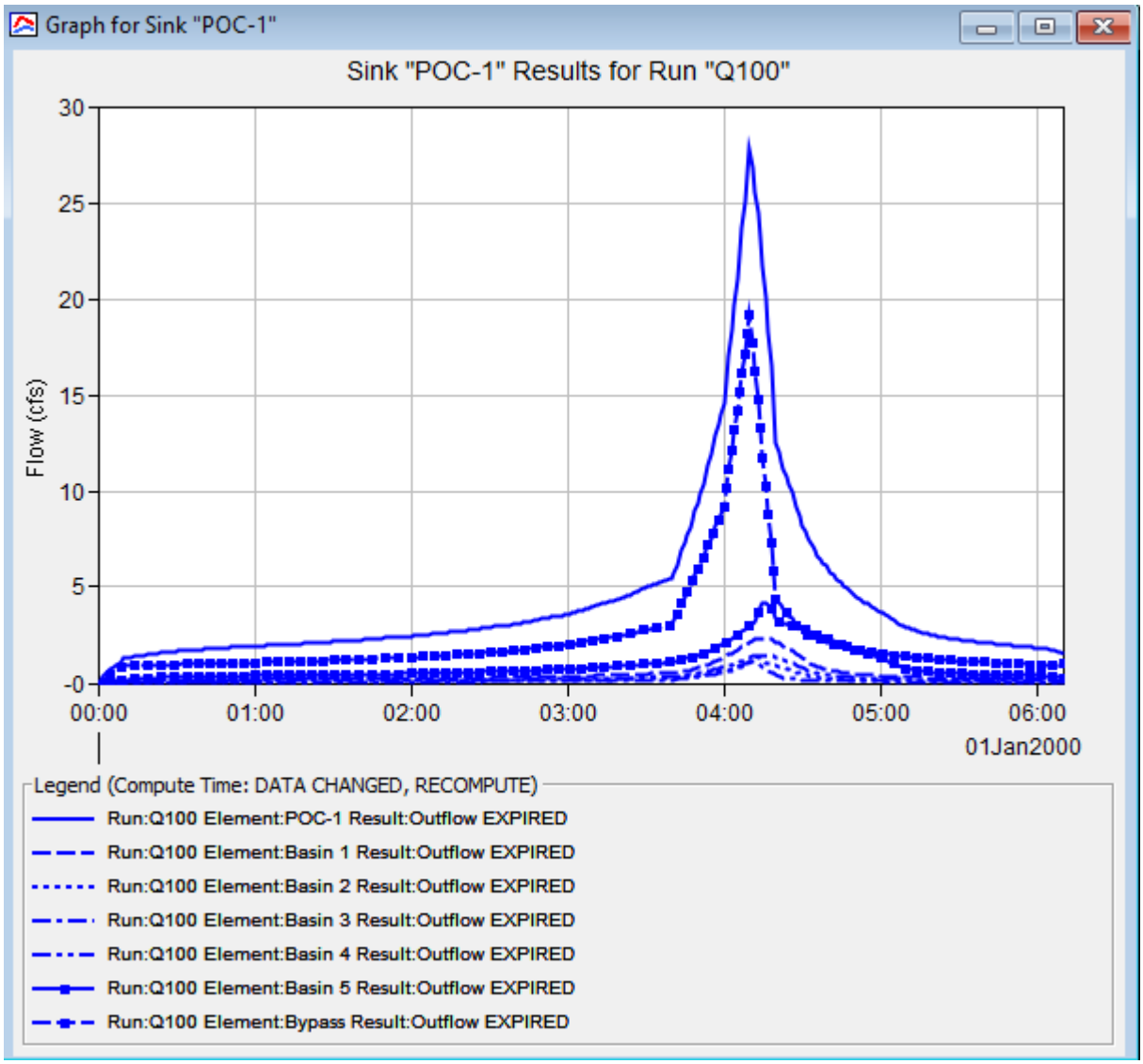
Project: 1829_All_basins Simulation Run: Q100
Sink: POC-1

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Discharge: 27.79 (CFS) Date/Time of Peak Discharge 01Jan2000, 04:10
Volume: n/a



HEC-HMS Post Development Results Basin 1

Summary Results for Reservoir "Basin 1"

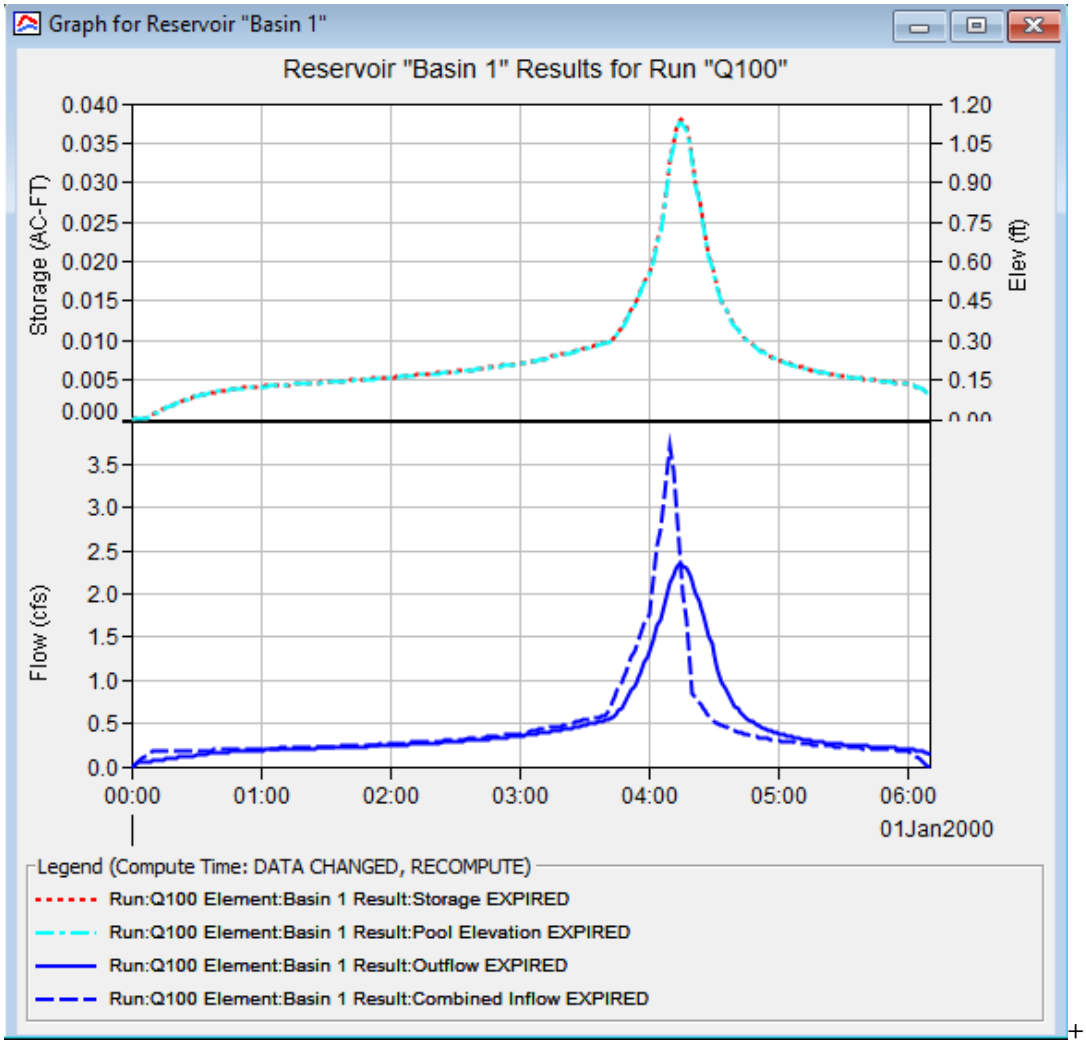
Project: 1829_All_basins Simulation Run: Q100
Reservoir: Basin 1

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Inflow:	3.72 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 04:10
Peak Discharge:	2.34 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 04:15
Inflow Volume:	n/a	Peak Storage:	0.038 (ACRE-FT)
Discharge Volume:	n/a	Peak Elevation:	1.13 (FT)



HEC-HMS Post Development Results Basin 2

Summary Results for Reservoir "Basin 2"

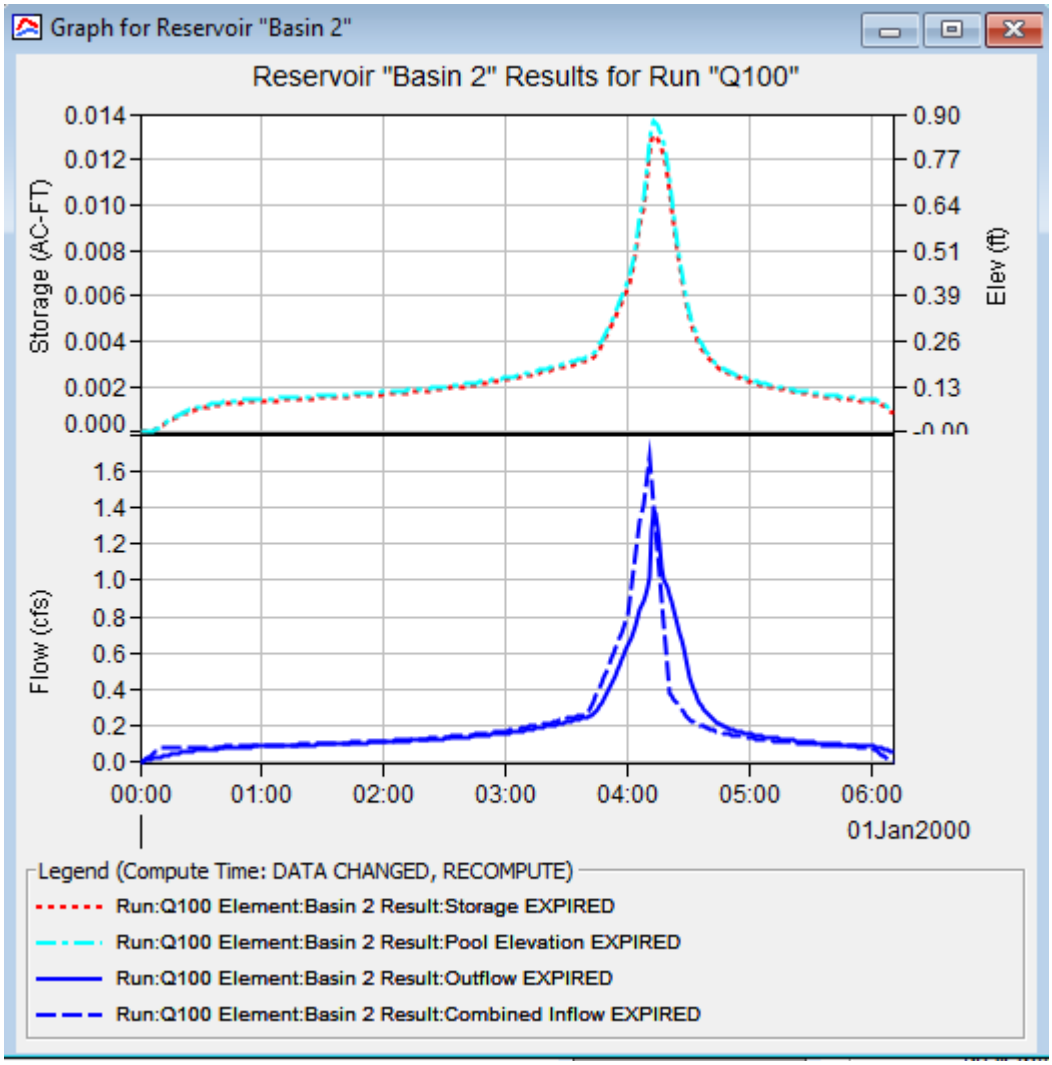
Project: 1829_All_basins Simulation Run: Q100
Reservoir: Basin 2

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Inflow:	1.67 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 04:10
Peak Discharge:	1.38 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 04:12
Inflow Volume:	n/a	Peak Storage:	0.013 (ACRE-FT)
Discharge Volume:	n/a	Peak Elevation:	0.88 (FT)



HEC-HMS Post Development Results Basin 3

Summary Results for Reservoir "Basin 3"

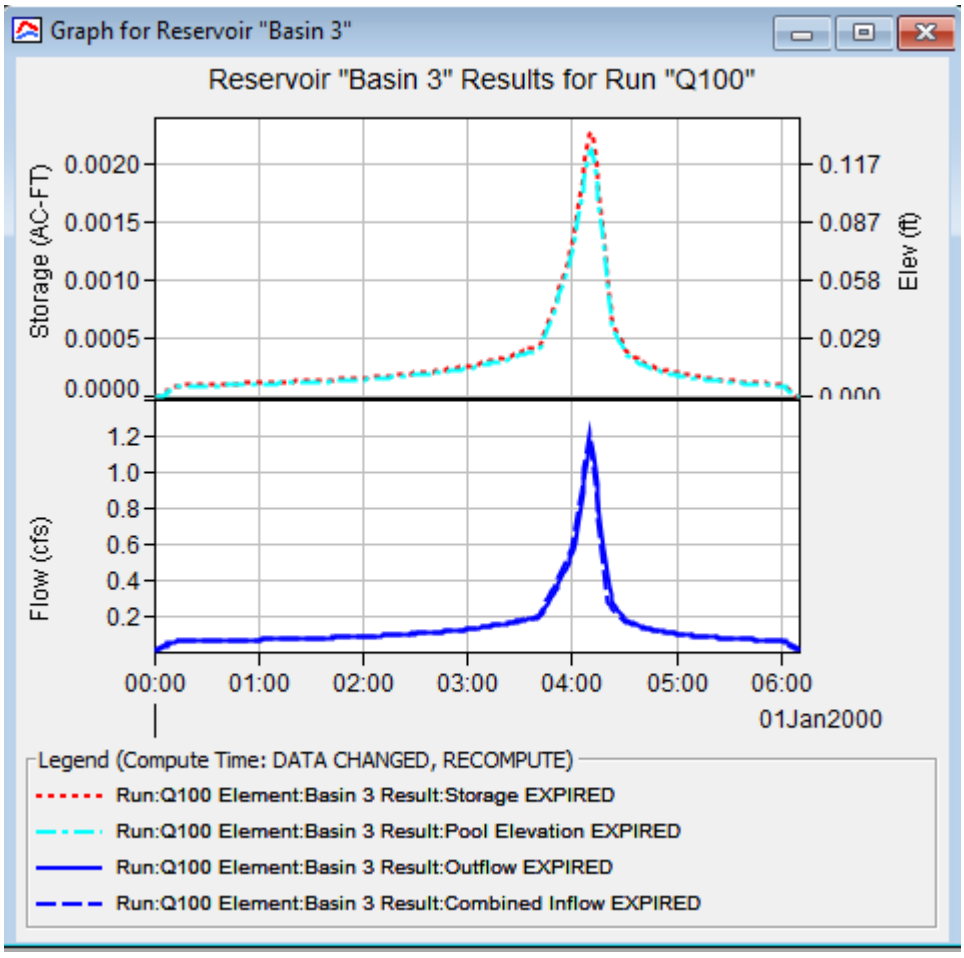
Project: 1829_All_basins Simulation Run: Q100
Reservoir: Basin 3

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Inflow:	1.20 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 04:10
Peak Discharge:	1.15 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 04:11
Inflow Volume:	n/a	Peak Storage:	0.002 (ACRE-FT)
Discharge Volume:	n/a	Peak Elevation:	0.12 (FT)



HEC-HMS Post Development Results Basin 3

Summary Results for Reservoir "Basin 4"

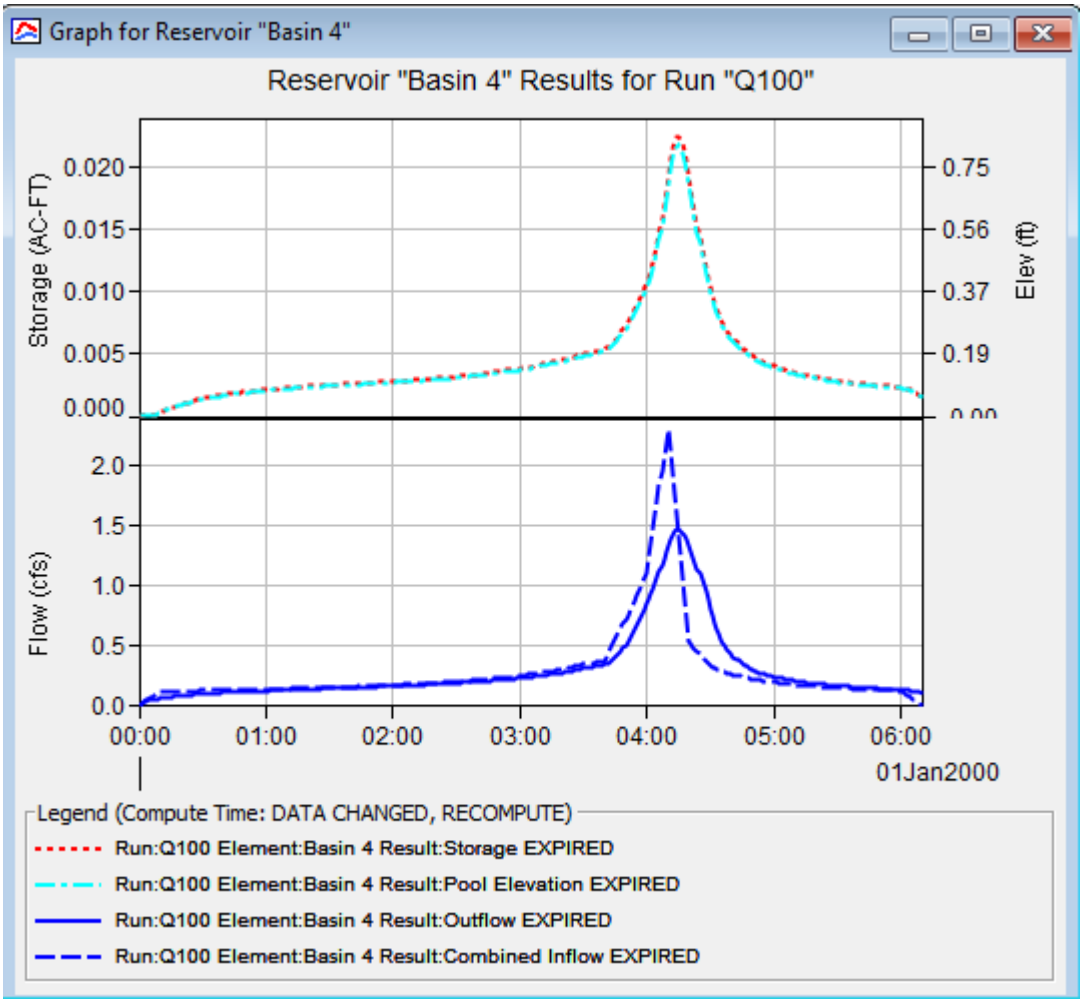
Project: 1829_All_basins Simulation Run: Q100
Reservoir: Basin 4

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Inflow:	2.32 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 04:10
Peak Discharge:	1.46 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 04:15
Inflow Volume:	n/a	Peak Storage:	0.023 (ACRE-FT)
Discharge Volume:	n/a	Peak Elevation:	0.82 (FT)



HEC-HMS Post Development Results Basin 3

Summary Results for Reservoir "Basin 5"

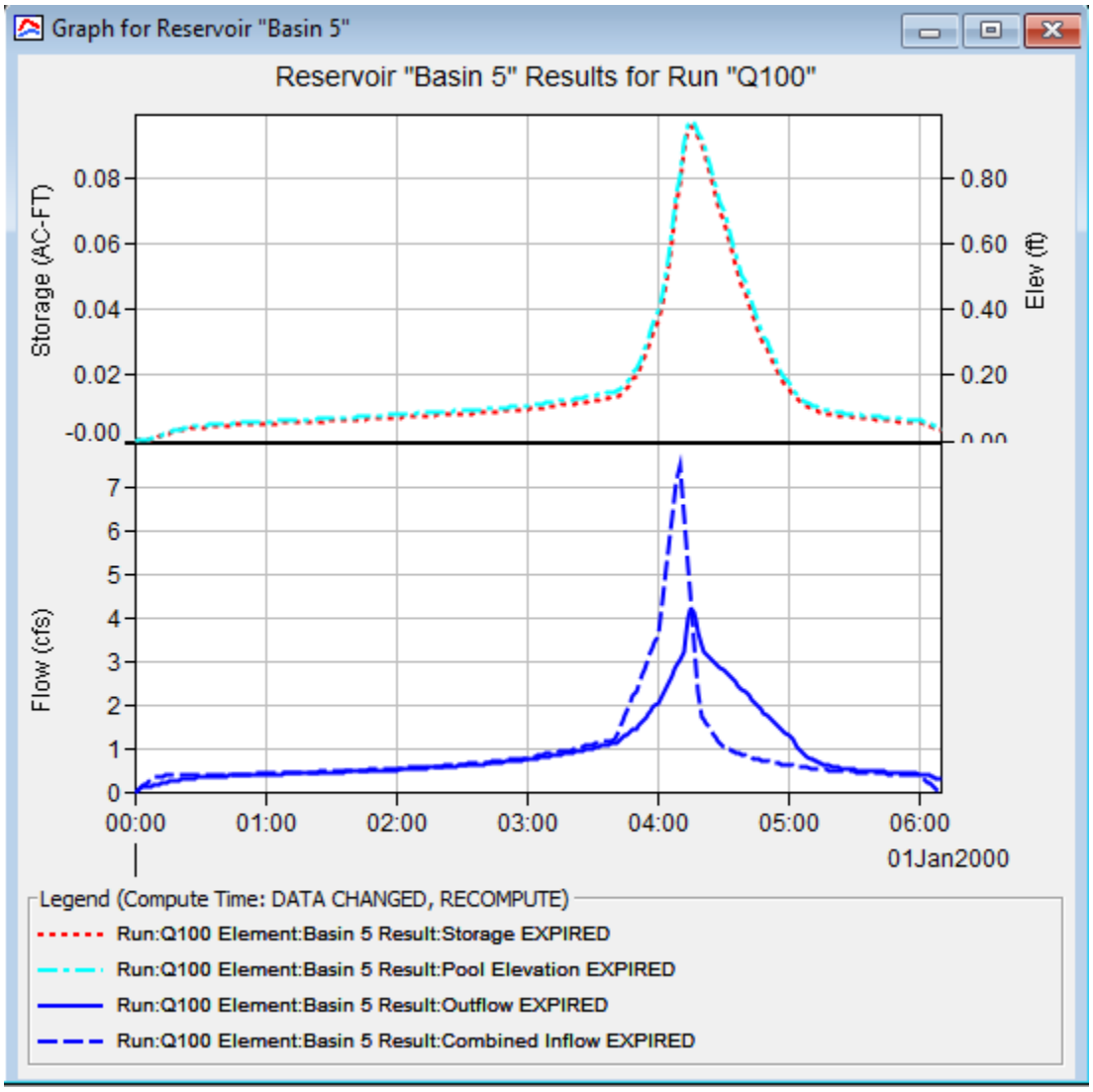
Project: 1829_All_basins Simulation Run: Q100
Reservoir: Basin 5

Start of Run:	01Jan2000, 00:00	Basin Model:	Post_Dev
End of Run:	01Jan2000, 06:10	Meteorologic Model:	Met 1
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control 1

Volume Units: (•) IN ( ) ACRE-FT

Computed Results

Peak Inflow:	7.49 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 04:10
Peak Discharge:	4.18 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 04:16
Inflow Volume:	n/a	Peak Storage:	0.096 (ACRE-FT)
Discharge Volume:	n/a	Peak Elevation:	0.98 (FT)



CHAPTER 5 - HYDROLOGY MAPS

LEGEND

NODE NUMBER (XX)

FLOWPATH

BASIN BOUNDARY

SOIL TYPE BOUNDARY

1 EL=960.0

L=1621'

APN: 224-100-34

1-1000
C=0.55
25.19
Ac | cfs

APN: 224-100-73
NOT A PART

AREA WILL REMAIN THE SAME IN POST-DEVELOPED CONDITIONS AND WILL NOT BE ANALYZED

APN: 224-901-46

APN: 187-370-30

RINCON AVENUE

SOIL TYPE D

SOIL TYPE C

SOIL TYPE B

SOIL TYPE A

1000 POD 1
AREA=25.19 AC
Q_{100} =27.86 CFS
ELEV=756.88

60 30 0 60 120 180
SCALE: 1" = 60'

ESCONDIDO
City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 2-1-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: PRE-DEVELOPED DRAINAGE EXHIBIT

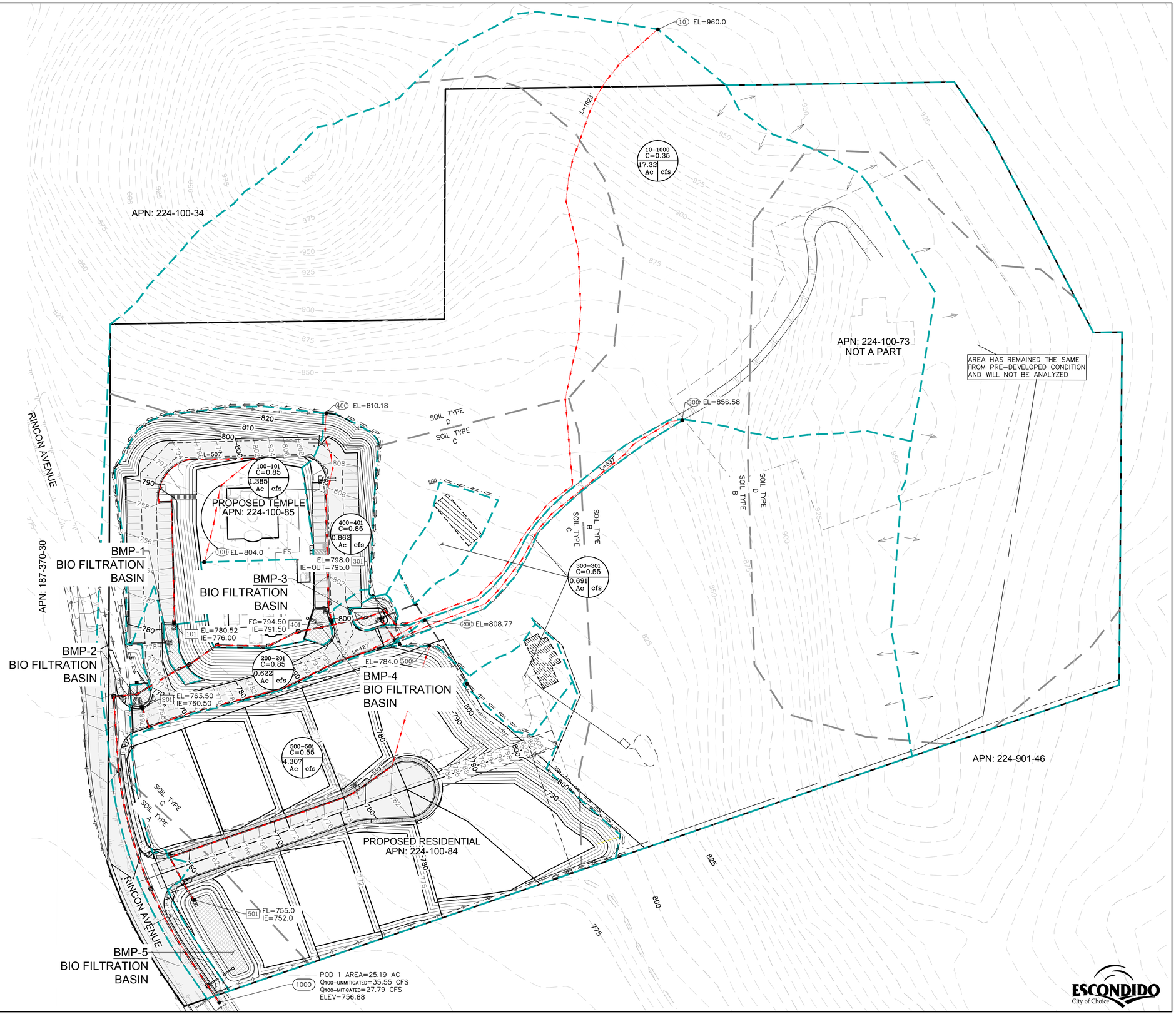
PROJECT: ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

SAVE DATE: 3/13/2023 ~ PLOT DATE: 3/13/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\Drainage Study\1829-Drainage Pre.dwg

LEGEND

- STORMDRAIN NODE — XX
- NODE NUMBER — XX
- FLOWPATH
- BASIN BOUNDARY
- SOIL TYPE BOUNDARY



60 30 0 60 120 180

SCALE: 1" = 60'

ESCONDIDO City of Choice

NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C Consultants, Inc.

DATE: 2-1-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: POST-DEVELOPED DRAINAGE MAP

PROJECT: ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

SAVE_DATE: 3/13/2023 ~ PLOT_DATE: 3/13/2023 ~ FILE_NAME: P:\Accel\1829 Iskcon Temple - Residential\Reports\Drainage Study\1829-Drainage Post.dwg

TECHNICAL MEMORANDUM:

SWMM Modeling for Hydromodification Compliance of:

Iskcon Krishna Temple and Residential Development, Escondido, CA

Prepared For:

Iskcon of Escondido, Inc.

March 9, 2023

Prepared by:

Luis Parra, PhD, CPSWQ, ToR, D.WRE.
R.C.E. 66377

REC Consultants
2970 5th Ave, Suite 340, San Diego, CA 92103
Telephone: (619) 232-9200

R·E·C

TECHNICAL MEMORANDUM

TO: Iskcon of Escondido, Inc.

FROM: Luis Parra, PhD, PE, CFM.

DATE: March 9, 2023.

RE: Summary of SWMM Modeling for Hydromodification Compliance for Iskcon Krishna Temple and Residential Development, 1365 Rincon Ave, Escondido, CA, 92026.

INTRODUCTION

This memorandum summarizes the approach used to model the proposed religious and residential development project site in the City of Escondido using the Environmental Protection Agency (EPA) Storm Water Management Model 5.0 (SWMM). SWMM models were prepared for the pre and post-developed conditions at the site in order to determine if the proposed LID biofiltration facilities have sufficient volume to meet Order R9-2013-001 requirements of the California Regional Water Quality Control Board San Diego Region (SDRWQCB), as explained in the Final Hydromodification Management Plan (HMP), dated March 2011, prepared for the County of San Diego by Brown and Caldwell.

SWMM Model Development

The Iskcon Krishna Temple and Residential Development project comprises of (a) the development of a religious Temple and parking lots plus (b) the development of ten (10) adjacent residential area including including associated roads, landscape and parking lots. Two (2) SWMM models were prepared for this study: the first for the pre-development and the second for the post-developed conditions. The project site drains to one (1) Point of Compliance (POC-1) located at the NW corner of the property, a cleanout adjacent to Rincon Avenue, in Escondido, CA.

The SWMM model was used since it is an approved model for hydromodification compliance that provides a lot of flexibility for design. For both SWMM models, flow duration curves were prepared to determine if the proposed HMP facilities are sufficient to meet the current HMP requirements. The inputs required to develop SWMM models include rainfall, watershed characteristics, and BMP configurations.

In regards to the proper rainfall station to use for this project, two factors are taken into account to select the most appropriate rainfall location, in agreement with the County of San Diego BMP Manual: Proximity of the project with the rainfall station (in terms of distance), and difference in elevation between the project and the rainfall station selected. Unfortunately, section G.1.3.1 of the BMP Manual is not 100% reliable because (a) it includes rainfall stations in Figure G.1-1 whose data does not exists in the Project Clean Water web site (La Mesa) and it does not include rainfall stations in Figure G.1-1 whose data does exists (Borrego); (b) it assumes that all data sets are of the same quality, which is not the case (for example, data in Lindbergh is of much higher quality than data in the closed-by Fashion Valley station, and the later should never be used as a substitute of the former because most of its data is copied from Lindbergh and the elevation of both stations is the same; similarly quality of data for San Vicente and Santee is extremely poor and both should never be used) and (c) it lacks a methodological procedure on how to evaluate

scenarios when the station that is closer in location, is not the same that the station that is closer in elevation, as in the case of this project.

As a consequence, the author of this study has decided to use a statistical methodology to evaluate the most appropriate rainfall station among a group of "n" candidates (stations), using 2 parameters: (1) the distance D_i between the station "i" and the location of the project and (2) the absolute difference in elevation between the station "i" considered and the project location, Z_i. Assuming that the importance of D_i is identical to the importance of Z_i (distance is as important as difference in elevation) for each station considered the following parameter P_i is calculated:

$$P_i = \frac{D_i^{-1}}{2\sum_{i=1}^{n} D_i^{-1}} + \frac{Z_i^{-1}}{2\sum_{i=1}^{n} Z_i^{-1}}$$

The station whose parameter P_i is the highest is statistically more significant in terms of distance and difference in elevation respect to the location of the project. It should be noted that all P_i values added are equal to 1.

To evaluate the most appropriate rainfall station, the following stations were considered as potentially the most representative stations: Lake Wohlford (the closest in distance) and Fallbrook (the closest in elevation). The Escondido station was not considered because the data lacks the quality necessary for an unbiased continuous simulation: Escondido, Lake Cuyamaca, San Onofre (poor quality of data), Fashion Valley, Santee and San Vicente (very poor quality of data) are the six (6) rainfall stations that the author of this report does not recommend for continuous simulation as they present problems with precision, disaggregation of the data, proportion of the high intensity data coming from other stations, and overall quality. Consequently, only Lake Wohlford and Fallbrook are considered for further analysis. The distance of the project to each respective station is approximately 4.25 miles and 8.25 miles, while the absolute difference in elevation between each respective stations and the average elevation in the project is approximately 706 ft and 109 ft respectively. It seems evident that Fallbrook is the best station, because the distance is only double but the difference in elevation is about 7 times smaller. Applying the P_i equation we obtain the following values for Lake Wohlford and Fallbrook: 0.397 and 0.603. Therefore, it is clear that Fallbrook rain gauge is the most appropriate for this project.

In regards to evapotranspiration, per the California Irrigation Management Information System "Reference Evaporation Zones" (CIMIS ETo Zone Map), the project site is located within the Zone 9 Evapotranspiration Area. Thus evapotranspiration values for the site were modeled using Zone 9 average monthly values from Table G.1-1 from the City of San Diego 2016 BMP Design Manual. The site was modeled with Types A, B, C & D hydrologic soils as these are the existing soil determined from the NRCS Web Soil Survey. Soils have been assumed to be uncompacted in the existing condition to represent the natural condition of the site and fully compacted in the post developed conditions (except for areas in the property outside the development). Other SWMM inputs for the subareas are discussed in the appendices to this document, where the selection of the parameters is explained in detail.

HMP MODELING

EXISTING CONDITIONS

The current site is a mostly ungraded lot that drains in a NW direction to POC-1. The existing impervious areas within the project area (road, stable, houses) are not considered because the project exceeds the 50% rule and the entire area must be modeled as pervious for hydromodification compliance. Although the existing impervious area (less than 2% of the total area) can be modeled as compacted in pre-development conditions, for simplicity of modeling and conservatively all areas where modeled as uncompacted in pre-development conditions. It should be pointed out that the percentage of impervious area existing is very small (less than 2%) and this small percentage of compacted area will not make a difference in the comparison of pre and post-development conditions.

TABLE 1 – SUMMARY OF EXISTING CONDITIONS

DMA	Tributary Area, A (Ac)	Drainage Pattern
1-B-1	1.373	To 1-D-1 → 1-C-1 → POC-1
1-D-1	3.556	To 1-C-1 → POC-1
1-D-2	0.269	To 1-B-2 → 1-C-1 → POC-1
1-B-2	0.764	To 1-C-1 → POC-1
1-C-1	3.996	To POC-1
1-D-3	1.336	To 1-B-3 → 1-C-2 → POC-1
1-B-3	3.137	To 1-C-2 → POC-1
1-C-2	5.014	To POC-1
1-A	0.492	To POC-1
TOTAL	**19.94**	--

Notes: (1) – Per the 2013 RWQCB permit, existing condition impervious surfaces are not to be accounted for in existing conditions analysis. Therefore, all areas have 0% imperviousness

DEVELOPED CONDITIONS

Storm water runoff from the proposed project site is routed to POC-1, the same point than in pre-development conditions. For POC 1, the runoff from the developed project site is drained to five (5) onsite receiving biofiltration LID BMPs. Once flows are routed via the proposed LID BMPs, developed onsite flows are then conveyed to the aforementioned POC 1. Runoff from the offsite-slope previously described also drains to POC-1.

It should be pointed out that some off-site area will be treated, as it is composed by existing impervious areas: BMP-3 will receive runoff from the house, the stable and the existing road.

It is assumed all storm water quality requirements for the project will be met by the biofiltration LID BMPs. However, detailed water quality requirements are not discussed within this technical memo. For further information in regards to storm water quality requirements for the project, please refer to the site specific Storm Water Quality Management Plan (SWQMP).

TABLE 2 – SUMMARY OF DEVELOPED CONDITIONS

DMA	Tributary Area, A (Ac)[(1)]	Impervious Percentage %, Ip	Basin
1-D	0.153	5.9%	BMP-1
1-C-2	0.448	42.4%	
1-C-1	0.813	50.2%	
BMP-1	0.034	0%	
2-C	0.543	69.8%	BMP-2
BMP-2	0.015	0%	
3-B	0.042	100%	BMP-3
3-C-1	0.093	100%	
3-C-2	0.276	14.1%	
3-C-3	0.269	16.7%	
BMP-3	0.012	0%	
4-D	0.052	5.8%	BMP-4
4-C-1	0.409	71.4%	
4-C-2	0.373	42.1%	
BMP-4	0.052	0%	
5-A	0.388	20.1%	BMP-5
5-B	0.074	0%	
5-C	3.776	31.5%	
BMP-5	0.072	0%	
DM-A	0.031	87.1%	By-Pass
BP-D-1	2.502	0%	By-Pass
BP-D-3	0.268	0%	By-Pass
BP-B-2	2.169	0%	By-Pass
BP-C-1	1.060	0%	By-Pass
BP-D-2	1.334	0%	By-Pass
BP-B-1	2.989	0%	By-Pass
BP-C-2	0.667	0%	By-Pass
BP-D-4	0.849	0%	By-Pass
BP-C-3	0.054	0%	By-Pass
BP-C-4	0.118	0%	By-Pass
BP-C-5	0.024	0%	By-Pass
TOTAL	**19.94**	**--**	**To POC-1**

Notes: (1) – DMA areas do not include the area of the biofiltration.

Five (5) LID biofiltration basins with partial retention are located within the project site and are responsible for handling hydromodification requirements for the projects runoff to POC 1. In developed conditions, the basins will have a surface depth and a riser spillway structure (see dimensions in Table 3). Flows will then discharge from the basins via the outlet structure or infiltrate through the base of the facilities to the receiving amended soil and low flow orifice. The riser structure will act as a spillway such that peak flows can be safely discharged to the receiving storm drain systems.

Beneath the basins' invert lies the proposed LID biofiltration portion of the drainage facility. This portion of the basin is comprised of a 3-inch layer of mulch, an 18-inch layer of amended soil (a highly sandy, organic rich composite with an infiltration capacity of at least 5 inches/hr) and a layer of gravel. All BMPs will be unlined to allow for infiltration into the underlying soils.

The biofiltration basins were modeled using the biofiltration LID module within SWMM. The biofiltration module can model the amended soil layer, and a surface storage pond up to the elevation of the invert of the spillway. It should be noted that detailed outlet structure location and elevations will be shown on the construction plans based on the recommendations of this study.

BMP MODELING FOR HMP PURPOSES

Modeling of dual purpose Water Quality/HMP BMP

Five (5) LID BMP biofiltration basins are proposed for water quality treatment and hydromodification conformance for the project site. Tables 3 & 4 illustrate the dimensions required for HMP compliance according to the SWMM model that was undertaken for the project.

TABLE 3 – SUMMARY OF DEVELOPED DUAL PURPOSE BMP

BMP	Tributary Area (Ac)	DIMENSIONS					
		BMP Area[(1)], (ft^2)	Low Flow Orifice (in)	Gravel Depth [(5)](in)	Depth Riser Invert (ft)[(2)]	Top of riser: Weir Perimeter Length[(3)] (ft)	Total Surface Depth[(4)] (ft)
BMP-1	1.448	1,468	1.375	15	2.167	8.00	3.00
BMP-2	0.558	650	0.875	15	1.833	8.00	2.50
BMP-3	0.692	538	0.875	15	0.750	8.00	1.50
BMP-4	0.862	1202	1.25	15	2.250	8.00	3.00
BMP-5	4.310	3137	2.25	18	1.750	16.00	2.50

Notes:
(1): Area of amended soil = area of gravel = area of the BMP
(2): Depth of ponding beneath riser structure's surface spillway to bottom of mulch layer.
(3): Overflow length, the internal perimeter of the square riser
(4): Total surface depth of BMP from bottom of mulch layer to crest elevation.
(5): Gravel depth includes the dead storage below the LID orifice (6-inches for BMP 5 and 3-inches for all others) and 6 inches of gravel/sand filter layers. See Basin detail on Attachment 5.

TABLE 4 – SUMMARY OF SLOT DETAILS

Lower Slot			
Basin	**Width (in)**	**Height (in)**	**Elev. (in)** (from bottom of mulch)
BMP 1	12	6	12
BMP 2	9	4	12
BMP-3	N/A	N/A	No slot provided
BMP-4	13	4	12
BMP 5	66 (2 of 33)	1.50	10

FLOW DURATION CURVE COMPARISON

The Flow Duration Curve (FDC) for the site was compared at POC-1 by exporting the hourly runoff time series results from SWMM to a spreadsheet. The FDC was compared between 10% of the existing condition Q_2 up to the existing condition Q_{10} for POC-1. The Q_2 and Q_{10} were determined with a partial duration statistical analysis of the runoff time series in an Excel spreadsheet using the Cunnane plotting position method (which is the preferred plotting methodology in the HMP Permit). As the SWMM Model includes a statistical analysis based on the Weibull Plotting Position Method, the Weibull Method was also used within the spreadsheet to ensure that the results were similar to those obtained by the SWMM Model.

The range between 10% of Q_2 and Q_{10} was divided into 100 equal time intervals; the number of hours that each flow rate was exceeded was counted from the hourly series. Additionally, the intermediate peaks with a return period "i" were obtained (Q_i with i=3 to 9). For the purpose of the plot, the values were presented as percentage of time exceeded for each flow rate. FDC comparison at the POC is illustrated in Figures 1a and 1b in both normal and logarithmic scale. Attachment 5 provides a detailed drainage exhibit for the post-developed condition.

As can be seen in Figure 1, the FDC for the proposed condition with the HMP BMPs is within 110% of the curve for the existing condition in both peak flows and durations. The additional runoff volume generated from developing the site will be released to the existing point of discharge at a flow rate below the 10% Q_2 lower threshold for the POC. Additionally, the project will also not increase peak flow rates between the Q_2 and the Q_{10}, as shown in the graphic and also in the peak flow tables in Attachment 1.

Discussion of the Manning's coefficient (Pervious Areas) for Pre and Post-Development Conditions

Typically the Manning's coefficient is selected as n = 0.10 for pervious areas and n = 0.012 for impervious areas. However, due to the impact that n has in the continuous simulation a more accurate value of the Manning's coefficient has been chosen for pervious areas. Taken into consideration the study prepared by TRWE (Reference [6]) a value of n = 0.05 has been selected (see Table 1 of Reference [6] included in Attachment 7). An average n value between average grass plus pasture (0.04) and dense grass (0.06) has been selected per the reference cited, for light rain (<0.8 in/hr) as more than 99% of the rainfall has been measured with this intensity.

SUMMARY

This study has demonstrated that the proposed HMP BMPs provided for the Iskcon Krishna Temple and Residential Development project site is sufficient to meet the current HMP criteria if the cross-section areas and volumes recommended within this technical memorandum, and the respective orifice and outlet structure are incorporated as specified within the proposed project site.

KEY ASSUMPTIONS

1. Types A, B, C & D Soil are representative of the existing condition site.
2. All basins will be unlined to allow for infiltration.

ATTACHMENTS

1. Q_2 to Q_{10} Comparison Tables
2. Flow Duration Curve Analysis
3. List of the "n" largest Peaks: Pre-Development and Post-Development Conditions
4. Area Vs Elevation & Discharge Vs Elevation
5. Pre & Post Development Maps, Project Plan and Section Sketches
6. SWMM Input Data in Input Format (Existing and Proposed Models)
7. EPA SWMM Figures and Explanations
8. Soil Maps & Geotechnical Investigation
9. Summary files from the SWMM Model

REFERENCES

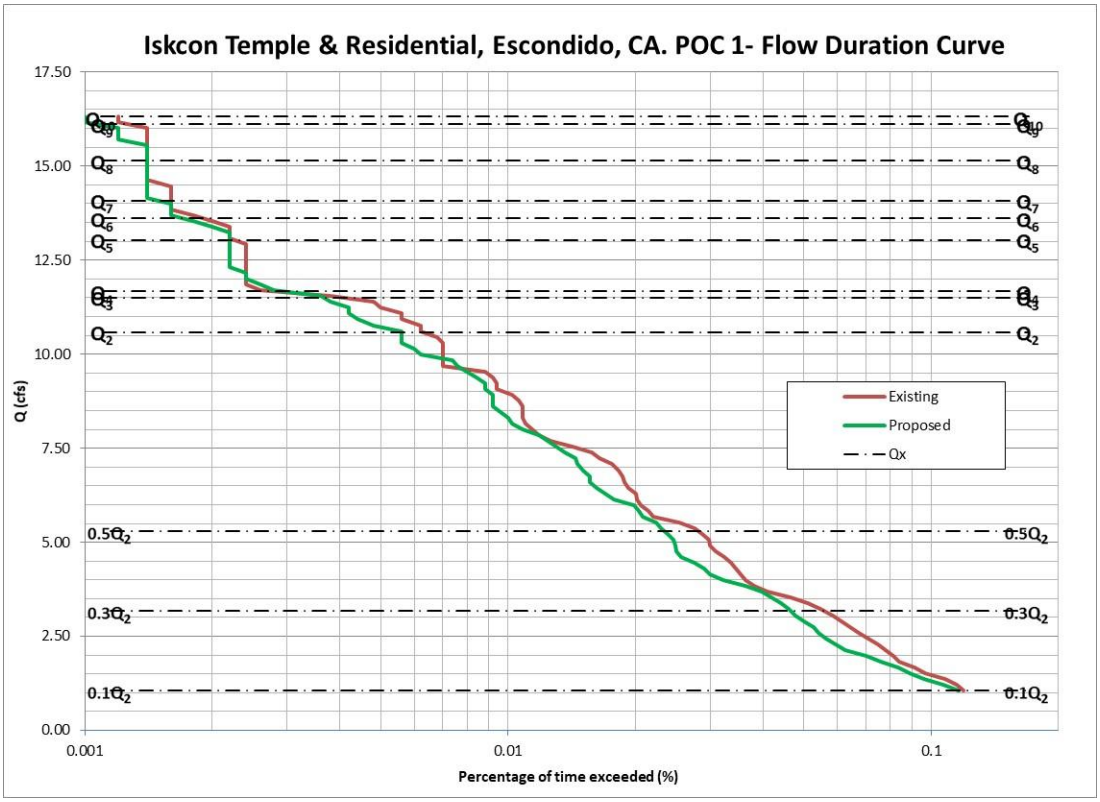
[1] – *"Review and Analysis of San Diego County Hydromodification Management Plan (HMP): Assumptions, Criteria, Methods, & Modeling Tools – Prepared for the Cities of San Marcos, Oceanside & Vista",* May 2012, TRW Engineering.

[2] – *"Final Hydromodification Management Plan (HMP) prepared for the County of San Diego",* March 2011, Brown and Caldwell.

[3] - Order R9-2013-001, California Regional Water Quality Control Board San Diego Region (SDRWQCB).

[4] – "*Handbook of Hydrology*", David R. Maidment, Editor in Chief. 1992, McGraw Hill.

[5] – "*City of Escondido BMP Design Manual*", February 2016.



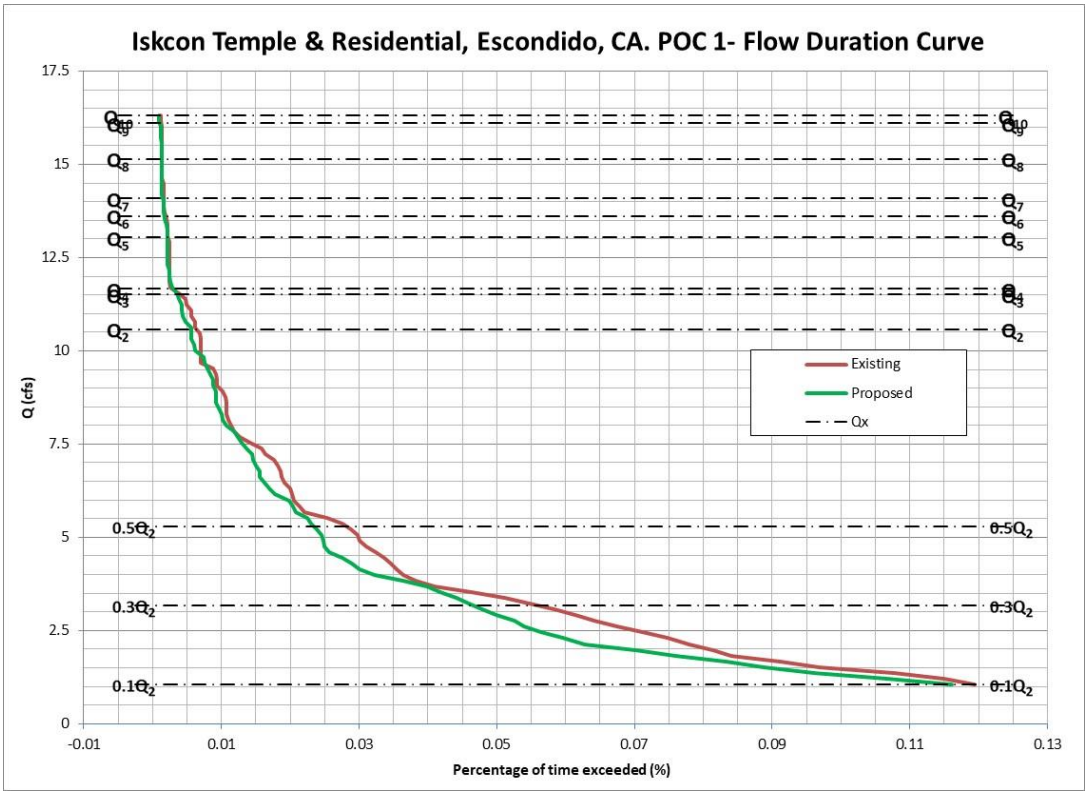


Figure 1a and 1b. Flow Duration Curve Comparison (logarithmic and normal "x" scale)

ATTACHMENT 1.

Q_2 to Q_{10} Comparison Table – POC 1

Return Period	Existing Condition (cfs)	Mitigated Condition (cfs)	Reduction, Exist - Mitigated (cfs)
2-year	10.58	9.94	0.65
3-year	11.51	10.95	0.56
4-year	11.66	11.63	0.03
5-year	13.03	12.46	0.58
6-year	13.61	13.43	0.18
7-year	14.09	13.80	0.28
8-year	15.14	14.70	0.44
9-year	16.11	15.69	0.42
10-year	16.32	16.07	0.25

ATTACHMENT 2

FLOW DURATION CURVE ANALYSIS

1) Flow duration curve shall not exceed the existing conditions by more than 10%, neither in peak flow nor duration.

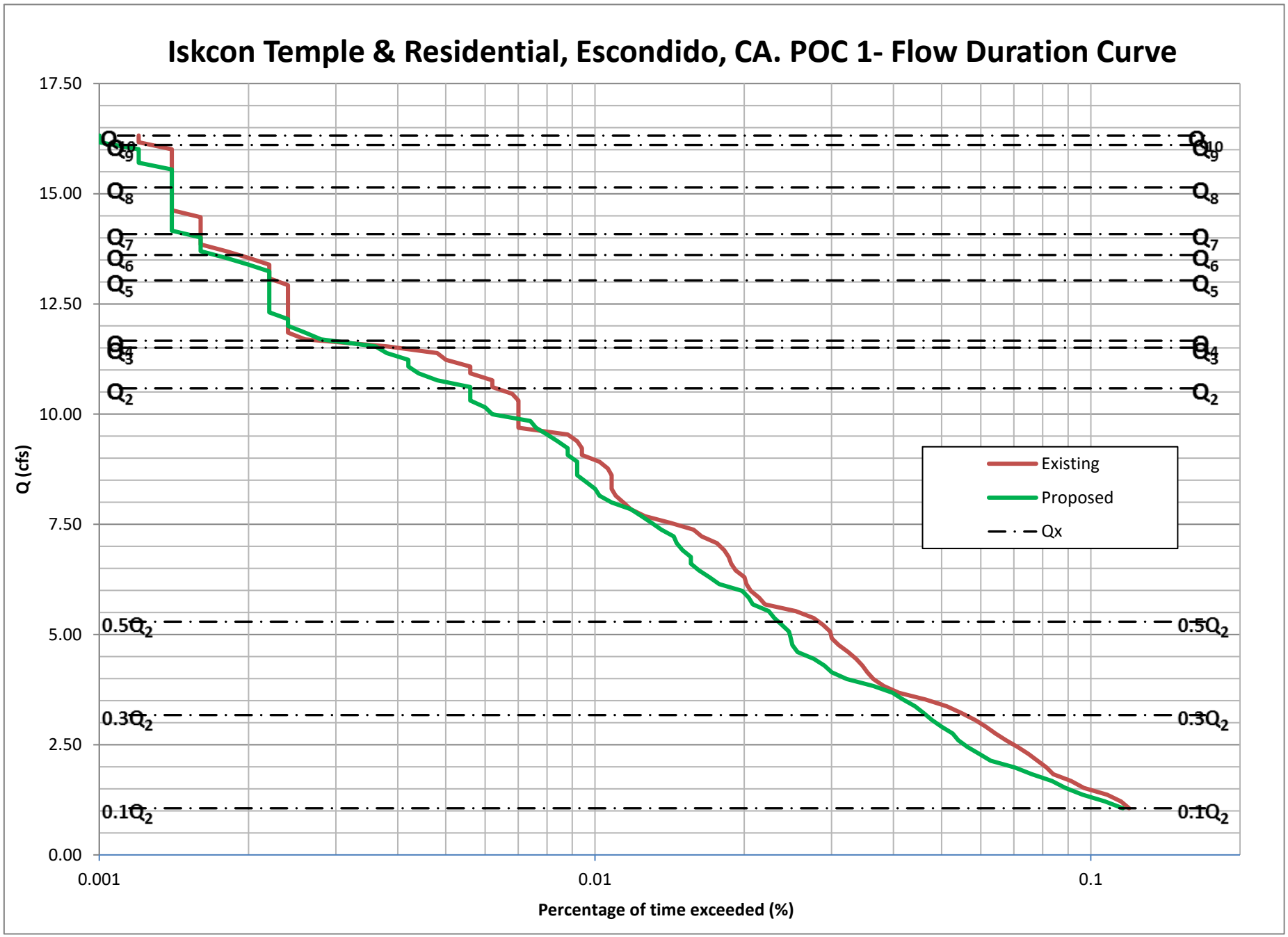
The figures on the following pages illustrate that the flow duration curve in post-development conditions after the proposed BMP is below the existing flow duration curve. The flow duration curve table following the curve shows that if the interval $0.10Q_2 - Q_{10}$ is divided in 100 sub-intervals, then a) the post development divided by pre-development durations are never larger than 110% (the permit allows up to 110%); and b) there are no more than 10 intervals in the range 101%-110% which would imply an excess over 10% of the length of the curve (the permit allows less than 10% of excesses measured as 101-110%).

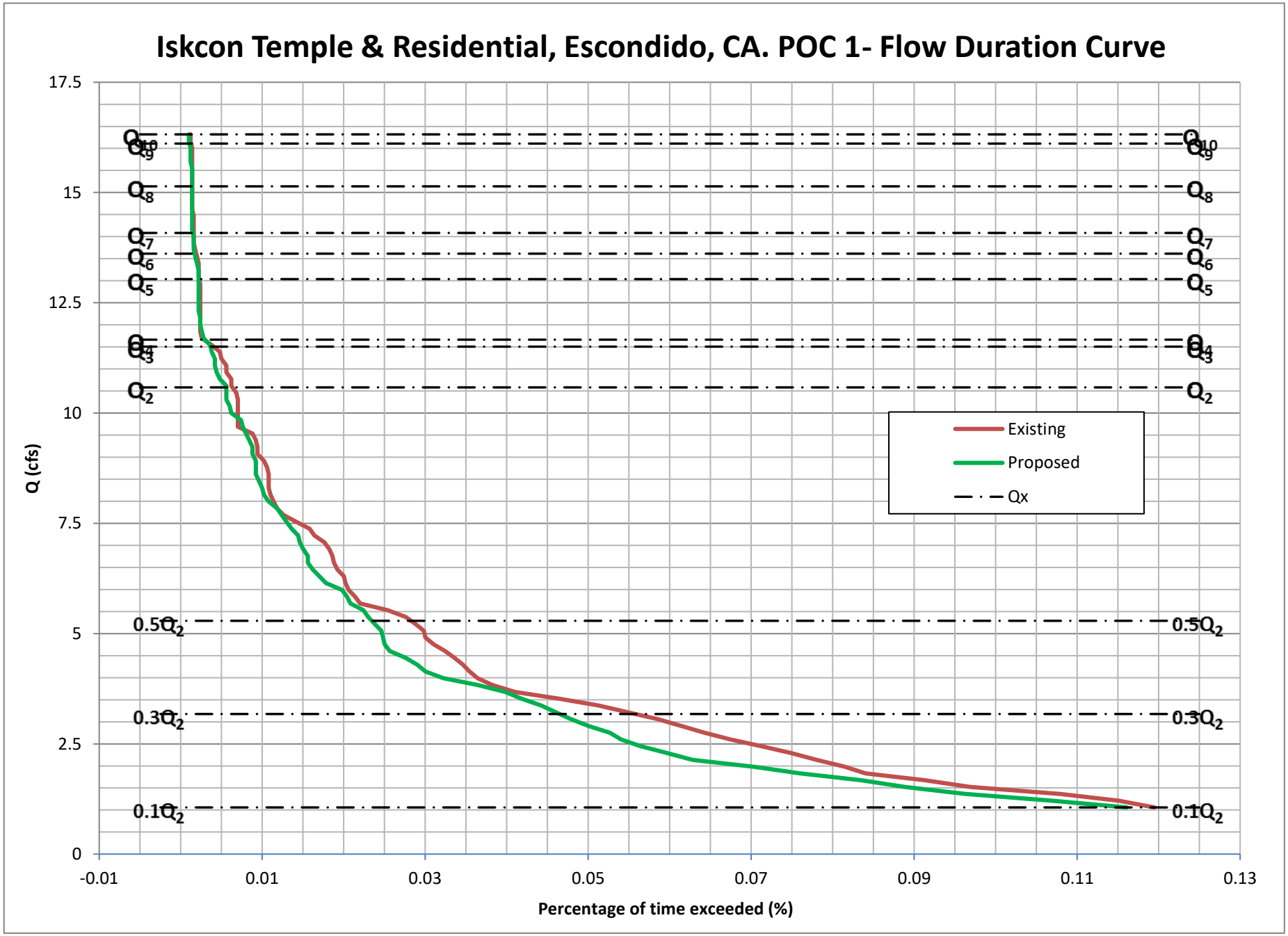
Consequently, the design passes the hydromodification test.

It is important to note that the flow duration curve can be expressed in the "x" axis as percentage of time, hours per year, total number of hours, or any other similar time variable. As those variables only differ by a multiplying constant, their plot in logarithmic scale is going to look exactly the same, and compliance can be observed regardless of the variable selected. However, in order to satisfy the City of Vista HMP example, % of time exceeded is the variable of choice in the flow duration curve. The selection of a logarithmic scale in lieu of the normal scale is preferred, as differences between the pre-development and post-development curves can be seen more clearly in the entire range of analysis. Both graphics are presented just to prove the difference.

In terms of the "y" axis, the peak flow value is the variable of choice. As an additional analysis performed by REC, not only the range of analysis is clearly depicted (10% of Q_2 to Q_{10}) but also all intermediate flows are shown (Q_2, Q_3, Q_4, Q_5, Q_6, Q_7, Q_8 and Q_9) in order to demonstrate compliance at any range $Q_x - Q_{x+1}$. It must be pointed out that one of the limitations of both the SWMM and SDHM models is that the intermediate analysis is not performed (to obtain Q_i from i = 2 to 10). REC performed the analysis using the Cunnane Plotting position Method (the preferred method in the HMP permit) from the "n" largest independent peak flows obtained from the continuous time series.

The largest "n" peak flows are attached in this appendix, as well as the values of Q_i with a return period "i", from i=2 to 10. The Q_i values are also added into the flow-duration plot.


Iskcon Temple & Residential, Escondido, CA. POC 1- Flow Duration Curve
17.50
15.00
12.50
10.00
7.50
5.00
2.50
0.00
Q (cfs)
0.001
0.01
0.1
Percentage of time exceeded (%)
Existing
Proposed
Qx
Q_{10}
Q_9
Q_8
Q_7
Q_6
Q_5
Q_4
Q_3
Q_2
$0.5Q_2$
$0.3Q_2$
$0.1Q_2$


Iskcon Temple & Residential, Escondido, CA. POC 1- Flow Duration Curve
Q (cfs)
Percentage of time exceeded (%)
17.5
15
12.5
10
7.5
5
2.5
0
-0.01
0.01
0.03
0.05
0.07
0.09
0.11
0.13
Q10
Q9
Q8
Q7
Q6
Q5
Q4
Q3
Q2
0.5Q2
0.3Q2
0.1Q2
Existing
Proposed
Qx

Flow Duration Curve Data for Iscon Temple & Residential - POC-1 , Escondido, CA

Q2 =	10.58	cfs	Fraction	10 %
Q10 =	16.32	cfs		
Step =	0.1541	cfs		
Count =	499679	hours		
	57.00	years		

	Existing Condition			Detention Optimized			Pass or
Interval	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	Fail?
1	1.058	597	1.19E-01	580	1.16E-01	97%	Pass
2	1.212	575	1.15E-01	534	1.07E-01	93%	Pass
3	1.367	539	1.08E-01	481	9.63E-02	89%	Pass
4	1.521	484	9.69E-02	444	8.89E-02	92%	Pass
5	1.675	456	9.13E-02	417	8.35E-02	91%	Pass
6	1.829	420	8.41E-02	380	7.60E-02	90%	Pass
7	1.983	407	8.15E-02	351	7.02E-02	86%	Pass
8	2.137	390	7.81E-02	314	6.28E-02	81%	Pass
9	2.291	374	7.48E-02	298	5.96E-02	80%	Pass
10	2.446	356	7.12E-02	282	5.64E-02	79%	Pass
11	2.600	337	6.74E-02	270	5.40E-02	80%	Pass
12	2.754	321	6.42E-02	263	5.26E-02	82%	Pass
13	2.908	307	6.14E-02	250	5.00E-02	81%	Pass
14	3.062	292	5.84E-02	239	4.78E-02	82%	Pass
15	3.216	274	5.48E-02	230	4.60E-02	84%	Pass
16	3.371	256	5.12E-02	221	4.42E-02	86%	Pass
17	3.525	232	4.64E-02	209	4.18E-02	90%	Pass
18	3.679	205	4.10E-02	199	3.98E-02	97%	Pass
19	3.833	191	3.82E-02	182	3.64E-02	95%	Pass
20	3.987	182	3.64E-02	161	3.22E-02	88%	Pass
21	4.141	177	3.54E-02	150	3.00E-02	85%	Pass
22	4.295	173	3.46E-02	145	2.90E-02	84%	Pass
23	4.450	168	3.36E-02	138	2.76E-02	82%	Pass
24	4.604	162	3.24E-02	128	2.56E-02	79%	Pass
25	4.758	155	3.10E-02	125	2.50E-02	81%	Pass
26	4.912	150	3.00E-02	124	2.48E-02	83%	Pass
27	5.066	149	2.98E-02	123	2.46E-02	83%	Pass
28	5.220	144	2.88E-02	119	2.38E-02	83%	Pass
29	5.374	138	2.76E-02	115	2.30E-02	83%	Pass
30	5.529	127	2.54E-02	112	2.24E-02	88%	Pass
31	5.683	110	2.20E-02	104	2.08E-02	95%	Pass
32	5.837	107	2.14E-02	102	2.04E-02	95%	Pass
33	5.991	103	2.06E-02	99	1.98E-02	96%	Pass
34	6.145	101	2.02E-02	89	1.78E-02	88%	Pass
35	6.299	100	2.00E-02	85	1.70E-02	85%	Pass
36	6.453	96	1.92E-02	81	1.62E-02	84%	Pass

Interval	Existing Condition			Detention Optimized			Pass or
	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	Fail?
37	6.608	94	1.88E-02	78	1.56E-02	83%	Pass
38	6.762	93	1.86E-02	78	1.56E-02	84%	Pass
39	6.916	91	1.82E-02	75	1.50E-02	82%	Pass
40	7.070	88	1.76E-02	73	1.46E-02	83%	Pass
41	7.224	82	1.64E-02	72	1.44E-02	88%	Pass
42	7.378	79	1.58E-02	68	1.36E-02	86%	Pass
43	7.532	71	1.42E-02	65	1.30E-02	92%	Pass
44	7.687	63	1.26E-02	62	1.24E-02	98%	Pass
45	7.841	59	1.18E-02	59	1.18E-02	100%	Pass
46	7.995	57	1.14E-02	54	1.08E-02	95%	Pass
47	8.149	55	1.10E-02	51	1.02E-02	93%	Pass
48	8.303	54	1.08E-02	50	1.00E-02	93%	Pass
49	8.457	54	1.08E-02	48	9.61E-03	89%	Pass
50	8.612	54	1.08E-02	46	9.21E-03	85%	Pass
51	8.766	53	1.06E-02	46	9.21E-03	87%	Pass
52	8.920	51	1.02E-02	46	9.21E-03	90%	Pass
53	9.074	47	9.41E-03	44	8.81E-03	94%	Pass
54	9.228	47	9.41E-03	44	8.81E-03	94%	Pass
55	9.382	46	9.21E-03	42	8.41E-03	91%	Pass
56	9.536	44	8.81E-03	40	8.01E-03	91%	Pass
57	9.691	35	7.00E-03	38	7.60E-03	109%	Pass
58	9.845	35	7.00E-03	37	7.40E-03	106%	Pass
59	9.999	35	7.00E-03	31	6.20E-03	89%	Pass
60	10.153	35	7.00E-03	30	6.00E-03	86%	Pass
61	10.307	35	7.00E-03	28	5.60E-03	80%	Pass
62	10.461	34	6.80E-03	28	5.60E-03	82%	Pass
63	10.615	31	6.20E-03	28	5.60E-03	90%	Pass
64	10.770	31	6.20E-03	24	4.80E-03	77%	Pass
65	10.924	28	5.60E-03	22	4.40E-03	79%	Pass
66	11.078	28	5.60E-03	21	4.20E-03	75%	Pass
67	11.232	25	5.00E-03	21	4.20E-03	84%	Pass
68	11.386	24	4.80E-03	19	3.80E-03	79%	Pass
69	11.540	19	3.80E-03	18	3.60E-03	95%	Pass
70	11.694	13	2.60E-03	14	2.80E-03	108%	Pass
71	11.849	12	2.40E-03	13	2.60E-03	108%	Pass
72	12.003	12	2.40E-03	12	2.40E-03	100%	Pass
73	12.157	12	2.40E-03	12	2.40E-03	100%	Pass
74	12.311	12	2.40E-03	11	2.20E-03	92%	Pass
75	12.465	12	2.40E-03	11	2.20E-03	92%	Pass
76	12.619	12	2.40E-03	11	2.20E-03	92%	Pass
77	12.773	12	2.40E-03	11	2.20E-03	92%	Pass
78	12.928	12	2.40E-03	11	2.20E-03	92%	Pass
79	13.082	11	2.20E-03	11	2.20E-03	100%	Pass
80	13.236	11	2.20E-03	11	2.20E-03	100%	Pass
81	13.390	11	2.20E-03	10	2.00E-03	91%	Pass

Interval	Existing Condition			Detention Optimized			Pass or
	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	Fail?
82	13.544	10	2.00E-03	9	1.80E-03	90%	Pass
83	13.698	9	1.80E-03	8	1.60E-03	89%	Pass
84	13.853	8	1.60E-03	8	1.60E-03	100%	Pass
85	14.007	8	1.60E-03	8	1.60E-03	100%	Pass
86	14.161	8	1.60E-03	7	1.40E-03	88%	Pass
87	14.315	8	1.60E-03	7	1.40E-03	88%	Pass
88	14.469	8	1.60E-03	7	1.40E-03	88%	Pass
89	14.623	7	1.40E-03	7	1.40E-03	100%	Pass
90	14.777	7	1.40E-03	7	1.40E-03	100%	Pass
91	14.932	7	1.40E-03	7	1.40E-03	100%	Pass
92	15.086	7	1.40E-03	7	1.40E-03	100%	Pass
93	15.240	7	1.40E-03	7	1.40E-03	100%	Pass
94	15.394	7	1.40E-03	7	1.40E-03	100%	Pass
95	15.548	7	1.40E-03	7	1.40E-03	100%	Pass
96	15.702	7	1.40E-03	6	1.20E-03	86%	Pass
97	15.856	7	1.40E-03	6	1.20E-03	86%	Pass
98	16.011	7	1.40E-03	6	1.20E-03	86%	Pass
99	16.165	6	1.20E-03	5	1.00E-03	83%	Pass
100	16.319	6	1.20E-03	5	1.00E-03	83%	Pass

Peak Flows calculated with Cunnane Plotting Position

Return Period (years)	Pre-dev. Q (cfs)	Post-Dev. Q (cfs)	Reduction (cfs)
10	16.32	16.07	0.25
9	16.11	15.69	0.42
8	15.14	14.70	0.44
7	14.09	13.80	0.28
6	13.61	13.43	0.18
5	13.03	12.46	0.58
4	11.66	11.63	0.03
3	11.51	10.95	0.56
2	10.58	9.94	0.65

ATTACHMENT 3

List of the "n" Largest Peaks: Pre & Post-Developed Conditions

Basic Probabilistic Equation:

R = 1/P R: Return period (years).

P: Probability of a flow to be equaled or exceeded any given year (dimensionless).

Cunnane Equation:

$$P = \frac{i-0.4}{n+0.2}$$

Weibull Equation:

$$P = \frac{i}{n+1}$$

i: Position of the peak whose probability is desired (sorted from large to small)

n: number of years analyzed.

Explanation of Variables for the Tables in this Attachment

Peak: Refers to the peak flow at the date given, taken from the continuous simulation hourly results of the n year analyzed.

Posit: If all peaks are sorted from large to small, the position of the peak in a sorting analysis is included under the variable Posit.

Date: Date of the occurrence of the peak at the outlet from the continuous simulation

Note: all peaks are not annual maxima; instead they are defined as event maxima, with a threshold to separate peaks of at least 12 hours. In other words, any peak P in a time series is defined as a value where dP/dt = 0, and the peak is the largest value in 25 hours (12 hours before, the hour of occurrence and 12 hours after the occurrence, so it is in essence a daily peak).

List of Peak events and Determination of Q2 and Q10 (Pre-Development)
Iscon Temple & Residential, Escondido, CA

T (Year)	Cunnane (cfs)	Weibull (cfs)	Peaks (cfs)	Date	Posit	Period of Return (Years)	
						Weibull	Cunnane
10	**16.32**	**16.42**					
9	**16.11**	**16.21**	7.571	1/6/1977	57	1.02	1.01
8	**15.14**	**15.61**	7.628	2/6/1969	56	1.04	1.03
7	**14.09**	**14.29**	7.661	1/29/1983	55	1.05	1.05
6	**13.61**	**13.66**	7.688	2/15/1986	54	1.07	1.07
5	**13.03**	**13.15**	7.706	12/29/1965	53	1.09	1.09
4	**11.66**	**11.67**	7.71	1/25/1969	52	1.12	1.11
3	**11.51**	**11.51**	7.808	1/22/1964	51	1.14	1.13
2	**10.58**	**10.58**	7.85	10/20/2004	50	1.16	1.15
			7.866	1/11/2001	49	1.18	1.18
			8.09	11/15/1952	48	1.21	1.20
			8.113	1/16/1993	47	1.23	1.23
			8.301	4/1/1982	46	1.26	1.25
			8.694	6/1/1996	45	1.29	1.28
			8.781	3/11/1995	44	1.32	1.31
			8.845	1/29/1981	43	1.35	1.34
			8.948	1/15/1979	42	1.38	1.38
			9.042	11/14/1972	41	1.41	1.41
			9.05	11/30/2007	40	1.45	1.44
			9.054	2/14/1980	39	1.49	1.48
			9.249	12/6/1997	38	1.53	1.52
			9.52	2/15/1992	37	1.57	1.56
			9.603	12/5/1966	36	1.61	1.61
			9.641	2/25/1969	35	1.66	1.65
			9.648	3/24/1983	34	1.71	1.70
			9.663	11/22/1965	33	1.76	1.75
			9.671	12/6/1966	32	1.81	1.81
			10.407	2/12/1992	31	1.87	1.87
			10.509	1/14/1993	30	1.93	1.93
			10.583	6/10/1990	29	2.00	2.00
			10.609	2/22/2004	28	2.07	2.07
			10.777	1/18/1955	27	2.15	2.15
			10.778	2/11/1973	26	2.23	2.23
			10.817	1/9/1998	25	2.32	2.33
			11.228	2/12/1978	24	2.42	2.42
			11.369	2/19/1980	23	2.52	2.53
			11.462	9/10/1976	22	2.64	2.65
			11.478	1/29/1980	21	2.76	2.78
			11.48	11/24/1983	20	2.90	2.92
			11.529	3/17/1982	19	3.05	3.08
			11.614	1/4/1978	18	3.22	3.25
			11.628	2/20/1980	17	3.41	3.45
			11.641	2/16/1980	16	3.63	3.67
			11.661	2/18/1980	15	3.87	3.92
			11.673	2/23/1998	14	4.14	4.21
			11.695	1/11/1980	13	4.46	4.54
			12.962	2/11/1959	12	4.83	4.93
			13.454	3/5/1995	11	5.27	5.40
			13.6	3/16/1986	10	5.80	5.96
			13.809	2/10/1963	9	6.44	6.65
			14.502	2/10/1978	8	7.25	7.53
			16.038	1/4/1995	7	8.29	8.67
			16.364	1/20/1982	6	9.67	10.21
			16.695	4/5/1967	5	11.60	12.43
			17.682	1/10/1978	4	14.50	15.89
			21.196	10/1/1983	3	19.33	22.00
			25.746	1/1/1982	2	29.00	35.75
			25.751	1/16/1978	1	58.00	95.33

Note:
Cunnane is the preferred method by the HMP permit.

List of Peak events and Determination of Q2 and Q10 (Post-Development)
Iscon Temple & Residential, Escondido, CA

T (Year)	Cunnane (cfs)	Weibull (cfs)	Peaks (cfs)	Date	Posit	Period of Return (Years)	
						Weibull	Cunnane
10	**16.07**	**16.20**	7.069	1/22/1964	57	1.02	1.01
9	**15.69**	**15.86**	7.217	6/1/1996	56	1.04	1.03
8	**14.70**	**15.16**	7.225	2/6/1969	55	1.05	1.05
7	**13.80**	**13.94**	7.298	1/11/2001	54	1.07	1.07
6	**13.43**	**13.48**	7.301	1/15/1979	53	1.09	1.09
5	**12.46**	**12.69**	7.366	11/15/1952	52	1.12	1.11
4	**11.63**	**11.63**	7.403	2/27/1983	51	1.14	1.13
3	**10.95**	**10.97**	7.575	1/11/2005	50	1.16	1.15
2	**9.94**	**9.94**	7.591	1/9/2005	49	1.18	1.18
			7.669	3/8/1968	48	1.21	1.20
			7.701	11/14/1972	47	1.23	1.23
			7.915	1/15/1978	46	1.26	1.25
			7.969	1/29/1981	45	1.29	1.28
			8.055	2/15/1986	44	1.32	1.31
			8.084	1/25/1969	43	1.35	1.34
			8.369	2/14/1980	42	1.38	1.38
			8.482	1/16/1993	41	1.41	1.41
			8.562	3/24/1983	40	1.45	1.44
			8.93	12/6/1997	39	1.49	1.48
			8.995	2/12/1992	38	1.53	1.52
			9.31	3/11/1995	37	1.57	1.56
			9.364	2/15/1992	36	1.61	1.61
			9.394	1/18/1955	35	1.66	1.65
			9.479	11/30/2007	34	1.71	1.70
			9.67	6/10/1990	33	1.76	1.75
			9.889	12/5/1966	32	1.81	1.81
			9.901	2/11/1973	31	1.87	1.87
			9.926	11/22/1965	30	1.93	1.93
			9.936	1/14/1993	29	2.00	2.00
			9.972	2/25/1969	28	2.07	2.07
			9.98	12/6/1966	27	2.15	2.15
			10.226	11/24/1983	26	2.23	2.23
			10.628	2/12/1978	25	2.32	2.33
			10.652	9/10/1976	24	2.42	2.42
			10.73	2/19/1980	23	2.52	2.53
			10.766	3/17/1982	22	2.64	2.65
			10.839	2/16/1980	21	2.76	2.78
			10.864	2/22/2004	20	2.90	2.92
			11.024	1/9/1998	19	3.05	3.08
			11.327	1/11/1980	18	3.22	3.25
			11.355	2/23/1998	17	3.41	3.45
			11.6	1/4/1978	16	3.63	3.67
			11.625	2/20/1980	15	3.87	3.92
			11.643	1/29/1980	14	4.14	4.21
			11.79	2/18/1980	13	4.46	4.54
			12.304	2/11/1959	12	4.83	4.93
			13.33	3/16/1986	11	5.27	5.40
			13.421	3/5/1995	10	5.80	5.96
			13.607	2/10/1978	9	6.44	6.65
			14.096	2/10/1963	8	7.25	7.53
			15.562	4/5/1967	7	8.29	8.67
			16.146	1/20/1982	6	9.67	10.21
			16.482	1/4/1995	5	11.60	12.43
			16.999	1/10/1978	4	14.50	15.89
			19.694	10/1/1983	3	19.33	22.00
			25.952	1/1/1982	2	29.00	35.75
			26.118	1/16/1978	1	58.00	95.33

Note:
Cunnane is the preferred method by the HMP permit.

ATTACHMENT 4

AREA VS ELEVATION

The storage provided by the LID BMP is entered into the LID Module within SWMM – please refer to Attachment 7 for further information. A stage-storage calculation is provided on the following page for reference.

DISCHARGE VS ELEVATION

The orifices have been selected to maximize their size while still restricting flows to conform with the required 10% of the Q2 event flow as mandated in the Final Hydromodification Management Plan by Brown & Caldwell, dated March 2011. While REC acknowledges that these orifices are small, to increase the size of these outlets would impact the basin's ability to restrict flows beneath the HMP thresholds, thus preventing the BMP from conformance with HMP requirements.

In order to further reduce the risk of blockage of the orifices, regular maintenance of the riser and orifices must be performed to ensure potential blockages are minimized. A detail of the orifice and riser structure is provided in Attachment 5 of this memorandum.

The LID low flow orifice discharge relationship is addressed within the LID Module within SWMM – please refer to Attachment 7 for further information.

Important note: Only BMP-5 elevation vs area table and elevation vs discharge table is used in the SWMM model because the slot of all other BMPs work as weirs for Q10 continuous, and the detention capabilities of BMPs 1 to 4 is negligible for the hydromodification point of view.

Stage-Area for BMP 1

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	1468	**0**	0.0000	**BIOFILTRATION[1]**
0.08	1468	49	0.0000	
0.17	1468	98	0.0000	
0.25	1468	147	0.0000	**TOP OF MULCH[2]**
0.33	1468	269	0.0000	
0.42	1468	391	0.0000	
0.50	1468	514	0.0000	
0.58	1468	636	0.0000	
0.67	1468	758	0.0000	
0.75	1468	881	0.0000	
0.83	1468	1003	0.0000	
0.92	1468	1125	0.0000	
1.00	1468	1248	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	1468	1370	0.0028	
1.17	1468	1492	0.0056	
1.25	1468	1615	0.0084	
1.33	1468	1737	0.0112	
1.42	1468	1859	0.0140	
1.50	1468	1982	0.0169	
1.58	1468	2104	0.0197	
1.67	1468	2226	0.0225	
1.75	1468	2349	0.0253	
1.83	1468	2471	0.0281	
1.92	1468	2593	0.0309	
2.00	1468	2716	0.0337	
2.08	1468	2838	0.0365	
2.17	1468	2960	0.0393	**EMERGENCY WEIR[4]**
2.25	1468	3083	0.0421	
2.33	1468	3205	0.0449	
2.42	1468	3327	0.0477	
2.50	1468	3450	0.0506	
2.58	1468	3572	0.0534	
2.67	1468	3694	0.0562	
2.75	1468	3817	0.0590	
2.83	1468	3939	0.0618	
2.92	1468	4061	0.0646	
3.00	1468	4184	0.0674	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 2

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	650	**0**	0.0000	**BIOFILTRATION[1]**
0.08	650	22	0.0000	
0.17	650	43	0.0000	
0.25	650	65	0.0000	**TOP OF MULCH[2]**
0.33	650	119	0.0000	
0.42	650	173	0.0000	
0.50	650	228	0.0000	
0.58	650	282	0.0000	
0.67	650	336	0.0000	
0.75	650	390	0.0000	
0.83	650	444	0.0000	
0.92	650	498	0.0000	
1.00	650	553	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	650	607	0.0012	
1.17	650	661	0.0025	
1.25	650	715	0.0037	
1.33	650	769	0.0050	
1.42	650	823	0.0062	
1.50	650	878	0.0075	
1.58	650	932	0.0087	
1.67	650	986	0.0099	
1.75	650	1040	0.0112	
1.83	650	1094	0.0124	**EMERGENCY WEIR[4]**
1.92	650	1148	0.0137	
2.00	650	1203	0.0149	
2.08	650	1257	0.0162	
2.17	650	1311	0.0174	
2.25	650	1365	0.0187	
2.33	650	1419	0.0199	
2.42	650	1473	0.0211	
2.50	650	1528	0.0224	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 3

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	538	**0**	0.0000	**BIOFILTRATION(1)**
0.08	563	18	0.0000	
0.17	587	37	0.0000	
0.25	612	57	0.0000	**TOP OF MULCH(2)**
0.33	637	109	0.0000	
0.42	663	164	0.0000	
0.50	689	220	0.0000	
0.58	717	279	0.0000	
0.67	744	339	0.0000	
0.75	772	403	0.0000	**SURFACE DISCHARGE(3)(5)**
0.83	801	468	0.0015	
0.92	831	536	0.0031	
1.00	861	607	0.0047	
1.08	891	680	0.0064	
1.17	922	755	0.0081	
1.25	954	833	0.0099	
1.33	986	914	0.0117	
1.42	1019	998	0.0137	
1.50	1052	1084	0.0156	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 4

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	1202	**0**	0.0000	**BIOFILTRATION[1]**
0.08	1202	40	0.0000	
0.17	1202	80	0.0000	
0.25	1202	120	0.0000	**TOP OF MULCH[2]**
0.33	1202	220	0.0000	
0.42	1202	321	0.0000	
0.50	1202	421	0.0000	
0.58	1202	521	0.0000	
0.67	1202	621	0.0000	
0.75	1202	721	0.0000	
0.83	1202	821	0.0000	
0.92	1202	922	0.0000	
1.00	1202	1022	0.0000	**SURFACE DISCHARGE[3][5]**
1.08	1202	1122	0.0023	
1.17	1202	1222	0.0046	
1.25	1202	1322	0.0069	
1.33	1202	1422	0.0092	
1.42	1202	1523	0.0115	
1.50	1202	1623	0.0138	
1.58	1202	1723	0.0161	
1.67	1202	1823	0.0184	
1.75	1202	1923	0.0207	
1.83	1202	2023	0.0230	
1.92	1202	2124	0.0253	
2.00	1202	2224	0.0276	
2.08	1202	2324	0.0299	
2.17	1202	2424	0.0322	
2.25	1202	2524	0.0345	**EMERGENCY WEIR[4]**
2.33	1202	2624	0.0368	
2.42	1202	2725	0.0391	
2.50	1202	2825	0.0414	
2.58	1202	2925	0.0437	
2.67	1202	3025	0.0460	
2.75	1202	3125	0.0483	
2.83	1202	3225	0.0506	
2.92	1202	3326	0.0529	
3.00	1202	3426	0.0552	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

Stage-Area for BMP 5

Elevation (ft)	Area (ft^2)	Volume (ft^3)	Q50 Detention Volume (Acre-ft)	
0.00	3137	**0**	0.0000	**BIOFILTRATION[1]**
0.08	3207	106	0.0000	
0.17	3277	214	0.0000	
0.25	3347	324	0.0000	**TOP OF MULCH[2]**
0.33	3418	606	0.0000	
0.42	3489	894	0.0000	
0.50	3561	1188	0.0000	
0.58	3633	1487	0.0000	
0.67	3705	1793	0.0000	
0.75	3778	2105	0.0000	
0.83	3851	2423	0.0000	**SURFACE DISCHARGE[3][5]**
0.92	3925	2747	0.0074	
1.00	3999	3077	0.0150	
1.08	4073	3413	0.0227	
1.17	4148	3756	0.0306	
1.25	4223	4105	0.0386	
1.33	4299	4460	0.0468	
1.42	4375	4821	0.0551	
1.50	4451	5189	0.0635	
1.58	4528	5563	0.0721	
1.67	4605	5943	0.0808	
1.75	4682	6330	0.0897	**EMERGENCY WEIR[4]**
1.83	4760	6724	0.0987	
1.92	4839	7124	0.1079	
2.00	4917	7530	0.1173	
2.08	4996	7943	0.1267	
2.17	5076	8363	0.1364	
2.25	5156	8789	0.1462	
2.33	5236	9222	0.1561	
2.42	5317	9662	0.1662	
2.50	5398	10108	0.1764	

(1): The area at this surface elevation corresponds to the area of gravel and amended soil (Bio-filtration layer)
(2): The volume for the first 3 inches of surface depth accounts for the voids of mulch
(3): Volume at this elevation coresponds with surface volume for WQ purposes (invert of lowest surface outlet)
(4): This elevation corresponds to the top of the riser elevation.
(5) Q50 detention begins at this elevation.

DISCHARGE EQUATIONS

1) Weir:

$$Q_W = C_W \cdot L \cdot H^{3/2} \quad (1)$$

2) Slot:

As an orifice: $$Q_s = B_s \cdot h_s \cdot c_g \cdot \sqrt{2g\left(H - \frac{h_s}{2}\right)} \quad (2.a)$$

As a weir: $$Q_s = C_W \cdot B_s \cdot H^{3/2} \quad (2.b)$$

For H > h_s slot works as weir until orifice equation provides a smaller discharge. The elevation such that equation (2.a) = equation (2.b) is the elevation at which the behavior changes from weir to orifice.

3) Vertical Orifices

As an orifice: $$Q_o = 0.25 \cdot \pi D^2 \cdot c_g \cdot \sqrt{2g\left(H - \frac{D}{2}\right)} \quad (3.a)$$

As a weir: Critical depth and geometric family of circular sector must be solved to determined Q as a function of H:

$$\frac{Q_O^2}{g} = \frac{A_{cr}^3}{T_{cr}}; \quad H = y_{cr} + \frac{A_{cr}}{2 \cdot T_{cr}}; \; T_{cr} = 2\sqrt{y_{cr}(D - y_{cr})}\,; \quad A_{cr} = \frac{D^2}{8}[\alpha_{cr} - sin(\alpha_{cr})]\,;$$

$$y_{cr} = \frac{D}{2}[1 - sin(0.5 \cdot \alpha_{cr})] \quad \text{(3.b.1, 3.b.2, 3.b.3, 3.b.4 and 3.b.5)}$$

There is a value of H (approximately H = 110% D) from which orifices no longer work as weirs as critical depth is not possible at the entrance of the orifice. This value of H is obtained equaling the discharge using critical equations and equations (3.b).

A mathematical model is prepared with the previous equations depending on the type o discharge.

The following are the variables used above:

Q_W, Q_s, Q_O = Discharge of weir, slot or orifice (cfs)

C_W, c_g : Coefficients of discharge of weir (typically 3.1) and orifice (0.61 to 0.62)

L, B_s, D, h_s : Length of weir, width of slot, diameter of orifice and height of slot, respectively; (ft)

H: Level of water in the pond over the invert of slot, weir or orifice (ft)

A_{cr}, T_{cr}, y_{cr}, α_{cr}: Critical variables for circular sector: area (sq-ft), top width (ft), critical depth (ft), and angle to the center, respectively.

Stage Discharge

		BMP-1	BMP-2	BMP-3	BMP-4	BMP-5
SLOT	W (ft):	1.000	0.750	-	1.083	5.500
SLOT	h (in):	6	4	-	4	1.5
Inv slot:	(ft):	1.00	1.00	-	1.00	0.833
Weir	W (ft):	8	8	8	8	16
inv weir:	(ft):	2.167	1.833	0.750	2.250	1.750
$Q_{100,\ unrouted}$ (cfs):		3.72	1.67	1.20	2.32	7.49
h for $Q_{100,u}$ (in):		3.39	1.99	1.59	2.47	3.40
Dorif:	(in):	1.375	0.875	0.875	1.25	2.25
Qorif:	(cfs):	0.049	0.020	0.020	0.041	0.102

Discharges with h measured over invert of slot (and not including low orifice)

h	Q1	Q2	Q3	Q4	Q5
0.00	0	0	0	0	0
0.08	0.075	0.056	***0.597***	0.081	0.410
0.17	0.211	0.158	***1.687***	0.229	1.160
0.25	0.388	0.291	***3.100***	0.420	1.457
0.33	0.597	0.447	***4.773***	0.646	1.751
0.42	0.834	0.612	***6.670***	0.884	2.003
0.50	1.096	0.707	***8.768***	1.021	2.226
0.58	1.381	0.790	***11.049***	1.141	2.429
0.67	1.580	0.865	***13.499***	1.250	2.616
0.75	1.731	0.935	***16.108***	1.350	2.790
0.83	1.869	***0.999***		1.443	2.955
0.92	1.998	***1.656***		1.531	3.110
1.00	2.120	***2.805***		1.614	***4.452***
1.08	2.234	***4.272***		1.692	***6.775***
1.17	***2.343***	***5.997***		1.768	***9.736***
1.25	***3.044***	***7.944***		***1.840***	***13.213***
1.33	***4.235***	***10.090***		***2.506***	***17.134***
1.42	***5.744***	***12.417***		***3.664***	***21.453***
1.50	***7.509***	***14.913***		***5.141***	***26.133***
1.58	***9.496***			***6.877***	***31.149***
1.67	***11.681***			***8.835***	***36.479***
1.75	***14.047***			***10.992***	
1.83	***16.579***			***13.331***	
1.92	***19.268***			***15.838***	
2.00	***22.104***			***18.502***	

Discharges with 0 = surface elevation of BMP. For Q100 purposes, initial level is in blue bold. Includes low flow orifice.

BMP-1

h (ft)	Q (cfs)
0.000	0
0.001	0.0489
1.000	0.049
1.083	0.124
1.167	0.260
1.250	0.437
1.333	0.646
1.417	0.883
1.500	1.145
1.583	1.430
1.667	1.629
1.750	1.780
1.833	1.918
1.917	2.047
2.000	2.169
2.083	2.283
2.167	2.392
2.250	3.093
2.333	4.284
2.417	5.793
2.500	7.558
2.583	9.545
2.667	11.730
2.750	14.096
2.833	16.628
2.917	19.317
3.000	22.153

BMP-2

h (ft)	Q (cfs)
0.000	0
0.001	0.0199
1.000	0.020
1.083	0.076
1.167	0.178
1.250	0.311
1.333	0.467
1.417	0.632
1.500	0.727
1.583	0.810
1.667	0.885
1.750	0.955
1.833	1.019
1.917	1.676
2.000	2.825
2.083	4.292
2.167	6.017
2.250	7.964
2.333	10.110
2.417	12.437
2.500	14.933

BMP-3

h (ft)	Q (cfs)
0.000	0
0.001	0.0199
0.750	0.020
0.833	0.617
0.917	1.707
1.000	3.120
1.083	4.793
1.167	6.690
1.250	8.788
1.333	11.069
1.417	13.519
1.500	16.128

BMP-4

h (ft)	Q (cfs)
0.000	0
0.001	0.0409
1.000	0.041
1.083	0.122
1.167	0.270
1.250	0.461
1.333	0.687
1.417	0.925
1.500	1.062
1.583	1.182
1.667	1.291
1.750	1.391
1.833	1.484
1.917	1.572
2.000	1.655
2.083	1.733
2.167	1.809
2.250	1.881
2.333	2.547
2.417	3.705
2.500	5.182
2.583	6.918
2.667	8.876
2.750	11.033
2.833	13.372
2.917	15.879
3.000	18.543

BMP-5

h (ft)	Q (cfs)
0.000	0
0.001	0.1019
0.833	0.102
0.917	0.512
1.000	1.262
1.083	1.559
1.167	1.853
1.250	2.105
1.333	2.328
1.417	2.531
1.500	2.718
1.583	2.892
1.667	3.057
1.750	3.212
1.833	4.554
1.917	6.877
2.000	9.838
2.083	13.315
2.167	17.236
2.250	21.555
2.333	26.235
2.417	31.251
2.500	36.581

ATTACHMENT 5

Pre & Post-Developed Maps, Project Plan and Detention

Section Sketches

LEGEND

POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREA PER CARLSBAD WMAA

DMA BOUNDARY

SOIL TYPE BOUNDARY

AREA NOT BEING ANALYZED

APN: 224-100-34

DMA-1-B-1

DMA-1-D-2

RIDGE LINE

AREA WILL REMAIN THE SAME IN POST-DEVELOPED CONDITION AND WILL NOT BE ANALYZED

(4.047 ACRES)

APN: 224-100-73
NOT A PART

DMA-1-D-1

DMA-1-B-2

SOIL TYPE D

SOIL TYPE C

EXISTING BUILDING

PROPOSED TEMPLE
APN: 224-100-85

DMA-1-C-1

SOIL TYPE C

SOIL TYPE B

SOIL TYPE D

SOIL TYPE B

SOIL TYPE D

DMA-1-B-3

DMA-1-D-3

RINCON AVENUE

EXISTING BUILDING

DMA-1-C-2

RIDGE LINE

APN: 224-901-46

R/W

R/W

SOIL TYPE C

SOIL TYPE A

PROPOSED RESIDENTIAL
APN: 224-100-84

DMA-1-A

POC-1

RINCON AVENUE

EXISTING STORM DRAIN

60 30 0 60 120 180

SCALE: 1" = 60'

BASIN PRE-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	POC
DMA-1-A	A	0.492	0.000	0.492	POC-1
DMA-1-B-1	B	1.373	0.000	1.373	
DMA-1-B-2	B	0.764	0.000	0.764	
DMA-1-B-3	B	3.093	0.044	3.136	
DMA-1-C-1	C	3.901	0.095	3.996	
DMA-1-C-2	C	4.827	0.187	5.014	
DMA-1-D-1	D	3.556	0.000	3.556	
DMA-1-D-2	D	0.269	0.000	0.269	
DMA-1-D-3	D	1.336	0.000	1.336	
TOTAL		19.611	0.326	19.936	

ESCONDIDO
City of Choice

REVISIONS

NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C Consultants, Inc.

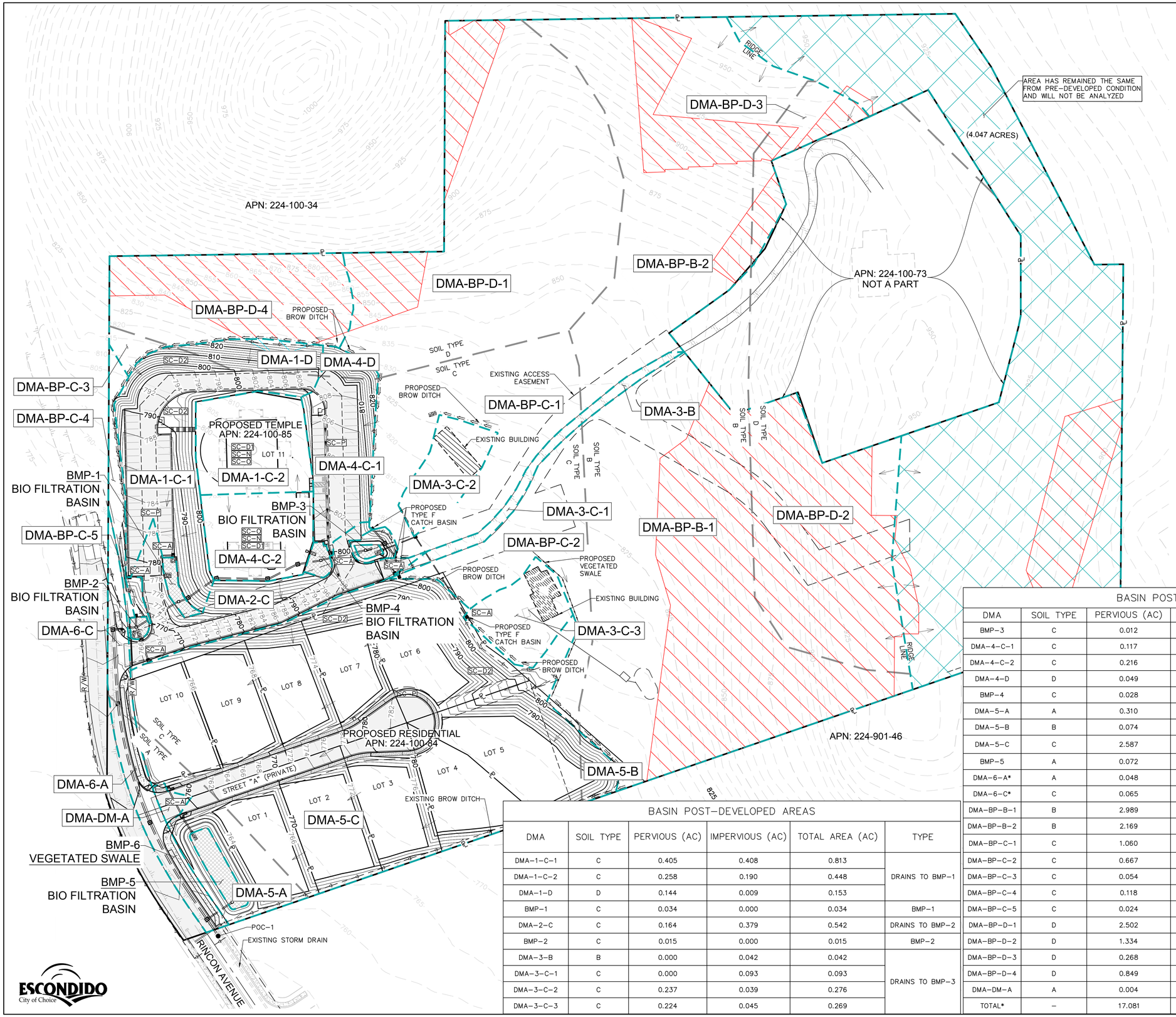
DATE: 2-1-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: PRE-DEVELOPED DMA EXHIBIT

PROJECT:
ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

SAVE DATE: 3/1/2023 ~ PLOT DATE: 3/13/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPre.dwg



LEGEND

- POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREA PER CARLSBAD WMAA
- PROJECT AREA ENCROACHING INTO PCCSYA
- DMA BOUNDARY
- SOIL TYPE BOUNDARY
- AREA NOT BEING ANALYZED
- BMP BASIN
- RETAILING WALL

PCCSYA CALCS		
EXISTING PCCSYA	225,262	SF
PROJECT AREA IN PCCSYA	1,221	SF
PERCENT OF ENCROACHED AREA	0.54	%

SOURCE CONTROL BMP'S

SC-A: ON-SITE STORM DRAIN INLETS
SC-D1: NEED FOR FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC-D2: LANDSCAPE/OUTDOOR PESTICIDE USE
SC-G: REFUSE AREAS
SC-N: FIRE SPRINKLER TEST WATER
SC-O: MISCELLANEOUS DRAIN OR WASH WATER
SC-P: PLAZAS, SIDEWALKS, AND PARKING LOTS

NOTE:
1. DEPTH TO GROUNDWATER > 20 FT
2. THE AVERAGE ASSUMED IMPERVIOUS AREA FOR THE PADS IN THE RESIDENTIAL AREA IS 25% FOR LOW DENSITY RESIDENTIAL (LDR) RESIDENTIAL, 2.9 DU/A OR LESS.

60 30 0 60 120 180
SCALE: 1" = 60'

* FOR WATER QUALITY ONLY BECAUSE AREA IS WITHIN PUBLIC RIGHT OF WAY (NOT INCLUDED IN HMP MODEL)

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
DMA-1-C-1	C	0.405	0.408	0.813	DRAINS TO BMP-1
DMA-1-C-2	C	0.258	0.190	0.448	
DMA-1-D	D	0.144	0.009	0.153	
BMP-1	C	0.034	0.000	0.034	BMP-1
DMA-2-C	C	0.164	0.379	0.542	DRAINS TO BMP-2
BMP-2	C	0.015	0.000	0.015	BMP-2
DMA-3-B	B	0.000	0.042	0.042	DRAINS TO BMP-3
DMA-3-C-1	C	0.000	0.093	0.093	
DMA-3-C-2	C	0.237	0.039	0.276	
DMA-3-C-3	C	0.224	0.045	0.269	

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
BMP-3	C	0.012	0.000	0.012	BMP-3
DMA-4-C-1	C	0.117	0.292	0.409	DRAINS TO BMP-4
DMA-4-C-2	C	0.216	0.157	0.374	
DMA-4-D	D	0.049	0.003	0.053	
BMP-4	C	0.028	0.000	0.028	BMP-4
DMA-5-A	A	0.310	0.078	0.388	DRAINS TO BMP-5
DMA-5-B	B	0.074	0.000	0.074	
DMA-5-C	C	2.587	1.189	3.776	
BMP-5	A	0.072	0.000	0.072	BMP-5
DMA-6-A*	A	0.048	0.184	0.231	GREENSTREET / DRAINS TO BMP-6
DMA-6-C*	C	0.065	0.066	0.130	
DMA-BP-B-1	B	2.989	0.000	2.989	BYPASS
DMA-BP-B-2	B	2.169	0.000	2.169	
DMA-BP-C-1	C	1.060	0.000	1.060	
DMA-BP-C-2	C	0.667	0.000	0.667	
DMA-BP-C-3	C	0.054	0.000	0.054	
DMA-BP-C-4	C	0.118	0.000	0.118	
DMA-BP-C-5	C	0.024	0.000	0.024	
DMA-BP-D-1	D	2.502	0.000	2.502	
DMA-BP-D-2	D	1.334	0.000	1.334	
DMA-BP-D-3	D	0.268	0.000	0.268	
DMA-BP-D-4	D	0.849	0.000	0.849	
DMA-DM-A	A	0.004	0.027	0.031	DE-MINIMIS
TOTAL*	–	17.081	3.213	19.936	–

NO.	DESCRIPTION	DATE	APP'D

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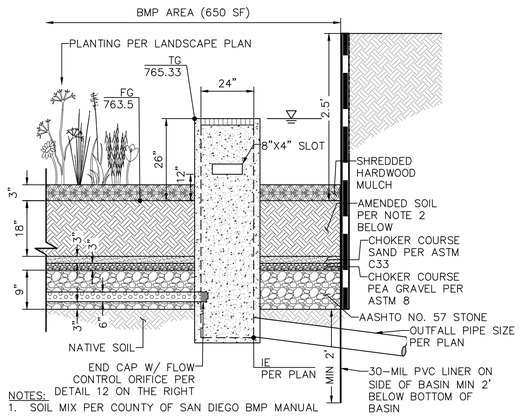
SHEET TITLE: POST-DEVELOPED DMA EXHIBIT

PROJECT: ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

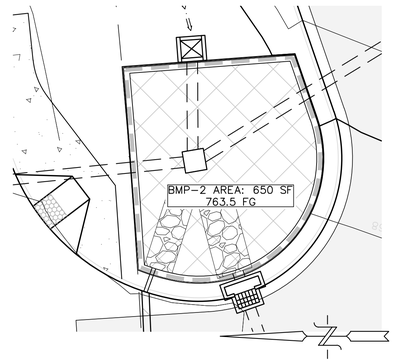
SAVE DATE: 3/10/2023 ~ PLOT DATE: 3/13/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPst.dwg

ESCONDIDO City of Choice

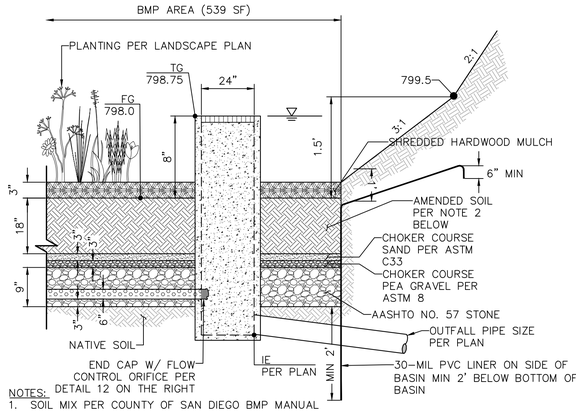


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

1 BMP-2 BASIN DETAIL
NOT TO SCALE

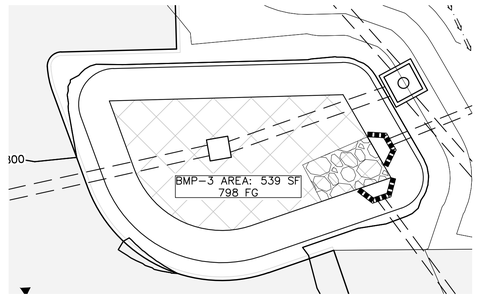


2 BMP-2 BASIN PLAN VIEW
SCALE: 1" = 10'

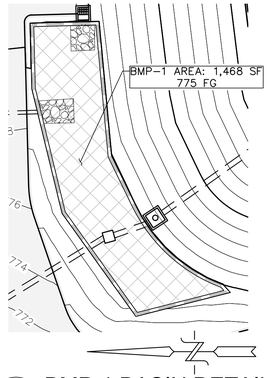


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

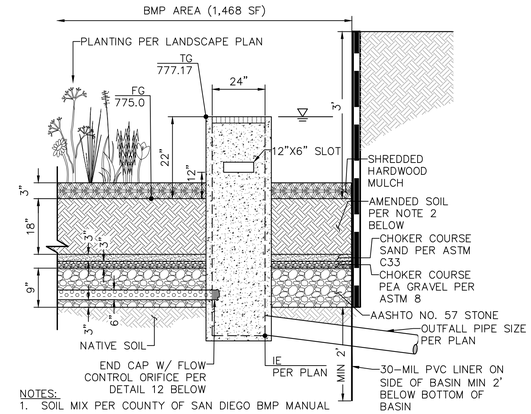
3 BMP-3 BASIN DETAIL
NOT TO SCALE



4 BMP-3 BASIN PLAN VIEW
SCALE: 1" = 10'

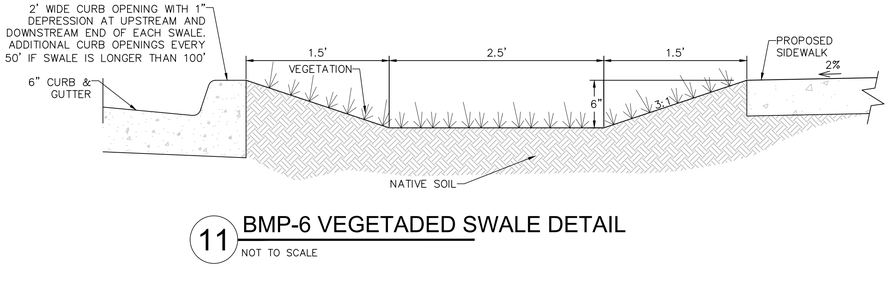


5 BMP-1 BASIN DETAIL
SCALE: 1" = 20'



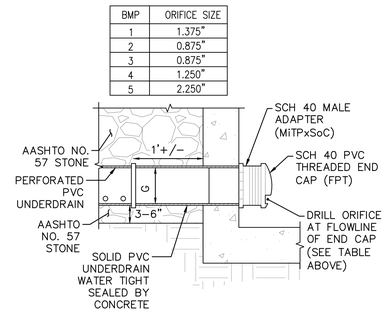
NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

6 BMP-1 BASIN DETAIL
NOT TO SCALE

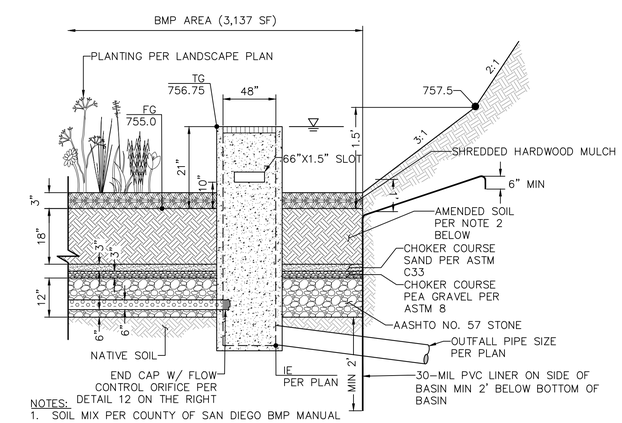


11 BMP-6 VEGETADED SWALE DETAIL
NOT TO SCALE

BMP	ORIFICE SIZE
1	1.375"
2	0.875"
3	0.875"
4	1.250"
5	2.250"

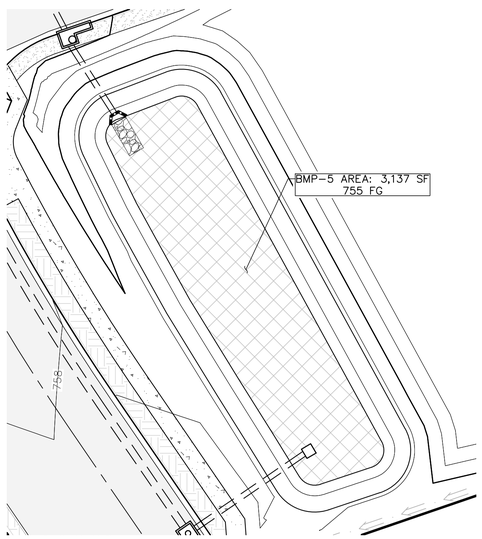


12 BMP ORIFICE DETAIL
NOT TO SCALE

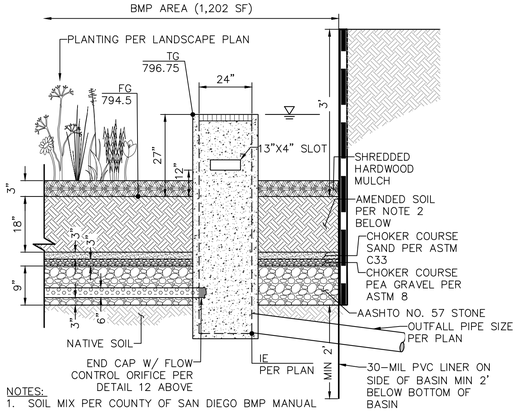


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

7 BMP-5 BASIN DETAIL
NOT TO SCALE

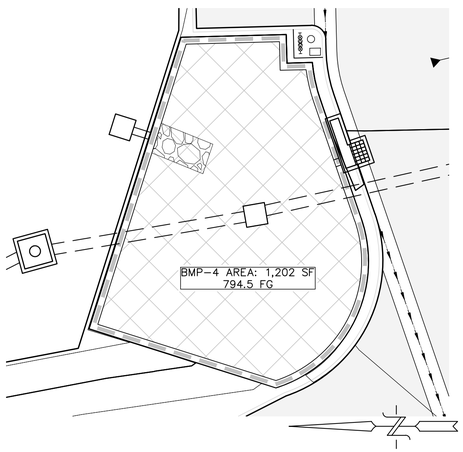


8 BMP-5 BASIN DETAIL
SCALE: 1" = 20'



NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

9 BMP-4 BASIN DETAIL
NOT TO SCALE



10 BMP-4 BASIN PLAN VIEW
SCALE: 1" = 10'

ESCONDIDO
City of Choice

NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 2-1-2023
SCALE: N/A
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: POST-DEVELOPED DMA EXHIBIT DETAILS

PROJECT
ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 2 OF 2 SHEETS

SAVE DATE: 3/10/2023 ~ PLOT DATE: 3/10/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPst.dwg

ATTACHMENT 6

SWMM Input Data in Input Format (Existing & Proposed Models)

PRE_DEV

```
[TITLE]

[OPTIONS]
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
START_DATE           07/26/1951
START_TIME           00:00:00
REPORT_START_DATE    07/26/1951
REPORT_START_TIME    00:00:00
END_DATE             07/25/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:05:00
DRY_STEP             01:00:00
ROUTING_STEP         0:00:30
ALLOW_PONDING        NO
INERTIAL_DAMPING     PARTIAL
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
NORMAL_FLOW_LIMITED  BOTH
SKIP_STEADY_STATE    NO
FORCE_MAIN_EQUATION  H-W
LINK_OFFSETS         DEPTH
MIN_SLOPE            0

[EVAPORATION]
;;Type       Parameters
;;---------- ----------
MONTHLY      0.07   0.10   0.13   0.17   0.19   0.22   0.24   0.22   0.19   0.13   0.09   0.06
DRY_ONLY     NO

[RAINGAGES]
;;               Rain      Time   Snow   Data
;;Name           Type      Intrvl Catch  Source
;;-------------- --------- ------ ------ ----------
Fallbrook        INTENSITY 1:00   1.0    TIMESERIES Fallbrook

[SUBCATCHMENTS]
;;                                                Total    Pcnt.             Pcnt.    Curb     Snow
;;Name           Raingage         Outlet          Area     Imperv   Width    Slope    Length   Pack
;;-------------- ---------------- --------------- -------- -------- -------- -------- -------- --------
DMA-1-D-2        Fallbrook        DMA-1-B-2       0.269    0        52.4     40       0
DMA-1-C-1        Fallbrook        POC-1           3.996    0        778      12       0
DMA-1-A          Fallbrook        POC-1           0.492    0        95.8     5        0
DMA-1-B-2        Fallbrook        DMA-1-C-1       0.764    0        148.8    22       0
DMA-1-D-1        Fallbrook        DMA-1-C-1       3.556    0        692.7    26       0
DMA-1-C-2        Fallbrook        POC-1           5.014    0        977      9.3      0
DMA-1-B-3        Fallbrook        DMA-1-C-2       3.137    0        611      27       0
DMA-1-D-3        Fallbrook        DMA-1-B-3       1.336    0        260.3    47       0
DMA-1-B-1        Fallbrook        DMA-1-D-1       1.373    0        267.5    40       0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-1-D-2        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-C-1        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-A          0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-B-2        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-D-1        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-C-2        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-B-3        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-D-3        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-B-1        0.012      0.05       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    HydCon     IMDmax
```

```
;;-------------- ---------- ---------- ----------
DMA-1-D-2        9          0.025      0.3
DMA-1-C-1        6          0.1        0.31
DMA-1-A          1.5        0.3        0.33
DMA-1-B-2        3          0.2        0.32
DMA-1-D-1        9          0.025      0.3
DMA-1-C-2        6          0.1        0.31
DMA-1-B-3        3          0.2        0.32
DMA-1-D-3        9          0.025      0.3
DMA-1-B-1        3          0.2        0.32

[OUTFALLS]
;;               Invert     Outfall    Stage/Table      Tide
;;Name           Elev.      Type       Time Series      Gate
;;-------------- ---------- ---------- ---------------- ----
POC-1            0          FREE                        NO

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
Fallbrook        FILE "Fallbrook.txt"

[REPORT]
INPUT      NO
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
POC-1            5000.000           5000.000

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-1-D-2        2000.000           8000.000
DMA-1-C-1        3500.000           6000.000
DMA-1-A          6500.000           5000.000
DMA-1-B-2        2000.000           7000.000
DMA-1-D-1        5000.000           7000.000
DMA-1-C-2        6500.000           7000.000
DMA-1-B-3        6500.000           8000.000
DMA-1-D-3        6500.000           9000.000
DMA-1-B-1        5000.000           8000.000

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
Fallbrook        3400.000           9000.000
```

POST_DEV

```
[TITLE]

[OPTIONS]
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
START_DATE           07/26/1951
START_TIME           00:00:00
REPORT_START_DATE    07/26/1951
REPORT_START_TIME    00:00:00
END_DATE             07/25/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:05:00
DRY_STEP             01:00:00
ROUTING_STEP         0:00:30
ALLOW_PONDING        NO
INERTIAL_DAMPING     PARTIAL
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
NORMAL_FLOW_LIMITED  BOTH
SKIP_STEADY_STATE    NO
FORCE_MAIN_EQUATION  H-W
LINK_OFFSETS         DEPTH
MIN_SLOPE            0

[EVAPORATION]
;;Type       Parameters
;;---------- ----------
MONTHLY      0.07   0.10   0.13   0.17   0.19   0.22   0.24   0.22   0.19   0.13   0.09   0.06
DRY_ONLY     NO

[RAINGAGES]
;;               Rain      Time   Snow   Data
;;Name           Type      Intrvl Catch  Source
;;-------------- --------- ------ ------ ----------
Fallbrook        INTENSITY 1:00   1.0    TIMESERIES Fallbrook

[SUBCATCHMENTS]
;;                                                 Total    Pcnt.             Pcnt.    Curb     Snow
;;Name           Raingage         Outlet           Area     Imperv   Width    Slope    Length   Pack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- --------
DMA-BP-D-3       Fallbrook        DMA-BP-B-2       0.268    0        52       40       0
DMA-BP-B-2       Fallbrook        DMA-BP-C-1       2.169    0        423      32       0
DMA-BP-C-1       Fallbrook        POC-1            1.06     0        206.5    12       0
DMA-BP-C-3       Fallbrook        DMA-BP-C-4       0.054    0        10.5     25       0
DMA-BP-C-4       Fallbrook        POC-1            0.118    0        23       20       0
DMA-DM-A         Fallbrook        POC-1            0.031    87.1     6        7        0
BMP-1            Fallbrook        POC-1            0.0337   0        10       0        0
DMA-1-C-1        Fallbrook        BMP-1            0.813    50.2     219.2    8        0
DMA-1-D          Fallbrook        DMA-1-C-1        0.153    5.9      30.8     50       0
DMA-1-C-2        Fallbrook        DMA-1-C-1        0.448    42.4     114.0    2        0
BMP-3            Fallbrook        POC-1            0.01235  0        10       0        0
DMA-3-C-2        Fallbrook        BMP-3            0.276    14.1     58.3     12       0
DMA-3-C-3        Fallbrook        BMP-3            0.269    16.7     57.7     12       0
BMP-2            Fallbrook        POC-1            0.01492  0        10       0        0
DMA-2-C          Fallbrook        BMP-2            0.543    69.8     172.2    12.5     0
DMA-BP-C-2       Fallbrook        POC-1            0.667    0        129.9    9.3      0
DMA-BP-B-1       Fallbrook        DMA-BP-C-2       2.989    0        582      27       0
DMA-BP-D-2       Fallbrook        DMA-BP-B-1       1.334    0        260      47       0
DMA-3-C-1        Fallbrook        BMP-3            0.093    100      40.5     12       0
BMP-4            Fallbrook        POC-1            0.02759  0        10       0        0
DMA-4-C-1        Fallbrook        BMP-4            0.409    71.4     131.6    6        0
DMA-4-D          Fallbrook        DMA-4-C-1        0.052    5.8      10.5     50       0
BMP-5            Fallbrook        SURF-5           0.072    0        20       0        0
DMA-5-C          Fallbrook        BMP-5            3.776    31.5     890.6    4        0
DMA-5-B          Fallbrook        DMA-5-C          0.074    0        14.4     50       0
```

```
DMA-5-A          Fallbrook        BMP-5            0.388    20.1     85       3        0
DMA-BP-D-1       Fallbrook        DMA-BP-C-1       2.502    0        487.4    24       0
DMA-BP-D-4       Fallbrook        DMA-BP-C-3       0.849    0        165.4    28       0
DMA-3-B          Fallbrook        DMA-3-C-1        0.042    100      18.3     12       0
DMA-4-C-2        Fallbrook        BMP-4            0.373    42.1     94.7     2        0
CMA-BP-C-5       Fallbrook        POC-1            0.024    0        4.7      10       0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-BP-D-3       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-B-2       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-C-1       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-C-3       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-C-4       0.012      0.05       0.05       0.1        25         OUTLET
DMA-DM-A         0.012      0.05       0.05       0.1        25         OUTLET
BMP-1            0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-C-1        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-D          0.012      0.05       0.05       0.1        25         OUTLET
DMA-1-C-2        0.012      0.05       0.05       0.1        25         OUTLET
BMP-3            0.012      0.05       0.05       0.1        25         OUTLET
DMA-3-C-2        0.012      0.05       0.05       0.1        25         OUTLET
DMA-3-C-3        0.012      0.05       0.05       0.1        25         OUTLET
BMP-2            0.012      0.05       0.05       0.1        25         OUTLET
DMA-2-C          0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-C-2       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-B-1       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-D-2       0.012      0.05       0.05       0.1        25         OUTLET
DMA-3-C-1        0.012      0.05       0.05       0.1        25         OUTLET
BMP-4            0.012      0.05       0.05       0.1        25         OUTLET
DMA-4-C-1        0.012      0.05       0.05       0.1        25         OUTLET
DMA-4-D          0.012      0.05       0.05       0.1        25         OUTLET
BMP-5            0.012      0.05       0.05       0.1        25         OUTLET
DMA-5-C          0.012      0.05       0.05       0.1        25         OUTLET
DMA-5-B          0.012      0.05       0.05       0.1        25         OUTLET
DMA-5-A          0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-D-1       0.012      0.05       0.05       0.1        25         OUTLET
DMA-BP-D-4       0.012      0.05       0.05       0.1        25         OUTLET
DMA-3-B          0.012      0.05       0.05       0.1        25         OUTLET
DMA-4-C-2        0.012      0.05       0.05       0.1        25         OUTLET
CMA-BP-C-5       0.012      0.05       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    HydCon     IMDmax
;;-------------- ---------- ---------- ----------
DMA-BP-D-3       9          0.025      0.30
DMA-BP-B-2       3          0.20       0.32
DMA-BP-C-1       6          0.10       0.31
DMA-BP-C-3       6          0.10       0.31
DMA-BP-C-4       6          0.10       0.31
DMA-DM-A         1.5        0.225      0.33
BMP-1            6          0.075      0.31
DMA-1-C-1        6          0.075      0.31
DMA-1-D          9          0.01875    0.30
DMA-1-C-2        6          0.075      0.31
BMP-3            6          0.075      0.31
DMA-3-C-2        6          0.10       0.31
DMA-3-C-3        6          0.10       0.31
BMP-2            6          0.075      0.31
DMA-2-C          6          0.075      0.31
DMA-BP-C-2       6          0.10       0.31
DMA-BP-B-1       3          0.20       0.32
DMA-BP-D-2       9          0.025      0.30
DMA-3-C-1        6          0.075      0.31
BMP-4            6          0.075      0.31
DMA-4-C-1        6          0.075      0.31
DMA-4-D          9          0.01875    0.30
BMP-5            1.5        0.225      0.33
DMA-5-C          6          0.075      0.31
DMA-5-B          3          0.15       0.32
DMA-5-A          1.5        0.225      0.33
```

```
DMA-BP-D-1       9          0.025      0.30
DMA-BP-D-4       9          0.025      0.30
DMA-3-B          3          0.15       0.32
DMA-4-C-2        6          0.075      0.31
CMA-BP-C-5       6          0.075      0.31

[LID_CONTROLS]
;;               Type/Layer Parameters
;;-------------- ---------- ----------
BMP-1            BC
BMP-1            SURFACE    10.2       0.0        0.1        0          5
BMP-1            SOIL       24         0.4        0.2        0.1        5          5          1.5
BMP-1            STORAGE    15         0.67       0.075      0
BMP-1            DRAIN      0.4288     0.5        3          6

BMP-2            BC
BMP-2            SURFACE    10.2       0.0        0.1        0          5
BMP-2            SOIL       24         0.4        0.2        0.1        5          5          1.5
BMP-2            STORAGE    15         0.67       0.075      0
BMP-2            DRAIN      0.3922     0.5        3          6

BMP-3            BC
BMP-3            SURFACE    8.98       0.0        0.1        0          5
BMP-3            SOIL       24         0.4        0.2        0.1        5          5          1.5
BMP-3            STORAGE    15         0.67       0.075      0
BMP-3            DRAIN      0.4738     0.5        3          6

BMP-4            BC
BMP-4            SURFACE    10.2       0.0        0.1        0          5
BMP-4            SOIL       24         0.4        0.2        0.1        5          5          1.5
BMP-4            STORAGE    15         0.67       0.075      0
BMP-4            DRAIN      0.4328     0.5        3          6

BMP-5            BC
BMP-5            SURFACE    9.27       0.0        0.1        0          5
BMP-5            SOIL       24         0.4        0.2        0.1        5          5          1.5
BMP-5            STORAGE    18         0.67       0.225      0
BMP-5            DRAIN      0.4246     0.5        6          6

[LID_USAGE]
;;Subcatchment   LID Process      Number  Area       Width      InitSatur  FromImprv  ToPerv     Report File
;;-------------- ---------------- ------- ---------- ---------- ---------- ---------- ---------- -----------
BMP-1            BMP-1            1       1468       0          0          100        0
BMP-3            BMP-3            1       538        0          0          100        0
BMP-2            BMP-2            1       650        0          0          100        0
BMP-4            BMP-4            1       1202       0          0          100        0
BMP-5            BMP-5            1       3137       0          0          100        0

[OUTFALLS]
;;               Invert     Outfall    Stage/Table      Tide
;;Name           Elev.      Type       Time Series      Gate
;;-------------- ---------- ---------- ---------------- ----
POC-1            0          FREE                        NO

[STORAGE]
;;               Invert   Max.     Init.    Storage    Curve                    Ponded   Evap.
;;Name           Elev.    Depth    Depth    Curve      Params                   Area     Frac.    Infiltration
Parameters
;;-------------- -------- -------- -------- ---------- -------- -------- -------- -------- -------- ----------------
------
SURF-5           0        2.5      0        TABULAR    SURF-4                    5398     1

[OUTLETS]
;;               Inlet            Outlet           Outflow    Outlet          Qcoeff/                     Flap
;;Name           Node             Node             Height     Type            QTable           Qexpon     Gate
;;-------------- ---------------- ---------------- ---------- --------------- ---------------- ---------- ----
OUT-5            SURF-5           POC-1            0          TABULAR/DEPTH   OUT-5                       NO

[CURVES]
;;Name           Type       X-Value    Y-Value
;;-------------- ---------- ---------- ----------
```

```
OUT-5            Rating     0          0
OUT-5                       0.1        0.1019
OUT-5                       0.83       0.102
OUT-5                       0.92       0.512
OUT-5                       1.00       1.188
OUT-5                       1.08       1.559
OUT-5                       1.17       1.853
OUT-5                       1.25       2.105
OUT-5                       1.33       2.328
OUT-5                       1.42       2.531
OUT-5                       1.50       2.718
OUT-5                       1.58       2.892
OUT-5                       1.67       3.057
OUT-5                       1.75       3.212
OUT-5                       1.83       4.554
OUT-5                       1.92       6.877
OUT-5                       2.00       9.838
OUT-5                       2.08       13.315
OUT-5                       2.17       17.236
OUT-5                       2.25       21.555
OUT-5                       2.33       26.235
OUT-5                       2.42       31.251
OUT-5                       2.50       36.581

SURF-4           Storage    0          10
SURF-4                      0.75       10
SURF-4                      0.83       10
SURF-4                      0.8301     3851
SURF-4                      0.92       3925
SURF-4                      1.00       3999
SURF-4                      1.08       4073
SURF-4                      1.17       4148
SURF-4                      1.25       4223
SURF-4                      1.33       4299
SURF-4                      1.42       4375
SURF-4                      1.50       4451
SURF-4                      1.58       4528
SURF-4                      1.67       4605
SURF-4                      1.75       4682
SURF-4                      1.83       4760
SURF-4                      1.92       4839
SURF-4                      2.00       4917
SURF-4                      2.08       4996
SURF-4                      2.17       5076
SURF-4                      2.25       5156
SURF-4                      2.33       5236
SURF-4                      2.42       5317
SURF-4                      2.50       5398

[TIMESERIES]
;;Name            Date       Time       Value
;;--------------- ---------- ---------- ----------
Fallbrook        FILE "Fallbrook.txt"

[REPORT]
INPUT      NO
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None

[COORDINATES]
;;Node            X-Coord            Y-Coord
;;--------------- ------------------ ------------------
POC-1            5000.000           5000.000
```

```
SURF-5           6039.290           6032.953

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-BP-D-3       3000.000           9000.000
DMA-BP-B-2       3000.000           8000.000
DMA-BP-C-1       3000.000           7000.000
DMA-BP-C-3       3000.000           5000.000
DMA-BP-C-4       3000.000           4250.000
DMA-DM-A         5000.000           7000.000
BMP-1            8000.000           4000.000
DMA-1-C-1        8000.000           2500.000
DMA-1-D          7000.000           1500.000
DMA-1-C-2        9000.000           1500.000
BMP-3            8000.000           5000.000
DMA-3-C-2        9500.000           4500.000
DMA-3-C-3        9500.000           5500.000
BMP-2            5000.000           4000.000
DMA-2-C          5000.000           2500.000
DMA-BP-C-2       6000.000           4000.000
DMA-BP-B-1       6000.000           3000.000
DMA-BP-D-2       6000.000           2000.000
DMA-3-C-1        9500.000           3500.000
BMP-4            8000.000           6000.000
DMA-4-C-1        9500.000           6000.000
DMA-4-D          10500.000          6000.000
BMP-5            7000.000           7000.000
DMA-5-C          8000.000           9000.000
DMA-5-B          9500.000           9000.000
DMA-5-A          8000.000           7000.000
DMA-BP-D-1       5000.000           9000.000
DMA-BP-D-4       3000.000           5750.000
DMA-3-B          9500.000           2500.000
DMA-4-C-2        10000.000          7000.000
CMA-BP-C-5       3000.000           3500.000

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
Fallbrook        6250.000           8250.000
```

ATTACHMENT 7

EPA SWMM FIGURES AND EXPLANATIONS

Per the attached, the reader can see the screens associated with the EPA-SWMM Model in both pre-development and post-development conditions. Each portion, i.e., sub-catchments, outfalls, storage units, weir as a discharge, and outfalls (point of compliance), are also shown.

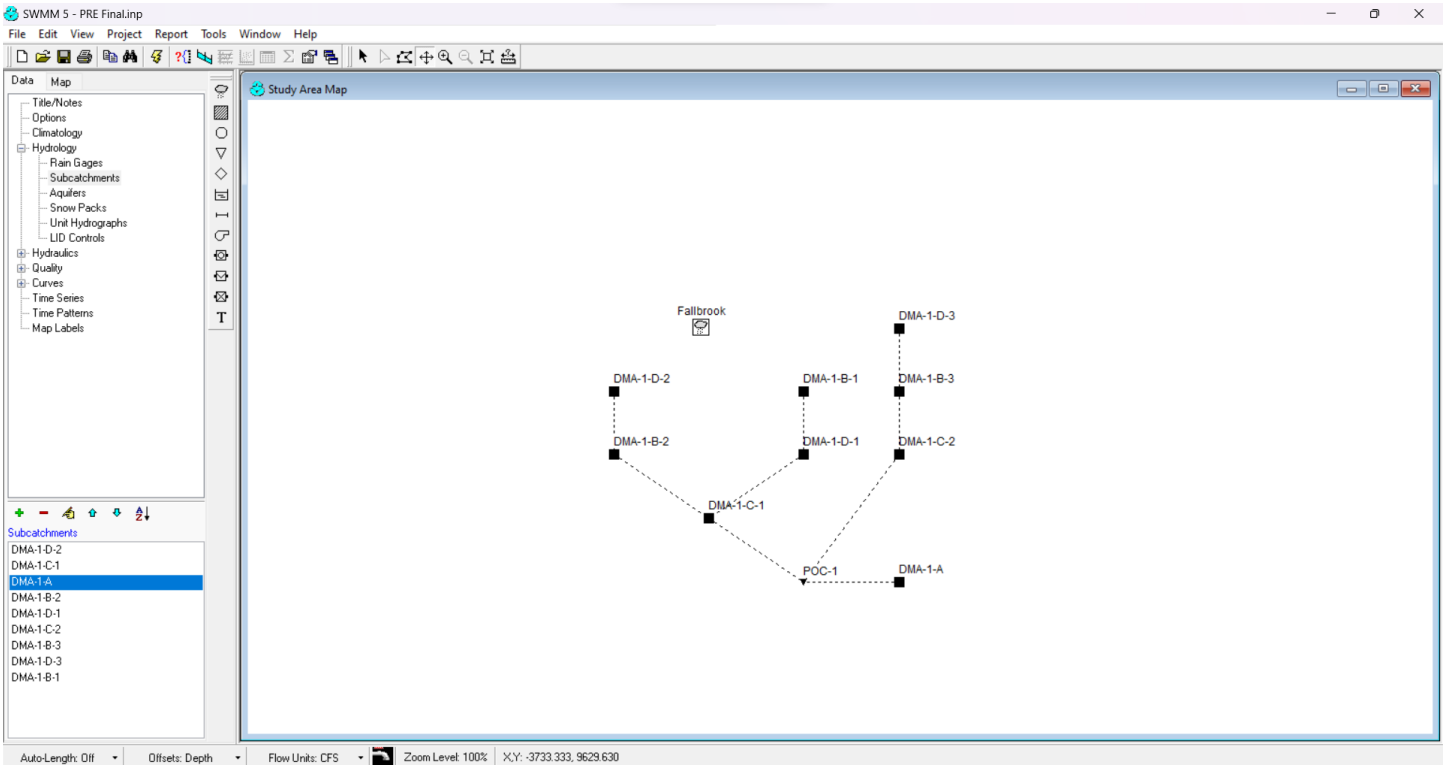
Variables for modeling are associated with typical recommended values by the EPA-SWMM model, typical values found in technical literature (such as Maidment's Handbook of Hydrology). Recommended values for the SWMM model have been attained from Appendix G of the 2021 City of Vista BMP Design Manual.

Soil characteristics of the existing soils were determined from the site specific NRCS WebSoil Survey investigation (located in Attachment 8 of this report).

A Technical document prepared by Tory R Walker Engineering for the Cities of San Marcos, Oceanside and Vista (Reference [1]) can also be consulted for additional information regarding typical values for SWMM parameters.

Manning's roughness coefficients have been based upon the findings of the "*Improving Accuracy in Continuous Hydrologic Modeling: Guidance for Selecting Pervious Overland Flow Manning's n Values in the San Diego Region*" date 2016 by TRW Engineering (Reference [6]).

PRE-DEVELOPED CONDITIONS



Rain Gage Fallbrook

Property	Value
Name	Fallbrook
X-Coordinate	3400.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Format	INTENSITY
Time Interval	1:00
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	Fallbrook
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

User-assigned name of rain gage

Outfall POC-1

Property	Value
Name	S
X-Coordinate	5000.000
Y-Coordinate	5000.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Tide Gate	NO
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

User-assigned name of outfall

Subcatchment DMA-1-A

Property	Value
Name	DMA-1-A
X-Coordinate	6500.000
Y-Coordinate	5000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	S
Area	0.492
Width	95.8
% Slope	5
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

User-assigned name of subcatchment

Subcatchment DMA-1-B-2

Property	Value
Name	DMA-1-B-2
X-Coordinate	2000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-C-1
Area	0.764
Width	148.8
% Slope	22
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	1.5
Conductivity	0.3
Initial Deficit	0.33

Soil capillary suction head (inches or mm)

OK Cancel Help

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.2
Initial Deficit	0.32

Soil capillary suction head (inches or mm)

OK Cancel Help

Subcatchment DMA-1-D-2

Property	Value
Name	DMA-1-D-2
X-Coordinate	2000.000
Y-Coordinate	8000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-B-2
Area	0.269
Width	52.4
% Slope	40
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-1-C-1

Property	Value
Name	DMA-1-C-1
X-Coordinate	3500.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	S
Area	3.996
Width	778
% Slope	12
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.3

Soil capillary suction head (inches or mm)

OK Cancel Help

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.1
Initial Deficit	0.31

Soil capillary suction head (inches or mm)

OK Cancel Help

Subcatchment DMA-1-B-1

Property	Value
Name	DMA-1-B-1
X-Coordinate	5000.000
Y-Coordinate	8000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-D-1
Area	1.373
Width	267.5
% Slope	40
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.2
Initial Deficit	0.32

Soil capillary suction head (inches or mm)

OK Cancel Help

Subcatchment DMA-1-D-1

Property	Value
Name	DMA-1-D-1
X-Coordinate	5000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-C-1
Area	3.556
Width	692.7
% Slope	26
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.3

Soil capillary suction head (inches or mm)

OK Cancel Help

Subcatchment DMA-1-D-3

Property	Value
Name	DMA-1-D-3
X-Coordinate	6500.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-B-3
Area	1.336
Width	260.3
% Slope	47
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-1-B-3

Property	Value
Name	DMA-1-B-3
X-Coordinate	6500.000
Y-Coordinate	8000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-C-2
Area	3.137
Width	611
% Slope	27
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.3

Soil capillary suction head (inches or mm)

OK Cancel Help

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.2
Initial Deficit	0.32

Soil capillary suction head (inches or mm)

OK Cancel Help

Subcatchment DMA-1-C-2

Property	Value
Name	DMA-1-C-2
X-Coordinate	6500.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	S
Area	5.014
Width	977
% Slope	9.3
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

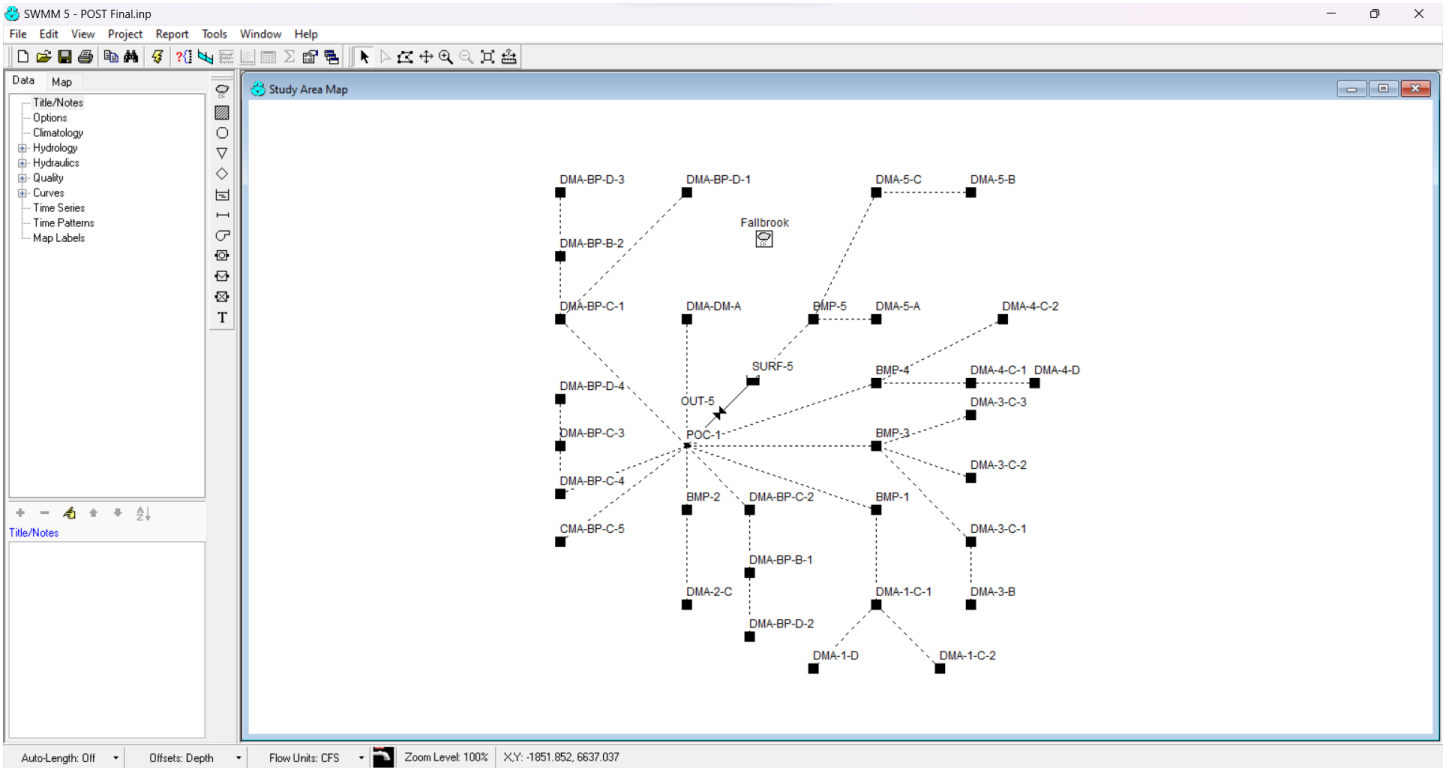
Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.1
Initial Deficit	0.31

Soil capillary suction head (inches or mm)

OK Cancel Help

POST-DEVELOPED CONDITIONS



Outfall POC-1

Property	Value
Name	POC-1
X-Coordinate	5000.000
Y-Coordinate	5000.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Tide Gate	NO
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

Name of time series for a TIMESERIES boundary condition (after specifing a time series, you can double-click to edit it)

Rain Gage Fallbrook

Property	Value
Name	Fallbrook
X-Coordinate	6250.000
Y-Coordinate	8250.000
Description	
Tag	
Rain Format	INTENSITY
Time Interval	1:00
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	Fallbrook
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

User-assigned name of rain gage

Subcatchment DMA-1-C-1

Property	Value
Name	DMA-1-C-1
X-Coordinate	8000.000
Y-Coordinate	2500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-1
Area	0.813
Width	219.2
% Slope	8
% Imperv	50.2
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Percent of impervious area with no depression storage (%)

Subcatchment DMA-1-C-2

Property	Value
Name	DMA-1-C-2
X-Coordinate	9000.000
Y-Coordinate	1500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-C-1
Area	0.448
Width	114.0
% Slope	2
% Imperv	42.4
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-1-D

Property	Value
Name	DMA-1-D
X-Coordinate	7000.000
Y-Coordinate	1500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-1-C-1
Area	0.153
Width	30.8
% Slope	50
% Imperv	5.9
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.01875
Initial Deficit	0.30

Subcatchment BMP-1

Property	Value
Name	BMP-1
X-Coordinate	8000.000
Y-Coordinate	4000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.0337
Width	10
% Slope	0
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	1
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-2-C

Property	Value
Name	DMA-2-C
X-Coordinate	5000.000
Y-Coordinate	2500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-2
Area	0.543
Width	172.2
% Slope	12.5
% Imperv	69.8
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment BMP-2

Property	Value
Name	BMP-2
X-Coordinate	5000.000
Y-Coordinate	4000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.01492
Width	10
% Slope	0
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	1
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Subcatchment DMA-BP-C-2

Property	Value
Name	DMA-BP-C-2
X-Coordinate	6000.000
Y-Coordinate	4000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.667
Width	129.9
% Slope	9.3
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-B-1

Property	Value
Name	DMA-BP-B-1
X-Coordinate	6000.000
Y-Coordinate	3000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-C-2
Area	2.989
Width	582
% Slope	27
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-D-2

Property	Value
Name	DMA-BP-D-2
X-Coordinate	6000.000
Y-Coordinate	2000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-B-1
Area	1.334
Width	260
% Slope	47
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Name of node or another subcatchment that receives runoff

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.20
Initial Deficit	0.32

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.30

Subcatchment DMA-3-B

Property	Value
Name	DMA-3-B
X-Coordinate	9500.000
Y-Coordinate	2500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-3-C-1
Area	0.042
Width	18.3
% Slope	12
% Imperv	100
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-3-C-1

Property	Value
Name	DMA-3-C-1
X-Coordinate	9500.000
Y-Coordinate	3500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-3
Area	0.093
Width	40.5
% Slope	12
% Imperv	100
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-3-C-2

Property	Value
Name	DMA-3-C-2
X-Coordinate	9500.000
Y-Coordinate	4500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-3
Area	0.276
Width	58.3
% Slope	12
% Imperv	14.1
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Subcatchment DMA-3-C-3

Property	Value
Name	DMA-3-C-3
X-Coordinate	9500.000
Y-Coordinate	5500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-3
Area	0.269
Width	57.7
% Slope	12
% Imperv	16.7
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment BMP-3

Property	Value
Name	BMP-3
X-Coordinate	8000.000
Y-Coordinate	5000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.01235
Width	10
% Slope	0
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	1
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-4-C-1

Property	Value
Name	DMA-4-C-1
X-Coordinate	9500.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-4
Area	0.409
Width	131.6
% Slope	6
% Imperv	71.4
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Subcatchment DMA-4-D

Property	Value
Name	DMA-4-D
X-Coordinate	10500.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-4-C-1
Area	0.052
Width	10.5
% Slope	50
% Imperv	5.8
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-4-C-2

Property	Value
Name	DMA-4-C-2
X-Coordinate	10000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-4
Area	0.373
Width	94.7
% Slope	2
% Imperv	42.1
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment BMP-4

Property	Value
Name	BMP-4
X-Coordinate	8000.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.02759
Width	10
% Slope	0
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	1
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.01875
Initial Deficit	0.30

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Subcatchment DMA-5-A

Property	Value
Name	DMA-5-A
X-Coordinate	8000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-5
Area	0.388
Width	85
% Slope	3
% Imperv	20.1
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-5-B

Property	Value
Name	DMA-5-B
X-Coordinate	9500.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-5-C
Area	0.074
Width	14.4
% Slope	50
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-5-C

Property	Value
Name	DMA-5-C
X-Coordinate	8000.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	BMP-5
Area	3.776
Width	890.6
% Slope	4
% Imperv	31.5
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	1.5
Conductivity	0.225
Initial Deficit	0.33

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

Subcatchment BMP-5

Property	Value
Name	BMP-5
X-Coordinate	7000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	SURF-5
Area	0.072
Width	20
% Slope	0
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	1
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-DM-A

Property	Value
Name	DMA-DM-A
X-Coordinate	5000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.031
Width	6
% Slope	7
% Imperv	87.1
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-D-1

Property	Value
Name	DMA-BP-D-1
X-Coordinate	5000.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-C-1
Area	2.502
Width	487.4
% Slope	24
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Percent of runoff routed between sub-areas

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	1.5
Conductivity	0.225
Initial Deficit	0.33

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	1.5
Conductivity	0.225
Initial Deficit	0.33

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.30

Subcatchment DMA-BP-D-3

Property	Value
Name	DMA-BP-D-3
X-Coordinate	3000.000
Y-Coordinate	9000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-B-2
Area	0.268
Width	52
% Slope	40
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-B-2

Property	Value
Name	DMA-BP-B-2
X-Coordinate	3000.000
Y-Coordinate	8000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-C-1
Area	2.169
Width	423
% Slope	32
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-C-1

Property	Value
Name	DMA-BP-C-1
X-Coordinate	3000.000
Y-Coordinate	7000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	1.06
Width	206.5
% Slope	12
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.30

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.20
Initial Deficit	0.32

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.10
Initial Deficit	0.31

Subcatchment DMA-BP-D-4

Property	Value
Name	DMA-BP-D-4
X-Coordinate	3000.000
Y-Coordinate	5750.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-C-3
Area	0.849
Width	165.4
% Slope	28
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-C-3

Property	Value
Name	DMA-BP-C-3
X-Coordinate	3000.000
Y-Coordinate	5000.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	DMA-BP-C-4
Area	0.054
Width	10.5
% Slope	25
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Subcatchment DMA-BP-C-4

Property	Value
Name	DMA-BP-C-4
X-Coordinate	3000.000
Y-Coordinate	4250.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.118
Width	23
% Slope	20
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	9
Conductivity	0.025
Initial Deficit	0.30

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.10
Initial Deficit	0.31

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.10
Initial Deficit	0.31

Subcatchment CMA-BP-C-5

Property	Value
Name	CMA-BP-C-5
X-Coordinate	3000.000
Y-Coordinate	3500.000
Description	
Tag	
Rain Gage	Fallbrook
Outlet	POC-1
Area	0.024
Width	4.7
% Slope	10
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	6
Conductivity	0.075
Initial Deficit	0.31

EXPLANATION OF SELECTED VARIABLES

Sub Catchment Areas:

Please refer to the attached diagrams that indicate the DMA and Bio-Retention BMPs (BMP) sub areas modeled within the project site at both the pre and post developed conditions draining to the POC.

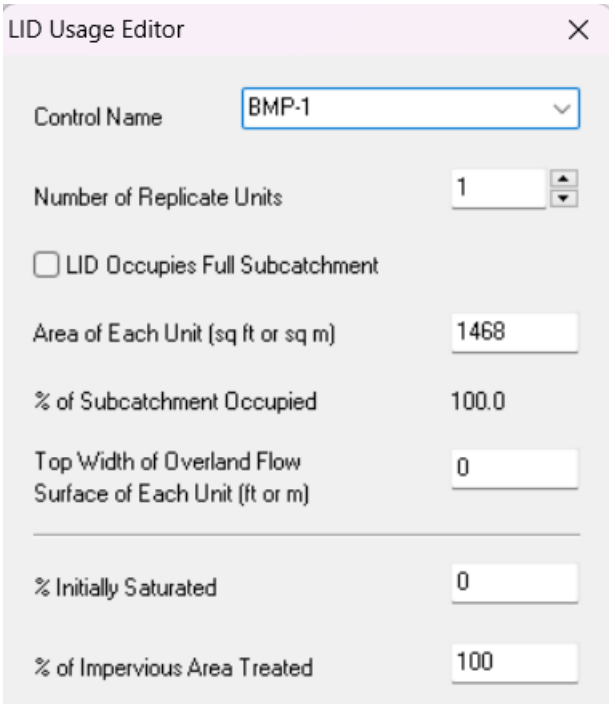
Parameters for the pre- and post-developed models include soil type C as determined from the site specific geotechnical investigation (attached at the end of this appendix). Suction head, conductivity and initial deficit corresponds to average values expected for these soils types, according to Appendix G of the 2021 City of Vista BMP Design Manual.

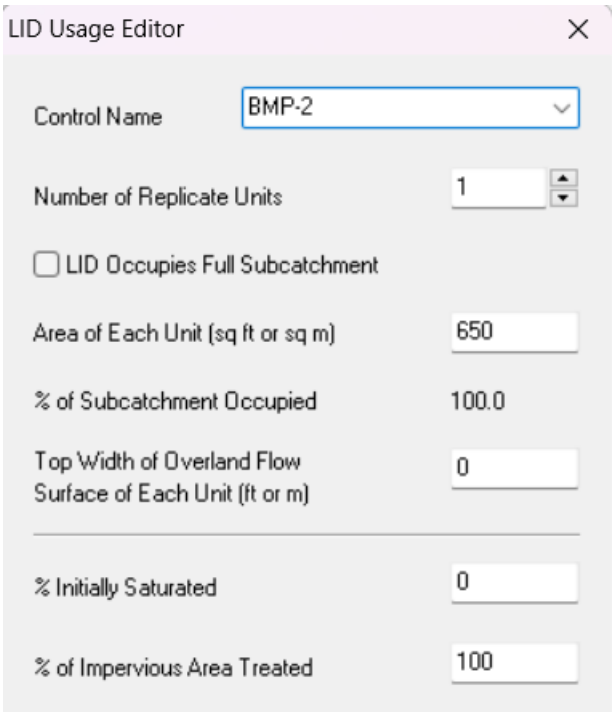
For surface runoff infiltration values, REC selected infiltration values per Appendix G of 2021 City of Vista BMP Design Manual corresponding to hydrologic soil type.

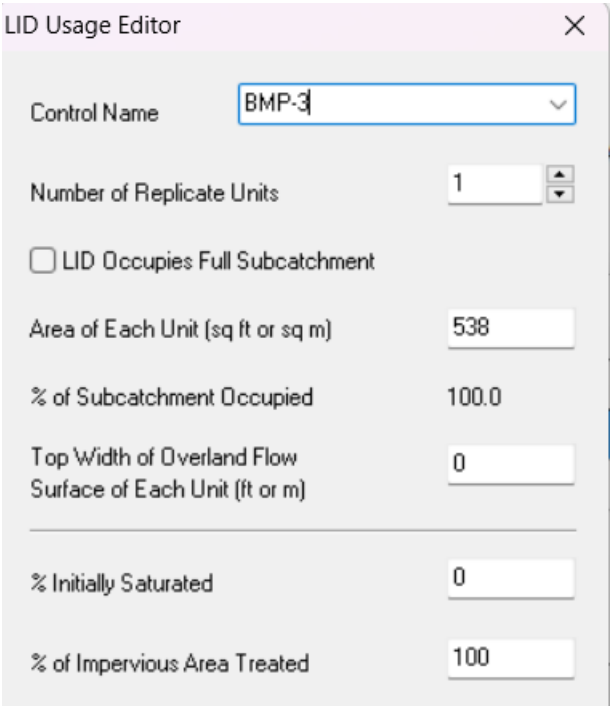
Selection of a Kinematic Approach: As the continuous model is based on hourly rainfall, and the time of concentration for the pre-development and post-development conditions is significantly smaller than 60 minutes, precise routing of the flows through the impervious surfaces, the underdrain pipe system, and the discharge pipe was considered unnecessary. The truncation error of the precipitation into hourly steps is much more significant than the precise routing in a system where the time of concentration is much smaller than 1 hour.

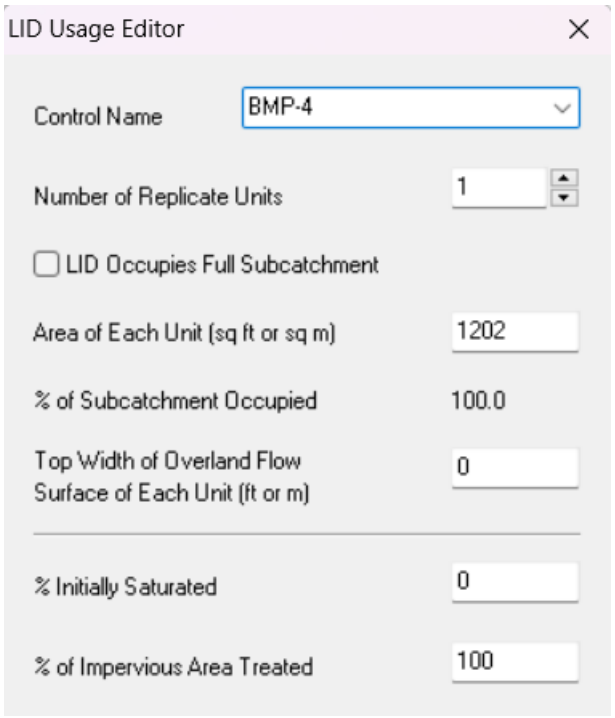
Sub-catchment BMP:

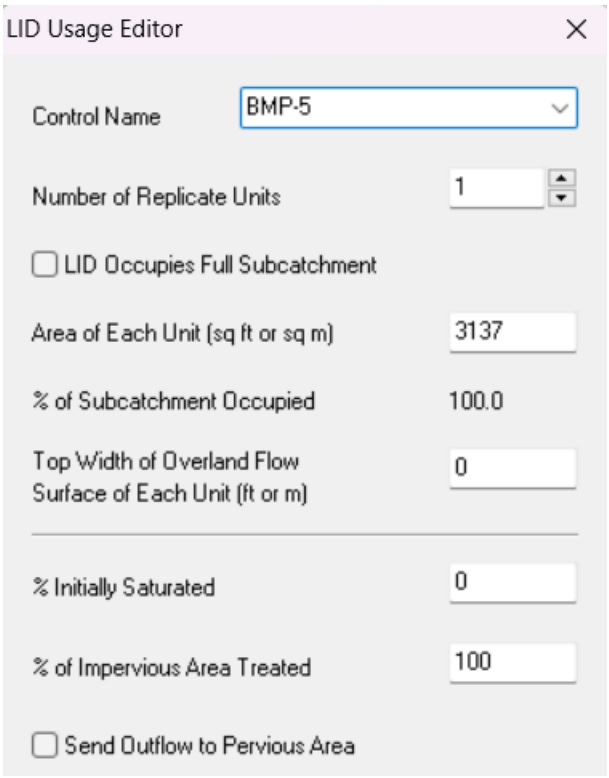
The area of biofiltration must be equal to the area of the development tributary to the biofiltration facility (area that drains into the biofiltration, equal external area plus bio-retention itself). Five (5) decimal places were given regarding the areas of the biofiltration to insure that the area used by the program for the LID subroutine corresponds exactly with this tributary.


LID Usage Editor
Control Name
BMP-1
Number of Replicate Units
1
LID Occupies Full Subcatchment
Area of Each Unit (sq ft or sq m)
1468
% of Subcatchment Occupied
100.0
Top Width of Overland Flow Surface of Each Unit (ft or m)
0
% Initially Saturated
0
% of Impervious Area Treated
100


LID Usage Editor
Control Name
BMP-2
Number of Replicate Units
1
LID Occupies Full Subcatchment
Area of Each Unit (sq ft or sq m)
650
% of Subcatchment Occupied
100.0
Top Width of Overland Flow Surface of Each Unit (ft or m)
0
% Initially Saturated
0
% of Impervious Area Treated
100


LID Usage Editor
Control Name
BMP-3
Number of Replicate Units
1
LID Occupies Full Subcatchment
Area of Each Unit (sq ft or sq m)
538
% of Subcatchment Occupied
100.0
Top Width of Overland Flow Surface of Each Unit (ft or m)
0
% Initially Saturated
0
% of Impervious Area Treated
100


LID Usage Editor
Control Name
BMP-4
Number of Replicate Units
1
LID Occupies Full Subcatchment
Area of Each Unit (sq ft or sq m)
1202
% of Subcatchment Occupied
100.0
Top Width of Overland Flow Surface of Each Unit (ft or m)
0
% Initially Saturated
0
% of Impervious Area Treated
100


LID Usage Editor
Control Name
BMP-5
Number of Replicate Units
1
LID Occupies Full Subcatchment
Area of Each Unit (sq ft or sq m)
3137
% of Subcatchment Occupied
100.0
Top Width of Overland Flow Surface of Each Unit (ft or m)
0
% Initially Saturated
0
% of Impervious Area Treated
100
Send Outflow to Pervious Area

Surface Storage and Rating curves

Outlet OUT-5

Property	Value
Name	OUT-5
Inlet Node	SURF-5
Outlet Node	POC-1
Description	
Tag	
Inlet Offset	0
Flap Gate	NO
Rating Curve	TABULAR/DEPTH
Functional Curve	
Coefficient	10.0
Exponent	0.5
Tabular Curve	
Curve Name	OUT-5

Optional comment or description

Storage Unit SURF-5

Property	Value
Name	SURF-5
X-Coordinate	6039.290
Y-Coordinate	6032.953
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Max. Depth	2.5
Initial Depth	0
Ponded Area	5398
Evap. Factor	1
Infiltration	NO
Storage Curve	TABULAR
Functional Curve	
Coefficient	1000
Exponent	0
Constant	0
Tabular Curve	
Curve Name	SURF-4

Click to specify infiltration through the bottom of the storage unit

Rating Curve Editor

Curve Name: OUT-5

Description:

	Head (ft)	Outflow (CFS)
1	0	0
2	0.1	0.1019
3	0.83	0.102
4	0.92	0.512
5	1.00	1.188
6	1.08	1.559
7	1.17	1.853
8	1.25	2.105
9	1.33	2.328

View... Load... Save... OK Cancel Help

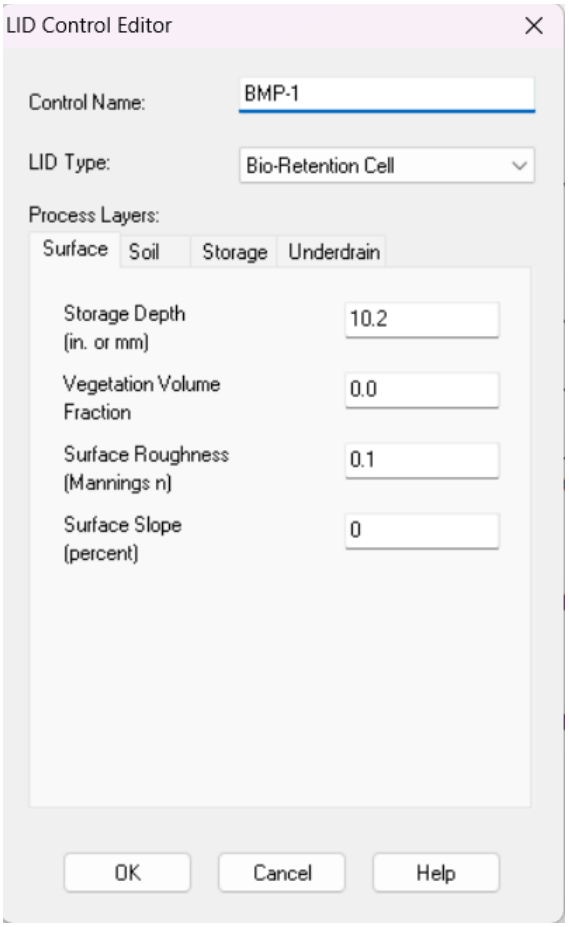
Storage Curve Editor

Curve Name: SURF-4

Description:

	Depth (ft)	Area (ft2)
1	0	10
2	0.75	10
3	0.83	10
4	0.8301	3851
5	0.92	3925
6	1.00	3999
7	1.08	4073
8	1.17	4148
9	1.25	4223

View... Load... Save... OK Cancel Help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LID Type:
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Process Layers:
Surface
Soil
Storage
Underdrain
Storage Depth
(in. or mm)
10.2
Vegetation Volume
Fraction
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Surface Roughness
(Mannings n)
0.1
Surface Slope
(percent)
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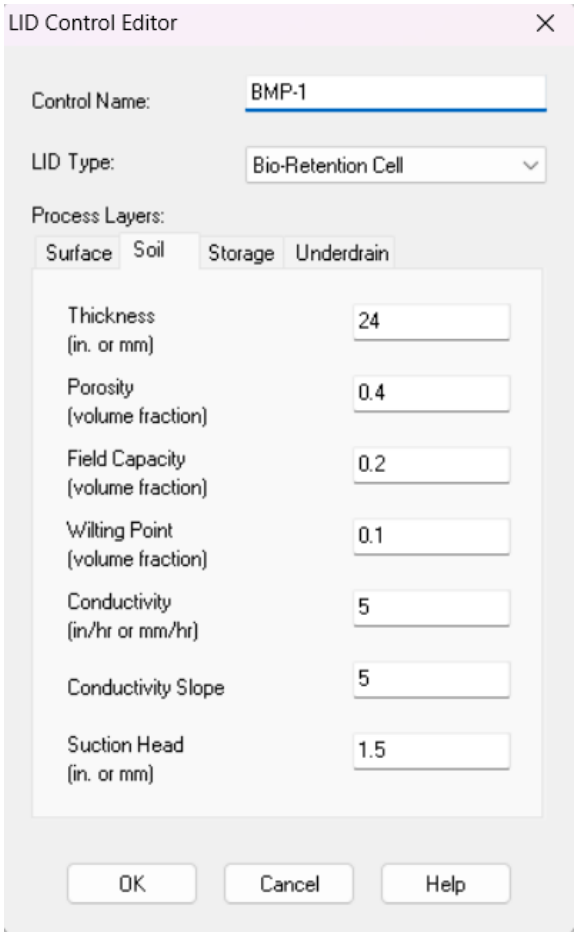
OK
Cancel
Help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LID Type:
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Process Layers:
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Soil
Storage
Underdrain
Thickness
(in. or mm)
24
Porosity
(volume fraction)
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Field Capacity
(volume fraction)
0.2
Wilting Point
(volume fraction)
0.1
Conductivity
(in/hr or mm/hr)
5
Conductivity Slope
5
Suction Head
(in. or mm)
1.5
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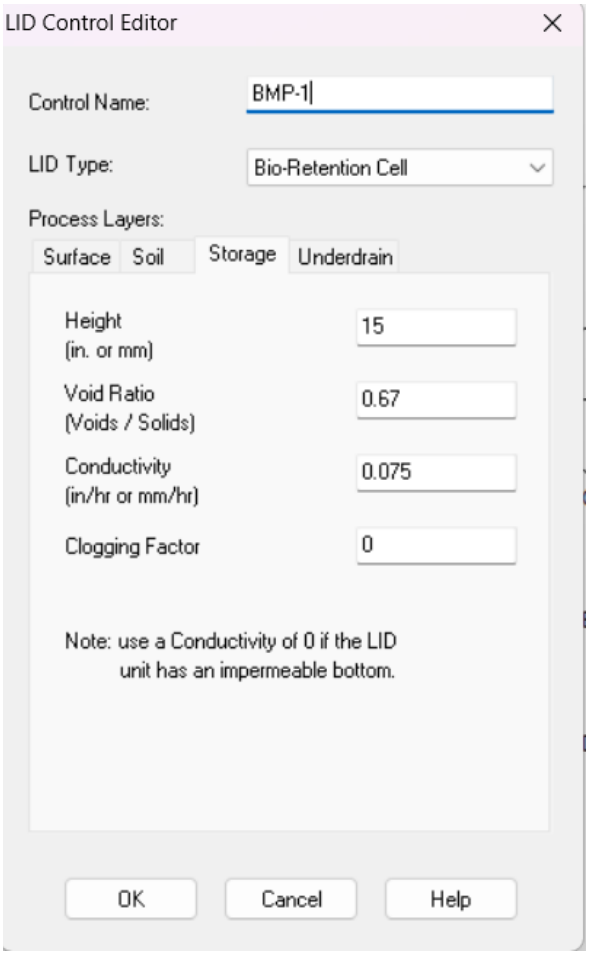
Cancel
Help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Bio-Retention Cell
Process Layers:
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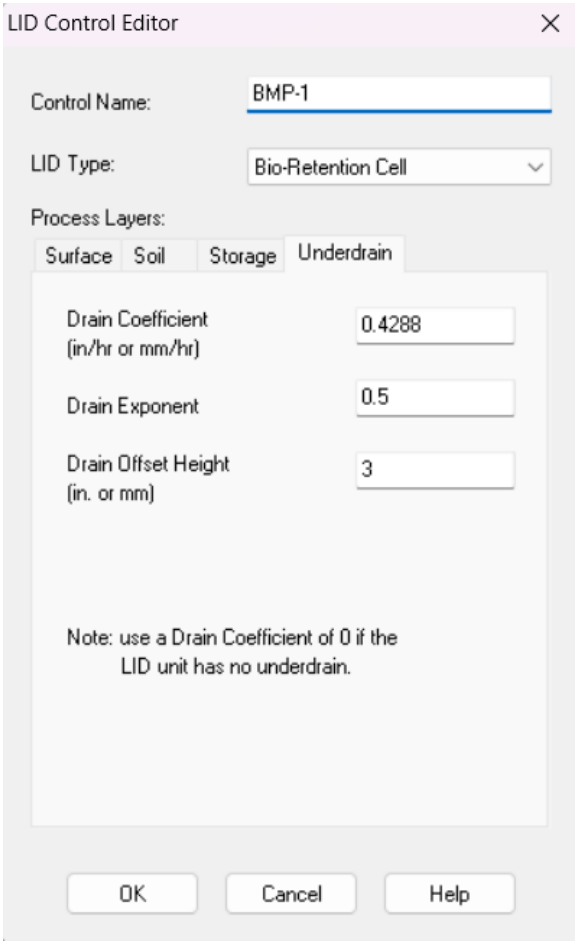
Soil
Storage
Underdrain
Height
(in. or mm)
15
Void Ratio
(Voids / Solids)
0.67
Conductivity
(in/hr or mm/hr)
0.075
Clogging Factor
0
Note: use a Conductivity of 0 if the LID
unit has an impermeable bottom.
OK
Cancel
Help


LID Control Editor
Control Name:
BMP-1
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Drain Coefficient
(in/hr or mm/hr)
0.4288
Drain Exponent
0.5
Drain Offset Height
(in. or mm)
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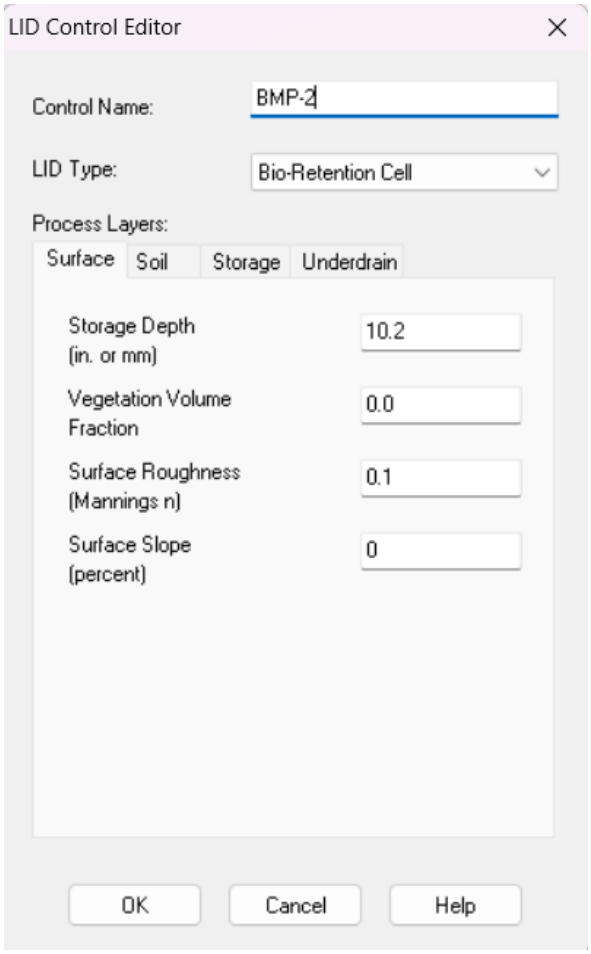
Note: use a Drain Coefficient of 0 if the
LID unit has no underdrain.
OK
Cancel
Help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LID Type:
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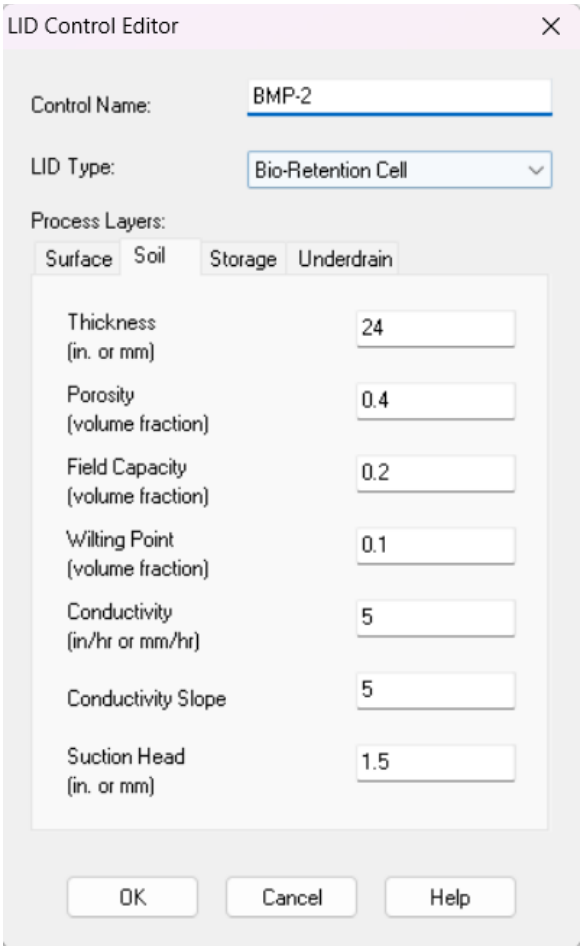
Process Layers:
Surface
Soil
Storage
Underdrain
Storage Depth
(in. or mm)
10.2
Vegetation Volume
Fraction
0.0
Surface Roughness
(Mannings n)
0.1
Surface Slope
(percent)
0
OK
Cancel
Help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LID Type:
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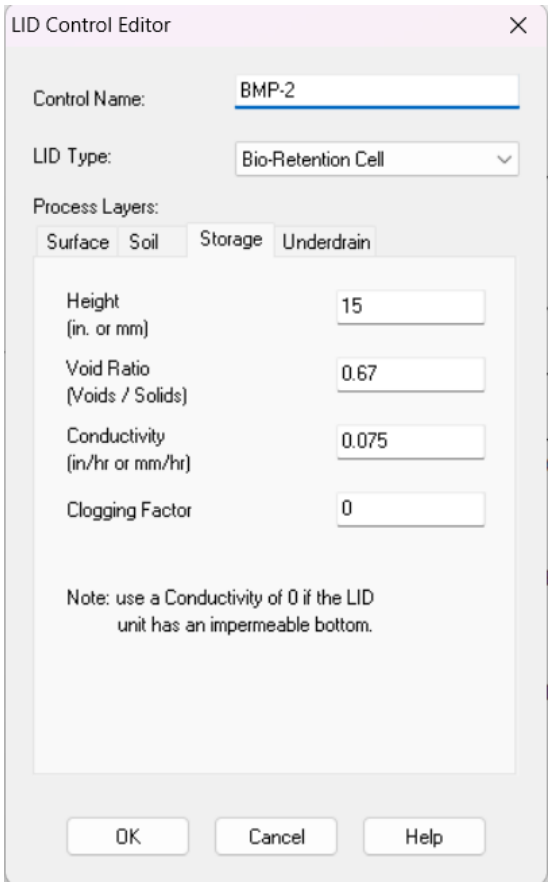
Process Layers:
Surface
Soil
Storage
Underdrain
Thickness
(in. or mm)
24
Porosity
(volume fraction)
0.4
Field Capacity
(volume fraction)
0.2
Wilting Point
(volume fraction)
0.1
Conductivity
(in/hr or mm/hr)
5
Conductivity Slope
5
Suction Head
(in. or mm)
1.5
OK
Cancel
Help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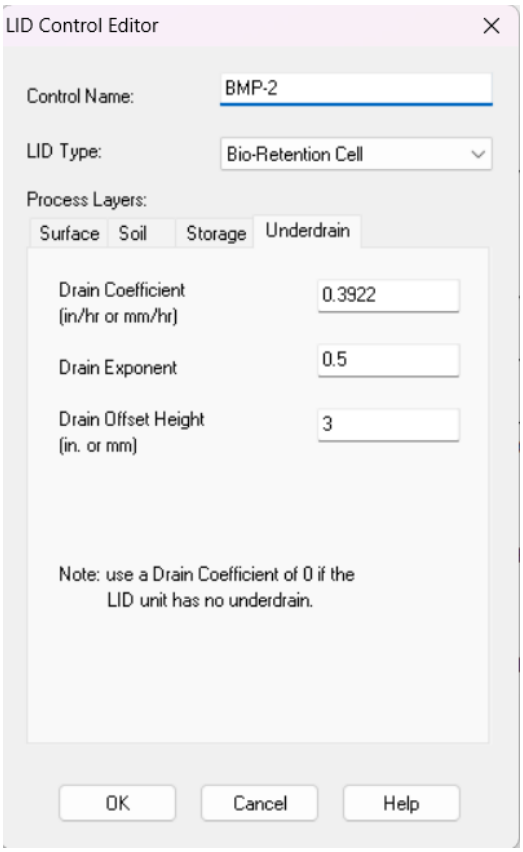
BMP-2
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Height
(in. or mm)
15
Void Ratio
(Voids / Solids)
0.67
Conductivity
(in/hr or mm/hr)
0.075
Clogging Factor
0
Note: use a Conductivity of 0 if the LID
unit has an impermeable bottom.
OK
Cancel
Help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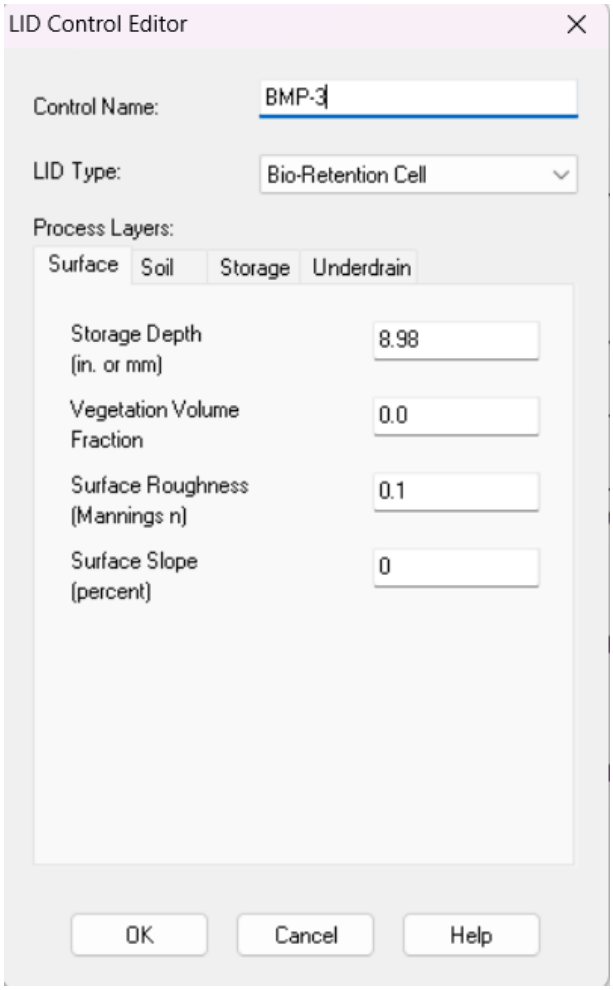
Control Name:
BMP-2
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Drain Coefficient
(in/hr or mm/hr)
0.3922
Drain Exponent
0.5
Drain Offset Height
(in. or mm)
3
Note: use a Drain Coefficient of 0 if the
LID unit has no underdrain.
OK
Cancel
Help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Control Name:
BMP-3
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Storage Depth
(in. or mm)
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Vegetation Volume
Fraction
0.0
Surface Roughness
(Mannings n)
0.1
Surface Slope
(percent)
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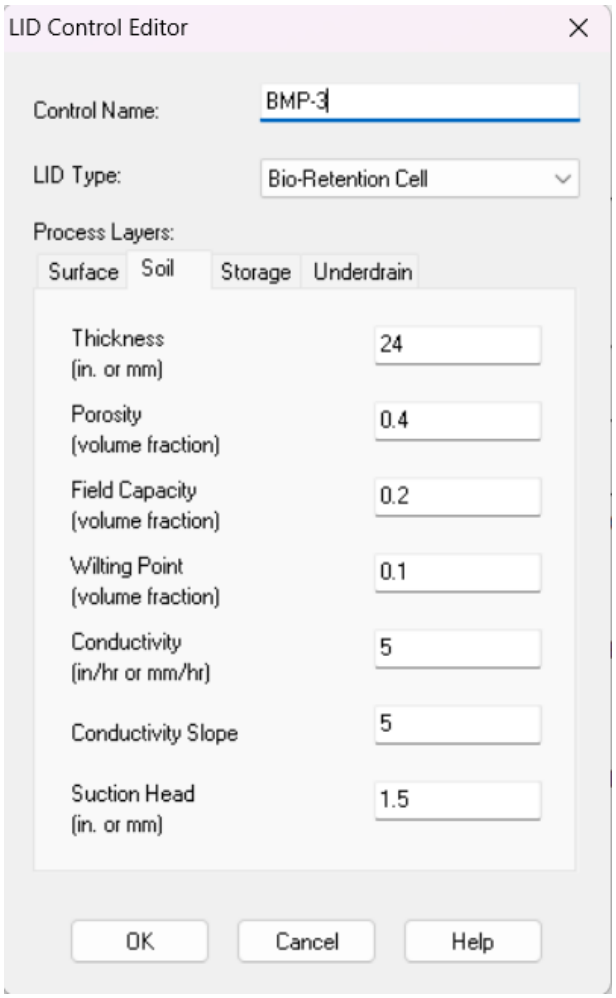
OK
Cancel
Help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LID Type:
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Process Layers:
Surface
Soil
Storage
Underdrain
Thickness
(in. or mm)
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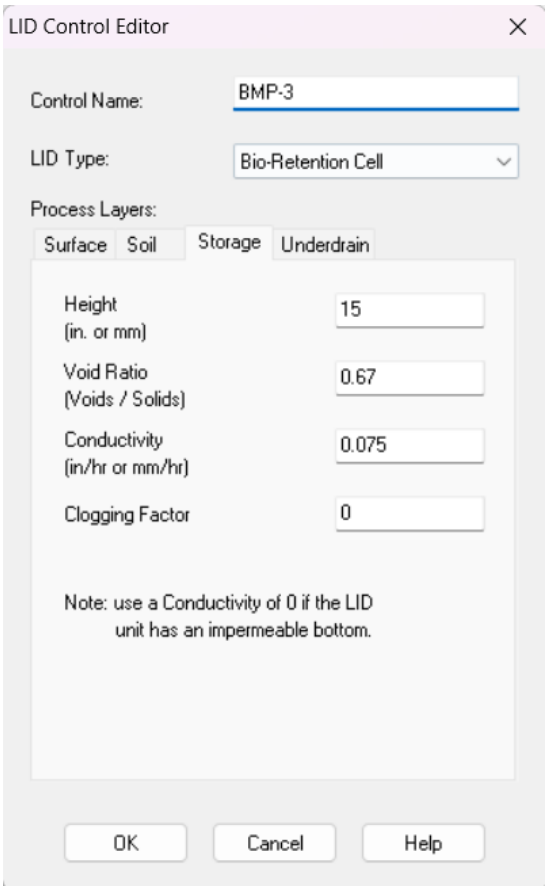
Porosity
(volume fraction)
0.4
Field Capacity
(volume fraction)
0.2
Wilting Point
(volume fraction)
0.1
Conductivity
(in/hr or mm/hr)
5
Conductivity Slope
5
Suction Head
(in. or mm)
1.5
OK
Cancel
Help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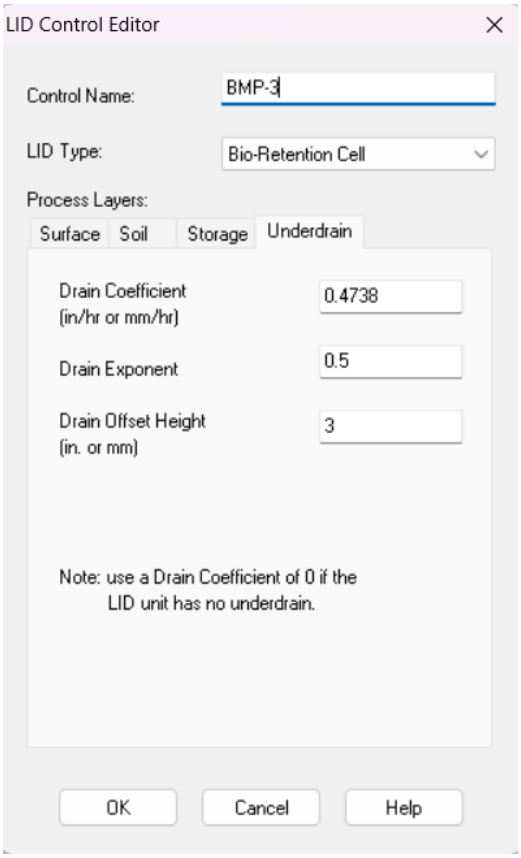
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Height
(in. or mm)
15
Void Ratio
(Voids / Solids)
0.67
Conductivity
(in/hr or mm/hr)
0.075
Clogging Factor
0
Note: use a Conductivity of 0 if the LID
unit has an impermeable bottom.
OK
Cancel
Help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Control Name:
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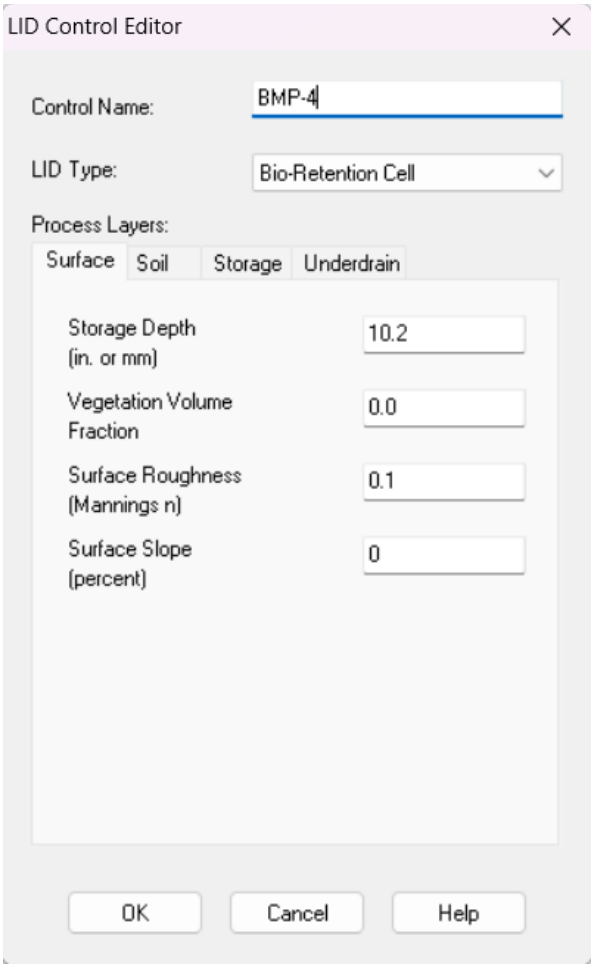
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Drain Coefficient
(in/hr or mm/hr)
0.4738
Drain Exponent
0.5
Drain Offset Height
(in. or mm)
3
Note: use a Drain Coefficient of 0 if the
LID unit has no underdrain.
OK
Cancel
Help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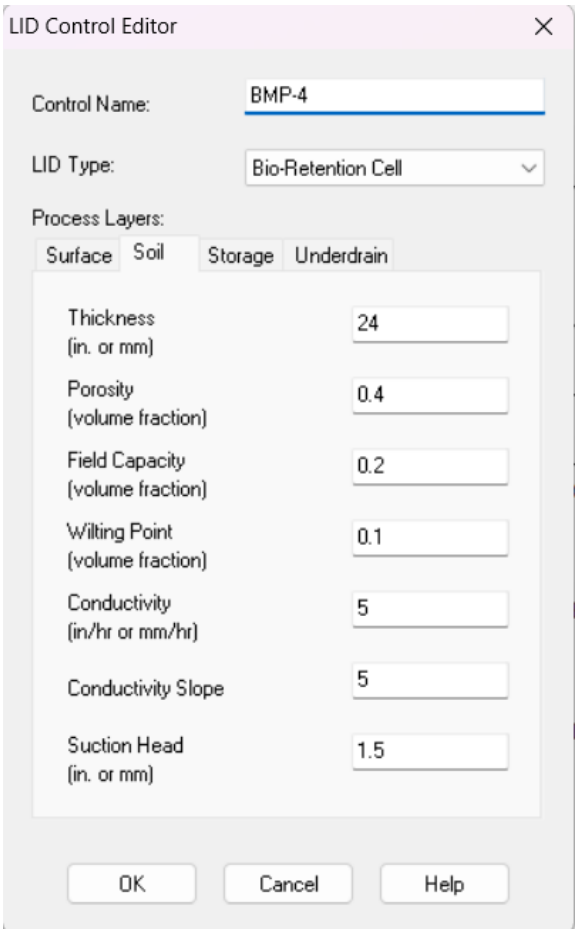
Control Name:
BMP-4
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Storage Depth
(in. or mm)
10.2
Vegetation Volume
Fraction
0.0
Surface Roughness
(Mannings n)
0.1
Surface Slope
(percent)
0
OK
Cancel
Help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LID Type:
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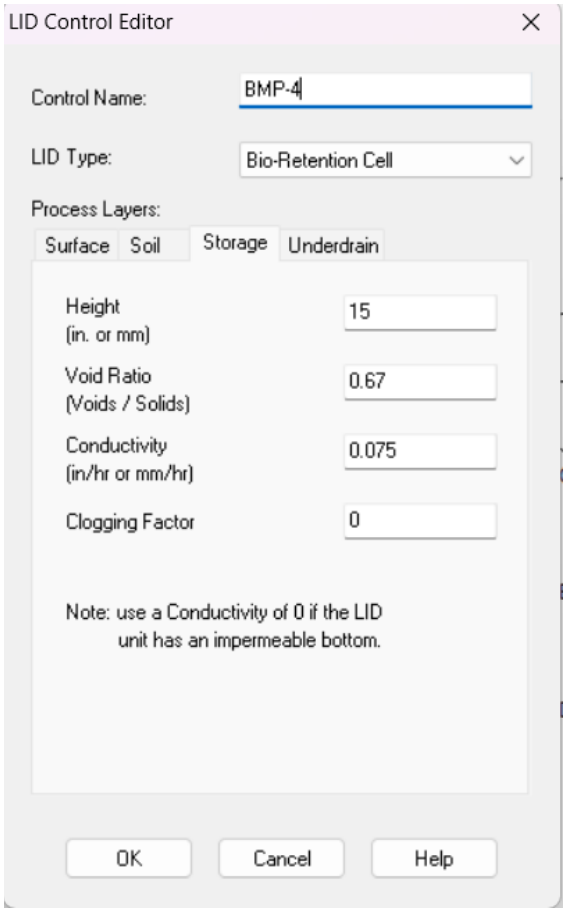
Process Layers:
Surface
Soil
Storage
Underdrain
Thickness
(in. or mm)
24
Porosity
(volume fraction)
0.4
Field Capacity
(volume fraction)
0.2
Wilting Point
(volume fraction)
0.1
Conductivity
(in/hr or mm/hr)
5
Conductivity Slope
5
Suction Head
(in. or mm)
1.5
OK
Cancel
Help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Control Name:
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LID Type:
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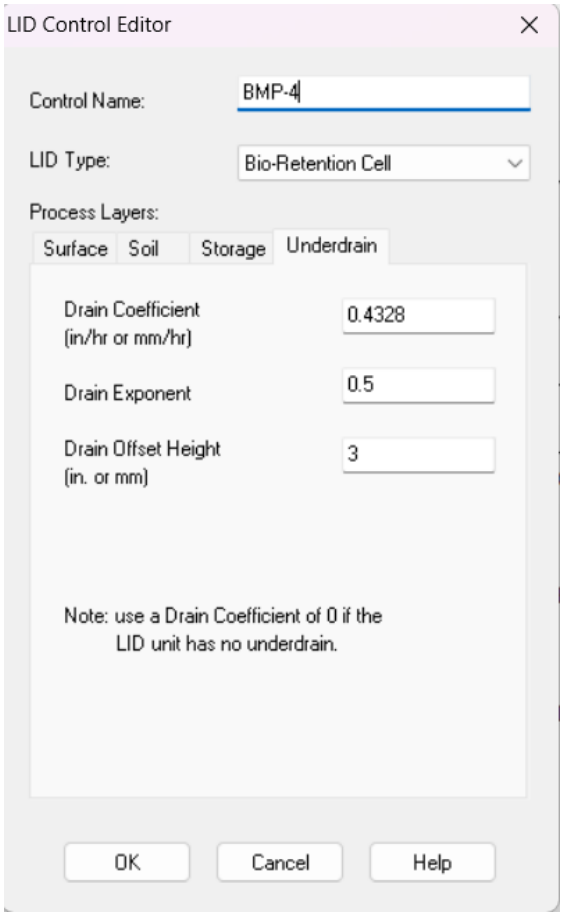
Process Layers:
Surface
Soil
Storage
Underdrain
Height
(in. or mm)
15
Void Ratio
(Voids / Solids)
0.67
Conductivity
(in/hr or mm/hr)
0.075
Clogging Factor
0
Note: use a Conductivity of 0 if the LID
unit has an impermeable bottom.
OK
Cancel
Help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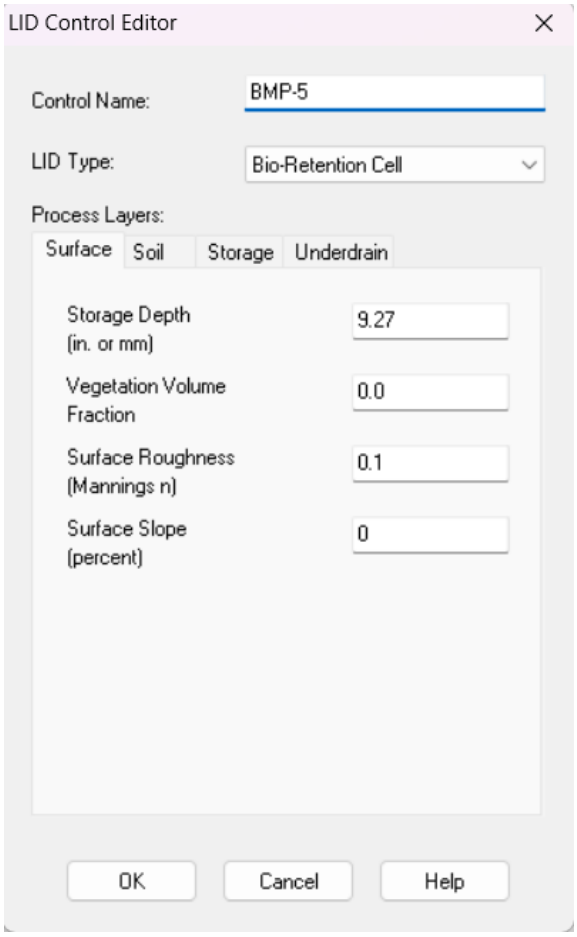
Control Name:
BMP-4
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Drain Coefficient
(in/hr or mm/hr)
0.4328
Drain Exponent
0.5
Drain Offset Height
(in. or mm)
3
Note: use a Drain Coefficient of 0 if the
LID unit has no underdrain.
OK
Cancel
Help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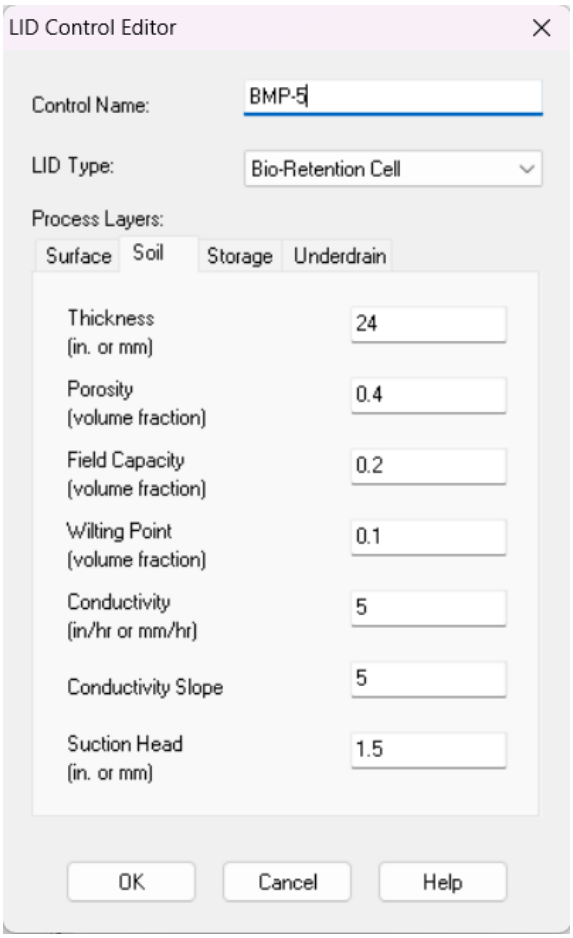
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Storage Depth
(in. or mm)
9.27
Vegetation Volume
Fraction
0.0
Surface Roughness
(Mannings n)
0.1
Surface Slope
(percent)
0
OK
Cancel
Help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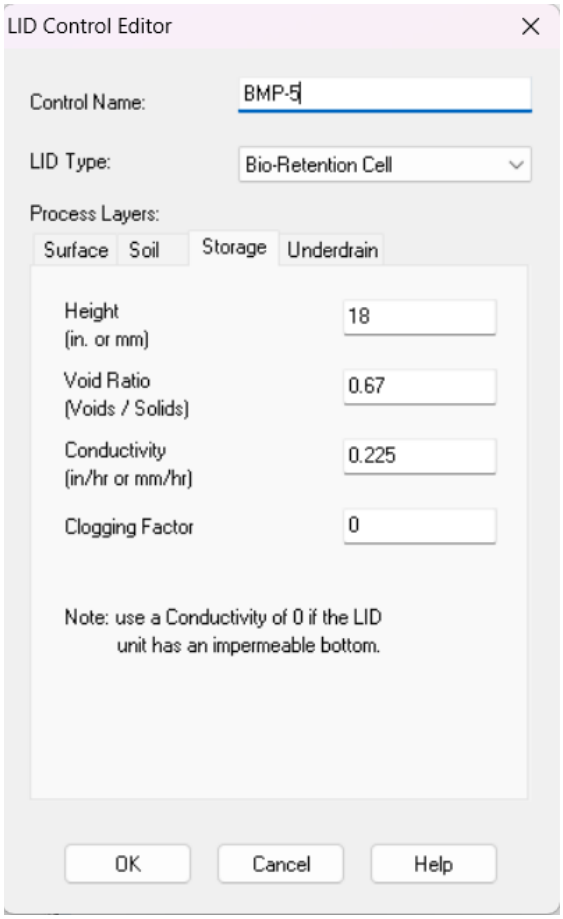
Control Name:
BMP-5
LID Type:
Bio-Retention Cell
Process Layers:
Surface
Soil
Storage
Underdrain
Thickness
(in. or mm)
24
Porosity
(volume fraction)
0.4
Field Capacity
(volume fraction)
0.2
Wilting Point
(volume fraction)
0.1
Conductivity
(in/hr or mm/hr)
5
Conductivity Slope
5
Suction Head
(in. or mm)
1.5
OK
Cancel
Help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Process Layers:
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Soil
Storage
Underdrain
Height
(in. or mm)
18
Void Ratio
(Voids / Solids)
0.67
Conductivity
(in/hr or mm/hr)
0.225
Clogging Factor
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Note: use a Conductivity of 0 if the LID
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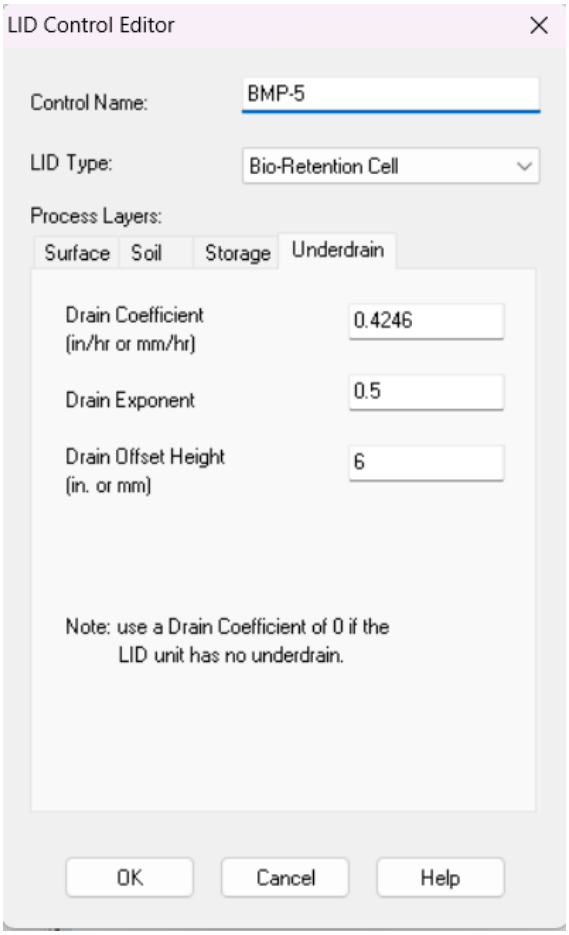
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Control Name:
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Process Layers:
Surface
Soil
Storage
Underdrain
Drain Coefficient
(in/hr or mm/hr)
0.4246
Drain Exponent
0.5
Drain Offset Height
(in. or mm)
6
Note: use a Drain Coefficient of 0 if the
LID unit has no underdrain.
OK
Cancel
Help

LID Control Editor: Explanation of Significant Variables

Storage Depth:

The storage depth variable within the SWMM model is representative of the storage volume provided beneath the surface riser outlet and the surface of the bio filtration facility.

In those cases where the surface storage has a variable area that is also different to the area of the gravel and amended soil, the SWMM model needs to be calibrated as the LID module will use the storage depth multiplied by the BMP area as the amount of volume stored at the surface.

Let A_{BMP} be the area of the BMP (area of amended soil and area of gravel). The proper value of the storage depth S_D to be included in the LID module can be calculated by using geometric properties of the surface volume. Let A_0 be the surface area at the bottom of the surface pond, and let A_i be the surface area at the elevation of the invert of the first row of orifices (or at the invert of the riser if not surface orifices are included). Finally, let h_i be the difference in elevation between A_0 and A_i. By volumetric definition:

$$A_{BMP} \cdot S_D = \frac{(A_0 + A_i)}{2} h_i \qquad (1)$$

Equation (1) allows the determination of S_D to be included as Storage Depth in the LID module.

Porosity: A porosity value of 0.4 has been selected for the model. The amended soil is to be highly sandy in content in order to have a saturated hydraulic conductivity of approximately 5 in/hr.

REC considers such a value to be slightly high; however, in order to comply with the HMP Permit, the value recommended by the Copermittees for the porosity of amended soil is 0.4, per Appendix A of the Final Hydromodification Management Plan by Brown & Caldwell, dated March 2011. Such porosity is equal to the porosity of the gravel per the same document.

Void Ratio: The ratio of the void volume divided by the soil volume is directly related to porosity as n/(1-n). As the underdrain layer is composed of gravel, a porosity value of 0.4 has been selected (also per Appendix A of the Final HMP document), which results in a void ratio of 0.4/(1-0.4) = 0.67 for the gravel detention layer.

Conductivity: Per the site specific geotechnical investigation for the project site, infiltration is allowable and the basins will be unlined. Please refer to Attachment 8.

Clogging factor: A clogging factor was not used (0 indicates that there is no clogging assumed within the model). The reason for this is related to the fairness of a comparison with the SDHM model and the HMP sizing tables: a clogging factor was not considered, and instead, a conservative value of infiltration was recommended.

Drain (Flow) coefficient: The flow coefficient C in the SWMM Model is the coefficient needed to transform the orifice equation into a general power law equation of the form:

$$q = C(H - H_D)^n \quad (2)$$

where q is the peak flow in in/hr, n is the exponent (typically 0.5 for orifice equation), H_D is the elevation of the centroid of the orifice in inches (assumed equal to the invert of the orifice for small orifices and in our design equal to 0) and H is the depth of the water in inches.

The general orifice equation can be expressed as:

$$Q = \frac{\pi}{4} c_g \frac{D^2}{144} \sqrt{2g \frac{(H - H_D)}{12}} \quad (3)$$

where Q is the peak flow in cfs, D is the diameter in inches, c_g is the typical discharge coefficient for orifices (0.61-0.63 for thin walls and around 0.75-0.8 for thick walls), g is the acceleration of gravity in ft/s^2, and H and H_D are defined above and are also used in inches in Equation (3).

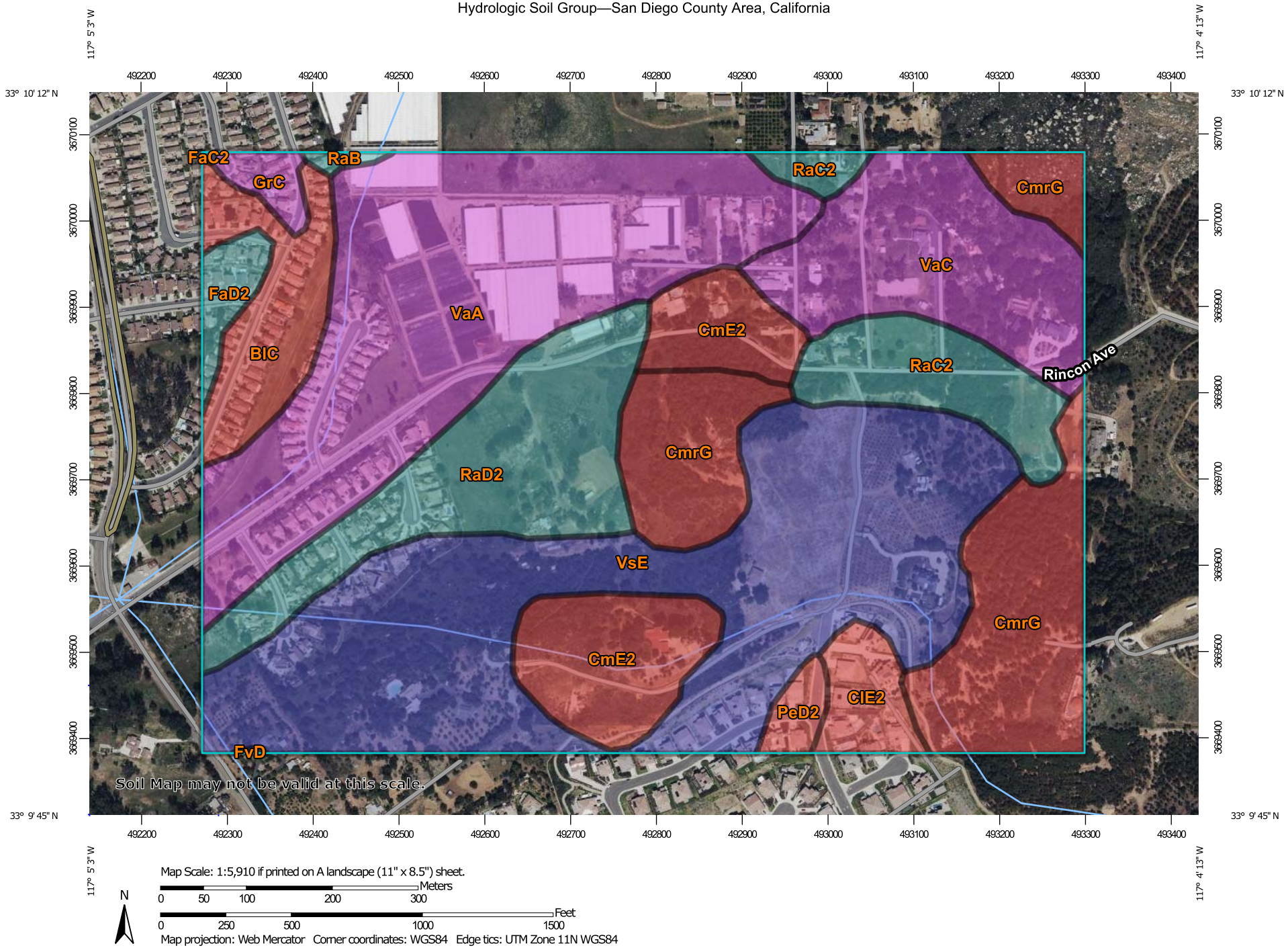
It is clear that:

$$q \left(\frac{in}{hr}\right) X \frac{A_{BMP}}{12 \; X \; 3600} = Q \; (cfs) \quad (4)$$

Cut-Off Flow: Q (cfs) and q (in/hr) are also the cutoff flow. For numerical reasons to insure the LID is full, the model uses cut-off = 1.01 Q.

ATTACHMENT 8

Geotechnical Documentation and/or NRCS Soil Types



Map Scale: 1:5,910 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 18, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BIC	Bonsall sandy loam, 2 to 9 percent slopes	D	7.8	4.4%
ClE2	Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded	D	3.4	1.9%
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded	D	12.6	7.1%
CmrG	Cieneba-Rock outcrop complex, 30 to 75 percent slopes, very stony	D	22.4	12.6%
FaC2	Fallbrook sandy loam, 5 to 9 percent slopes, eroded	C	0.0	0.0%
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded	C	2.1	1.2%
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes	C	0.0	0.0%
GrC	Greenfield sandy loam, 5 to 9 percent slopes	A	1.5	0.8%
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded	D	1.5	0.8%
RaB	Ramona sandy loam, 2 to 5 percent slopes	C	0.4	0.2%
RaC2	Ramona sandy loam, 5 to 9 percent slopes, eroded	C	8.8	5.0%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	C	16.6	9.3%
VaA	Visalia sandy loam, 0 to 2 percent slopes	A	38.2	21.5%
VaC	Visalia sandy loam, 5 to 9 percent slopes	A	15.7	8.8%
VsE	Vista coarse sandy loam, 15 to 30 percent slopes, MLRA 20	B	46.7	26.3%
Totals for Area of Interest			**177.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ATTACHMENT 9

Summary Files from the SWMM Model

PRE_DEV

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CFS
Process Models:
  Rainfall/Runoff ..... YES
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... NO
  Water Quality ..... NO
Infiltration Method ..... GREEN_AMPT
Starting Date JUL-26-1951 00:00:00
Ending Date JUL-25-2008 23:00:00
Antecedent Dry Days 0.0
Report Time Step 01:00:00
Wet Time Step 00:05:00
Dry Time Step 01:00:00

Runoff Quantity Continuity	Volume acre-feet	Depth inches
Total Precipitation	1447.227	871.080
Evaporation Loss	21.468	12.921
Infiltration Loss	1255.102	755.441
Surface Runoff	175.373	105.556
Final Surface Storage	0.000	0.000
Continuity Error (%)	-0.326	

Flow Routing Continuity	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	175.373	57.148
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	175.373	57.148
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.000
Continuity Error (%)	0.000	

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-1-D-2	871.08	0.00	29.38	601.82	245.95	1.80	0.37	0.282
DMA-1-C-1	871.08	250.91	10.35	798.07	316.24	34.31	13.04	0.282
DMA-1-A	871.08	0.00	1.24	850.20	19.86	0.27	0.54	0.023
DMA-1-B-2	871.08	86.60	4.45	864.01	90.27	1.87	1.29	0.094
DMA-1-D-1	871.08	17.66	29.47	602.67	262.56	25.35	6.53	0.295
DMA-1-C-2	871.08	63.71	8.35	762.60	165.74	22.56	12.17	0.177

DMA-1-B-3	871.08	104.90	4.64	870.65	101.83	8.67	5.62	0.104
DMA-1-D-3	871.08	0.00	29.35	601.55	246.30	8.93	1.83	0.283
DMA-1-B-1	871.08	0.00	2.84	823.16	45.75	1.71	1.66	0.053

Analysis begun on: Tue Mar 07 11:18:45 2023
Analysis ended on: Tue Mar 07 11:20:11 2023
Total elapsed time: 00:01:26

POST_DEV

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)
  --------------------------------------------------------------

  ***********************************************************
  NOTE: The summary statistics displayed in this report are
  based on results found at every computational time step,
  not just on results from each reporting time step.
  ***********************************************************

  ****************
  Analysis Options
  ****************
  Flow Units ............... CFS
  Process Models:
    Rainfall/Runoff ........ YES
    Snowmelt ............... NO
    Groundwater ............ NO
    Flow Routing ........... YES
    Ponding Allowed ........ NO
    Water Quality .......... NO
  Infiltration Method ...... GREEN_AMPT
  Flow Routing Method ...... KINWAVE
  Starting Date ............ JUL-26-1951 00:00:00
  Ending Date .............. JUL-25-2008 23:00:00
  Antecedent Dry Days ...... 0.0
  Report Time Step ......... 01:00:00
  Wet Time Step ............ 00:05:00
  Dry Time Step ............ 01:00:00
  Routing Time Step ........ 30.00 sec


  *************************        Volume         Depth
  Runoff Quantity Continuity     acre-feet        inches
  *************************     ---------       -------
  Total Precipitation ......      1447.050       871.080
  Evaporation Loss .........        61.574        37.066
  Infiltration Loss ........      1093.070       657.995
  Surface Runoff ...........       294.731       177.419
  Final Surface Storage ....         0.000         0.000
  Continuity Error (%) .....        -0.161


  *************************        Volume        Volume
  Flow Routing Continuity        acre-feet      10^6 gal
  *************************     ---------      ---------
  Dry Weather Inflow .......         0.000         0.000
  Wet Weather Inflow .......       294.731        96.042
  Groundwater Inflow .......         0.000         0.000
  RDII Inflow ..............         0.000         0.000
  External Inflow ..........         0.000         0.000
  External Outflow .........       294.637        96.012
  Internal Outflow .........         0.000         0.000
  Storage Losses ...........         0.087         0.028
  Initial Stored Volume ....         0.000         0.000
  Final Stored Volume ......         0.000         0.000
  Continuity Error (%) .....         0.002


  *******************************
  Highest Flow Instability Indexes
  *******************************
  All links are stable.


  ************************
  Routing Time Step Summary
  ************************
  Minimum Time Step           :    30.00 sec
  Average Time Step           :    30.00 sec
```

Maximum Time Step : 30.00 sec
Percent in Steady State : 0.00
Average Iterations per Step : 1.00

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-BP-D-3	871.08	0.00	26.90	599.83	245.89	1.79	0.37	0.282
DMA-BP-B-2	871.08	30.38	3.61	838.85	59.67	3.51	2.99	0.066
DMA-BP-C-1	871.08	699.77	10.88	824.78	737.49	21.23	7.80	0.469
DMA-BP-C-3	871.08	3853.54	12.28	860.59	3863.54	5.67	1.23	0.818
DMA-BP-C-4	871.08	1768.06	11.44	842.66	1790.44	5.74	1.39	0.678
DMA-DM-A	871.08	0.00	101.03	106.87	665.49	0.56	0.04	0.764
BMP-1	871.08	15886.65	1108.55	2158.27	13496.23	12.35	1.97	0.805
DMA-1-C-1	871.08	273.89	64.16	424.94	658.52	14.54	1.92	0.575
DMA-1-D	871.08	0.00	38.00	517.05	318.24	1.32	0.21	0.365
DMA-1-C-2	871.08	0.00	54.18	430.26	388.36	4.72	0.61	0.446
BMP-3	871.08	17440.68	1129.06	2217.66	14973.05	5.02	0.93	0.818
DMA-3-C-2	871.08	0.00	22.25	651.95	198.26	1.49	0.36	0.228
DMA-3-C-3	871.08	0.00	24.97	632.10	215.50	1.57	0.36	0.247
BMP-2	871.08	20682.59	1170.08	2527.14	17877.51	7.24	0.77	0.829
DMA-2-C	871.08	0.00	81.75	224.24	568.29	8.38	0.75	0.652
DMA-BP-C-2	871.08	470.33	7.90	765.74	569.52	10.31	6.31	0.425
DMA-BP-B-1	871.08	109.91	4.44	872.46	104.96	8.52	5.44	0.107
DMA-BP-D-2	871.08	0.00	26.87	599.55	246.26	8.92	1.83	0.283
DMA-3-C-1	871.08	344.05	114.58	0.00	1104.35	2.79	0.19	0.909
BMP-4	871.08	14329.60	1119.18	2186.60	11901.20	8.92	1.18	0.783
DMA-4-C-1	871.08	40.40	84.21	215.85	614.23	6.82	0.64	0.674
DMA-4-D	871.08	0.00	37.93	517.60	317.73	0.45	0.07	0.365
BMP-5	871.08	17787.07	1129.14	4888.83	12578.73	24.59	5.71	0.674
DMA-5-C	871.08	1.34	42.33	511.45	320.38	32.85	5.15	0.367
DMA-5-B	871.08	0.00	5.07	798.38	68.39	0.14	0.09	0.079
DMA-5-A	871.08	0.00	24.67	664.74	182.78	1.93	0.48	0.210
DMA-BP-D-1	871.08	0.00	27.00	600.76	244.73	16.63	3.43	0.281
DMA-BP-D-4	871.08	0.00	26.97	600.46	245.10	5.65	1.16	0.281
DMA-3-B	871.08	0.00	113.10	0.00	761.83	0.87	0.06	0.875
DMA-4-C-2	871.08	0.00	53.86	432.51	386.41	3.91	0.50	0.444
CMA-BP-C-5	871.08	0.00	9.79	747.01	115.02	0.07	0.03	0.132

****
LID Performance Summary
****

Subcatchment	LID Control	Total Inflow in	Evap Loss in	Infil Loss in	Surface Outflow in	Drain Outflow in	Init. Storage in	Final Storage in	Pcnt. Error
BMP-1	BMP-1	16757.73	1108.57	2158.31	3075.84	10420.63	0.00	0.00	-0.03
BMP-3	BMP-3	18311.76	1129.03	2217.60	3833.38	11139.28	0.00	0.00	-0.04
BMP-2	BMP-2	21553.67	1169.97	2526.91	3629.13	14246.70	0.00	0.00	-0.09
BMP-4	BMP-4	15200.68	1119.06	2186.36	1633.16	10266.70	0.00	0.00	-0.03
BMP-5	BMP-5	18658.15	1128.94	4887.95	4061.85	8514.62	0.00	0.00	0.35

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min

POC-1	OUTFALL	0.00	0.00	0.00	0	00:00
SURF-5	STORAGE	0.01	1.87	1.87	9671	21:00

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
POC-1	OUTFALL	20.40	26.12	9671 21:00	71.443	96.005
SURF-5	STORAGE	5.71	5.71	9671 21:00	24.592	24.592

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
SURF-5	STORAGE	499679.01	1.875	0.625

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	E&I Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
SURF-5	0.001	0	0	4.521	59	9671 21:00	5.71

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
POC-1	3.21	0.22	26.12	96.005
System	3.21	0.22	26.12	96.005

****
Link Flow Summary
****

	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

POST_DEV

Link	Type	CFS	days	hr:min	ft/sec	Flow	Depth
OUT-5	DUMMY	5.71	9671	21:00			

****
Conduit Surcharge Summary
****

No conduits were surcharged.

Analysis begun on: Tue Mar 07 14:41:12 2023
Analysis ended on: Tue Mar 07 14:42:57 2023
Total elapsed time: 00:01:45

City of Escondido
PRIORITY DEVELOPMENT PROJECT (PDP) SWQMP

ISKCON KRISHNA TEMPLE & RESIDENTIAL

[INSERT RECORD ID (PERMIT) NUMBERS]

1365 Rincon Avenue, Escondido, CA 92026

224-100-84,85

ENGINEER OF WORK:

William O'gorman, PE, R.C.E 88286

PREPARED FOR:

Iskcon of Escondido, Inc.
10707 El Caballo Avenue
San Diego, CA, 52127
(858) 344-0892

PDP SWQMP PREPARED BY:

REC Consultants
2970 Fifth Avenue
Suite 340, San
Diego, CA 92013
(619) 232-9200

DATE OF SWQMP:
March 08, 2023

PLANS PREPARED BY:
REC Consultants
2970 Fifth Avenue, Suite 340
San Diego, CA 92013
(619) 232-9200

SWQMP APPROVED BY:

APPROVAL DATE:

ESCONDIDO
City of Choice

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ATTACHMENTS

Attachment 1: Backup for PDP Pollutant Control BMPs
- Attachment 1a: Storm Water Pollutant Control Worksheet Calculations (Worksheet B.2-1 DCV, Form I-4)
- Attachment 1b: Form I-5, Categorization of Infiltration Feasibility Condition
- Attachment 1c: Form I-6, Factor of Safety and Design Infiltration Rate Worksheet
- Attachment 1d: Drainage Management Area (DMA) Exhibit
- Attachment 1e: Individual Structural BMP DMA Mapbook

Attachment 2: Backup for PDP Hydromodification Control Measures
- Attachment 2a: Flow Control Facility Design
- Attachment 2b: Hydromodification Management Exhibit
- Attachment 2c: Management of Critical Coarse Sediment Yield Areas
- Attachment 2d: Geomorphic Assessment of Receiving Channels (optional)
- Attachment 2e: Vector Control Plan (if applicable)

Attachment 3: Structural BMP Maintenance Plan
- Attachment 3a: Structural BMP Maintenance Thresholds and Actions
- Attachment 3b: Draft Maintenance Agreements / Notifications (when applicable)

Attachment 4: City of Escondido PDP Structural BMP Verification

Attachment 5: Copy of Plan Sheets Showing Permanent Storm Water BMPs

ACRONYMS

ACP	Alternative Compliance Project
APN	Assessor's Parcel Number
BMP	Best Management Practice
DMA	Drainage Management Area
EOW	Engineer of Work
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
PDP	Priority Development Project
PE	Professional Engineer
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWDM	Storm Water Design Manual
SWQMP	Storm Water Quality Management Plan
WMAA	Watershed Management Area Analysis
WQIP	Water Quality Improvement Plan

PDP SWQMP PREPARER'S CERTIFICATION PAGE

Project Name: Iskcon Krishna Temple & Residential
Permit Application Number: [Insert Permit Application Number]

PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the City of Escondido Storm Water Design Manual, which is a design manual for compliance with the City of Escondido Municipal Code (Chapter 22, Article 2) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for storm water management.

I have read and understand that the City of Escondido has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Design Manual. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by City staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

_____
Engineer of Work's Signature, PE Number & Expiration Date

William O'gorman, PE, R.C.E 88286
Print Name

REC Consultants
Company

_____
Date

Engineer's Seal:

SUBMITTAL RECORD

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In column 4 summarize the changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments behind this page.

Preliminary Design / Planning / CEQA

Submittal Number	Date	Summary of Changes
1	3/08/2023	Initial Submittal
2		
3		
4		

Final Design

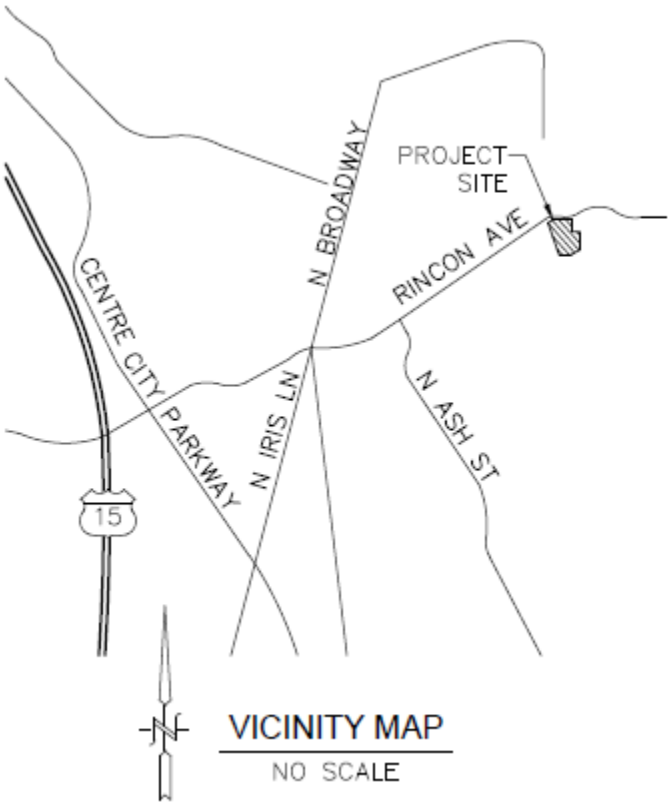
Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

Plan Changes

Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

PROJECT VICINITY **MAP**

Project Name: Iskcon Krishna Temple & Residential
Record ID: TBD



Step 1: Project type determination (Standard or Priority Development Project) (Form I-2a)

Project Summary Information	
Project Name	Iskcon Krishna Temple & Residential
Project Address	1365 Rincon Avenue, Escondido, CA 92026
Assessor's Parcel Number(s)	224-100-84,85
Permit Application Number	
Project Watershed (Hydrologic Unit)	Select One: ☒ Carlsbad 904 San Dieguito 905
Parcel Area (total area of Assessor's Parcel(s) associated with the project)	23.98 Acres (1,044,718 Square Feet)
Area to be disturbed by the project (Project Area)	7.619 Acres (331,904 Square Feet)
Project Proposed Impervious Area (subset of Project Area)	2.982 Acres (129,888 Square Feet)
Project Proposed Pervious Area (subset of Project Area)	4.638 Acres (202,016 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.	
Confirmation of Priority Development Project Determination	
The project is (select one): ☐ New Development ☒ Redevelopment[1]	
The total proposed newly created or replaced impervious area is: 129,888 ft^2	

[1] Redevelopment is defined as: The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways; new sidewalks construction; pedestrian ramps; or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Solar energy farms that are not also one of the categories listed in Step 2b of Table 1-1. City staff must also determine that appropriate BMPs are provided to mitigate for downstream impacts due to significant changes to the existing hydrology

Is the project in any of the following categories, (a) through (f)?			
Yes ☒	No ☐	(a)	New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☒	No ☐	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☒	No ☐	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes ☐	No ☒	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). *Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.*
Yes ☐	No ☒	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

Yes ☐	No ☒	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (iii) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (iv) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes ☒	No ☐	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. *Note: See Storm Water Design Manual Section 1.4.2 for additional guidance.*

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

☐ No – the project is not a Priority Development Project (Standard Project).

☒ Yes – the project is a Priority Development Project (PDP).

Further guidance may be found in Chapter 1 and Table 1-2 of the Storm Water Design Manual.

The following is for **redevelopment PDPs only**:

The area of existing (pre-project) impervious area at the project site is: 14,177 ft^2 (A)

The total proposed newly created or replaced impervious area is 129,888 ft^2 (B)

Percent impervious surface created or replaced (B/A)*100: 916 %

The percent impervious surface created or replaced is (select one based on the above calculation):

☐ less than or equal to fifty percent (50%) – **only newly created or replaced impervious areas are considered a PDP and subject to stormwater requirements**

OR

☒ greater than fifty percent (50%) – **the entire project site is considered a PDP and subject to stormwater requirements**

Step 1.1: Storm Water Quality Management Plan requirements

Step	Answer	Progression
Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, complete Step 1 Project Type Determination Checklist on Pages 1 and 2, and see PDP exemption information below. For further guidance, see Section 1.4 of the Storm Water Design Manual *in its entirety*.	☐ Standard Project	Standard Project requirements apply, including Standard Project SWQMP. **Complete Form I-1.**
	☒ PDP	Standard and PDP requirements apply, including PDP SWQMP. **SWQMP Required.**
	☐ PDP with ACP	If participating in offsite alternative compliance, **complete Step 6.3 and an ACP SWQMP.**
	☐ PDP Exemption	**Go to Step 1.2 below.**

Step 1.2: Exemption to PDP definitions

Is the project exempt from PDP definitions based on either of the following:	If so:
☐ Projects that are only new or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria: (i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR (ii) Designed and constructed to be hydraulically disconnected from paved streets or roads [i.e., runoff from the new improvement does not drain directly onto paved streets or roads]; OR (iii) Designed and constructed with permeable pavements or surfaces in accordance with County of San Diego Green Streets Infrastructure;	Standard Project requirements apply, AND any additional requirements specific to the type of project. City concurrence with the exemption is required. *Provide discussion and list any additional requirements below in this form.*
☐ Projects that are only retrofitting or redeveloping existing paved alleys, streets or roads that are designed and constructed in accordance with the City of Escondido Guidance on Green Infrastructure.	**PDP Exempt.**
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:	

Step 2: Construction Storm Water BMPs

Construction storm water BMPs shall be shown on the Grading Plan and (if applicable) included in the Storm Water Pollution Prevention Plan (SWPPP).

Step 3: City of Escondido PDP SWQMP Site Information Checklist (Form I-2a)

Step 3.1: Description of Existing Site Condition

Current Status of the Site (select all that apply):
☒Existing development
☒Previously graded but not built out
☐Demolition completed without new construction
☒Agricultural or other non-impervious use
☒Vacant, undeveloped/natural

Description / Additional Information:
Existing project site has an existing building, stable, driveway, a graded pad (not built out), and the rest of the area is undeveloped/natural.

Existing Land Cover Includes (select all that apply and provide each area on site):
☒Vegetative Cover 23.658 Acres (1,030,541 Square Feet)
☐Non-Vegetated Pervious Areas _____ Acres (_____ Square Feet)
☒Impervious Areas 0.325 Acres (14,177 Square Feet)

Description / Additional Information:
Most of the project site consists of vegetative cover. The impervious area consists of an existing building, stable, and driveway.

Underlying Soil belongs to Hydrologic Soil Group (select all that apply):
☒NRCS Type A
☒NRCS Type B
☒NRCS Type C
☒NRCS Type D

Approximate Depth to Groundwater (GW) (or N/A for no infiltration BMPs):
☐GW Depth < 5 feet
☐5 feet < GW Depth < 10 feet
☐10 feet < GW Depth < 20 feet
☒GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):
☒Watercourses
☐Seeps
☐Springs
☐Wetlands
☐None
☐Other

Description / Additional Information:

Step 3.2: Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

(1) Whether existing drainage conveyance is natural or urban;
(2) Is runoff from offsite conveyed through the site? if yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site;
(3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels; and
(4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Describe existing site drainage patterns:

Existing drainage conveyance is natural, with no constructed storm water conveyance systems. Runoff on site sheet flows from the south-east end to the north-west end. Runoff from off site is conveyed through the site by sheet flowing from the south-east end to the north-west end. There is one discharge location, POC-1, which is a cleanout located at the north-west corner of the property.

Step 3.3: Description of Proposed Site Development

Project Description / Proposed Land Use and/or Activities:

Proposed re-development including the construction of a religious temple, hall and living area, patio, detached restrooms, parking lot, and driveway. The intended use of the new development will be for religious purposes and practices for area under APN: 224-100-85. For the proposed residential area under APN: 224-100-84, 10 lots are proposed for future residential construction.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):

Proposed impervious features include a temple, hall, patio area, detached restrooms, parking lot, driveway, and future residential impervious areas with about 25% of each lot is expected to be impervious.

List/describe proposed pervious features of the project (e.g., landscape areas):

Proposed pervious features include landscaped areas and vegetated sloped areas.

Does the project include grading and changes to site topography?

☒Yes

☐No

Description / Additional Information:

Site grading will be performed for the building pads, parking lot, drive isles, and driveway.

Insert acreage or square feet for the different land cover types in the table below:

Change in Land Cover Type Summary			
Land Cover Type	Existing (acres or ft^2)	Proposed (acres or ft^2)	Percent Change
Vegetation	23.658 ac	21.032 ac	- 11.10 %
Pervious (non-vegetated)	0 ac	0 ac	
Impervious	0.325 ac	2.951 ac	+ 808 %

Step 3.4: Description of Proposed Site Drainage Patterns

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☒Yes
☐No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

Proposed storm drain conveyance system along with concrete brow ditches and vegetated swales will be proposed to convey storm water flow. Storm water will flow through the conveyance system and into 5 proposed bio-filtration basins for treatment and hydromodification flow control prior to confluencing with bypass flows at POC-1.

Step 3.5: Potential Pollutant Source Areas

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply).

☒On-site storm drain inlets
☐Interior floor drains and elevator shaft sump pumps
☐Interior parking garages
☒Need for future indoor & structural pest control
☒Landscape/Outdoor Pesticide Use
☐Pools, spas, ponds, decorative fountains, and other water features
☐Food service
☒Refuse areas
☐Industrial processes
☐Outdoor storage of equipment or materials
☐Vehicle and Equipment Cleaning
☐Vehicle/Equipment Repair and Maintenance
☐Fuel Dispensing Areas
☐Loading Docks
☒Fire Sprinkler Test Water
☒Miscellaneous Drain or Wash Water
☒Plazas, sidewalks, and parking lots
☐Other (provide description)

Description / Additional Information:

Step 3.6: Identification and Narrative of Receiving Water and Pollutants of Concern

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable):

Water will be collected and conveyed through the proposed storm drain system and discharged to Rincon Street. It then flows to a natural drainage course to the Escondido Creek, then released to the Pacific Ocean.

List any 303(d) impaired water bodies[2] within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
Escondido Creek	Benthic Community Effects, Bifenthrin, indicator Bacteria, Toxicity	-
Escondido Creek	DDT (Dichlorodiphenyltrichloroethane), Malathion, Manganese	-
Escondido Creek	Nitrogen, Phosphate, Selenium, Sulfates, Total Dissolved Solids.	-
Reidy Canyon Creek	Indicator Bacteria, Phosphorus	-

Identification of Project Site Pollutants*

*Identification of project site pollutants below is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs. Note the project must also participate in an alternative compliance program (unless prior lawful approval to meet earlier PDP requirements is demonstrated).

Identify pollutants expected from the project site based on all proposed use(s) of the site (see Storm Water Design Manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

[2] The current list of Section 303(d) impaired water bodies can be found at

http://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired

Step 3.7: Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the Storm Water Design Manual)?

☒Yes, hydromodification management requirements for flow control and preservation of critical coarse sediment yield areas are applicable.

☐No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA[3] for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

[3]The Watershed Management Area Analysis (WMAA) is an optional element for inclusion in the Water Quality Improvement Plans (WQIPs) described in the 2013 MS4 Permit [Provision B.3.b.(4)]. It is available online at the Project Clean Water website: http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=248

Step 3.7.1: Critical Coarse Sediment Yield Areas*

***This Section only required if hydromodification management requirements apply**

Based on the maps provided within the WMAA, do potential critical coarse sediment yield areas exist within the project drainage boundaries?

☒ Yes

No, no critical coarse sediment yield areas to be protected based on WMAA maps

If yes, have any of the optional analyses presented in Section 6.2 of the manual been performed?

☐6.2.1 Verification of GLUs (classification that provides an estimate of sediment yield based on geology, hillslope, and land cover) Onsite

☐6.2.2 Downstream Systems Sensitivity to Coarse Sediment

☐6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite

☒No optional analyses performed, the project will avoid critical coarse sediment yield areas identified based on WMAA maps

If optional analyses were performed, what is the final result?

☐No critical coarse sediment yield areas to be protected based on verification of GLUs onsite.

☐ Critical coarse sediment yield areas exist but additional analysis has determined that protection is not required. Documentation attached in Attachment 8 of the SWQMP.

☒Critical coarse sediment yield areas exist and require protection. The project will implement management measures described in Sections 6.2.4 and 6.2.5 as applicable, and the areas are identified on the SWQMP Exhibit.

Discussion / Additional Information:

Critical coarse sediment yield areas exist on site and partially in project site. However, area of project site encroaching into PCCSYA is less than 5% of total PCCSYA on entire site.

Flow Control for Post-Project Runoff*

***This Section only required if hydromodification management requirements apply**
List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit. POC-1 located on the north-west property corner on Rincon Avenue.
Has a geomorphic assessment been performed for the receiving channel(s)? ☒No, the low flow threshold is 0.1Q2 (default low flow threshold) ☐Yes, the result is the low flow threshold is 0.1Q2 ☐Yes, the result is the low flow threshold is 0.3Q2 ☐Yes, the result is the low flow threshold is 0.5Q2 *If a geomorphic assessment has been performed, provide title, date, and preparer:* *Not Applicable* *Discussion / Additional Information: (optional)*

Step 3.8: Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

Existing open space limit located east of the project site. Setbacks located on the frontage and side of the property. Existing 60’ access easement along project site.

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

Step 4: Source Control BMP Checklist (Form I-2b)

Source Control BMPs

All development projects must implement source control BMPs 4.2.1 through 4.2.6 where applicable and feasible. See Chapter 4.2 and Appendix E of the City Storm Water Design Manual for information to implement source control BMPs shown in this checklist. The following checklists serve as guides only. Mark what elements are included in your project. See Storm Water Design Manual Chapter 4 and Appendix E for more information on determining appropriate BMPs for your project.

Answer each category below pursuant to the following:

- "Yes" means the project will implement the source control BMP as described in Chapter 4.2 and/or Appendix E of the City Storm Water Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification must be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☒Yes	☐No	☐N/A
□ Direct irrigation water away from impervious surfaces □ Direct vehicle wash water away from impervious surfaces □ Other: _____ *Discussion / justification if SC-1 not implemented:*			
SC-2 Storm Drain Stenciling or Signage	☒Yes	☐No	☐N/A
□ Stencil or stamp storm drains with anti-dumping message □ Post signs prohibiting illegal dumping □ Other *Discussion / justification if SC-2 not implemented:*			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐Yes	☐No	☒N/A
□ Store materials inside a covered enclosure □ Direct runoff from downspouts and roofs away from storage areas □ Other *Discussion / justification if SC-3 not implemented:*			

SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐Yes	☐No	☒N/A
□ Locate work area away from storm drains or catch basins □ Work over impermeable surfaces where spills and pollutants can be captured and removed *Discussion / justification if SC-4 not implemented:*			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☒Yes	☐No	☐N/A
□ Locate trash containers in a roofed, walled enclosure □ Locate trash containers away from storm drains *Discussion / justification if SC-5 not implemented:*			
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below):			
☒ A. On-site storm drain inlets	☒Yes	☐No	☐N/A
☐ B. Interior floor drains and elevator shaft sump pumps	☐Yes	☐No	☒N/A
☐ C. Interior parking garages	☐Yes	☐No	☒N/A
☒ D. Need for future indoor & structural pest control	☒Yes	☐No	☐N/A
☒ E. Landscape/outdoor pesticide use	☒Yes	☐No	☐N/A
☐ F. Pools, spas, ponds, fountains, and other water features	☐Yes	☐No	☒N/A
☐ G. Food service	☐Yes	☐No	☒N/A
☒ H. Refuse areas	☒Yes	☐No	☐N/A
☐ I. Industrial processes	☐Yes	☐No	☒N/A
☐ J. Outdoor storage of equipment or materials	☐Yes	☐No	☒N/A
☐ K. Vehicle and equipment cleaning	☐Yes	☐No	☒N/A
☐ L. Vehicle/equipment repair and maintenance	☐Yes	☐No	☒N/A
☐ M. Fuel dispensing areas	☐Yes	☐No	☒N/A
☐ N. Loading docks	☐Yes	☐No	☒N/A
☒ O. Fire sprinkler test water	☒Yes	☐No	☐N/A
☐ P. Miscellaneous drain or wash water	☒Yes	☐No	☐N/A
☒ Q. Plazas, sidewalks, and parking lots	☒Yes	☐No	☐N/A
Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.			

Note: Show all source control measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

Step 5: Site Design BMP Checklist (Form I-2c)

Site Design BMPs			
All development projects must implement site design BMPs SD-A through SD-H where applicable and feasible. See Chapter 4.3 and Appendix E of the City Storm Water Design Manual for information to implement site design BMPs shown in this checklist. The following checklists serve as guides only. Mark what elements are included in your project. See Storm Water Design Manual Chapter 4 and Appendix E for more information on determining appropriate BMPs for your project. Answer each category below pursuant to the following: • "Yes" means the project will implement the site design BMP as described in Chapter 4.3 and/or Appendix E of the City Storm Water Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification must be provided.			
Site Design Requirement	**Applied?**		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☒Yes	☐No	☐N/A
□ Maintain existing drainage patterns *Discussion / justification if SD-1 not implemented:*			
SD-2 Conserve Natural Areas, Soils, and Vegetation	☒Yes	☐No	☐N/A
□ Preserve trees (see Zoning Code Art. 55 Grading & Erosion Control; Art. 62 Landscape Regulations) □ Avoid sensitive areas such as wetlands and waterways *Discussion / justification if SD-2 not implemented:*			
SD-3 Minimize Impervious Area	☒Yes	☐No	☐N/A
□ Install parking and driving aisles to minimum width required to meet standards *Discussion / justification if SD-3 not implemented:*			

SD-4 Minimize Soil Compaction	☒Yes	☐No	☐N/A
□ Avoid compaction in planned landscaped spaces □ Till and amend soil for improved infiltration capacity *Discussion / justification if SD-4 not implemented:*			
SD-5 Impervious Area Dispersion	☐Yes	☒No	☐N/A
□ Drain rooftops, roads or sidewalks into adjacent landscape areas □ Drain impervious surfaces through pervious areas *Discussion / justification if SD-5 not implemented:* Impervious Area Dispersion is not feasible because topography limits the potential areas for development and therefore dispersion area.			
SD-6 Runoff Collection			
Discussion / justification if SD-6 not implemented:	☐Yes	☐No	☐N/A
SD-7 Landscaping with Native or Drought Tolerant Species			
Discussion / justification if SD-7 not implemented: Landscape areas within proposed development envelope will include native or drought tolerant species to minimized required resources and pollutants generated by landscape areas.	☒Yes	☐No	☐N/A
SD-8 Harvesting and Using Precipitation			
Discussion / justification if SD-8 not implemented: Harvest and use of precipitation is not implemented because the 36 hour demand is less than ¼ DCV per	☐Yes	☒No	☐N/A

Note: Show all site design measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

Step 6: PDP Structural BMPs (Form I-3)

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the Storm Water Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the Storm Water Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 8.2.3.2 of the Storm Water Design Manual). PDP structural BMPs must be maintained into perpetuity, and the City must confirm the maintenance (see Section 7 of the Storm Water Design Manual).

Use this section to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (Step 6.2) for each structural BMP within the project (copy the BMP summary information sheet [Step 6.2] as many times as needed to provide summary information for each individual structural BMP).

Step 6.1: Description of structural BMP strategy

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the Storm Water D*esign Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate. At the end of this discussion provide a summary of all the structural BMPs within the project including the type and number.*

The project site was delineated by DMA per Section 3.3.3. There were a total of twenty eight (28) DMAs delineated Of these, twelve (12) DMAs were determined to qualify, per section 5.2, as self-mitigating DMAs. The remaining DMAs drain to one (1) of six (6) BMPs. Five (5) of which are Biofiltration Basins and one (1) vegetated swale for areas within the ROW.

After filling out worksheet I-4, it was determined that the implementation of Harvest and Use BMPs is infeasible. As the project has HMP requirements, the Biofiltration Basins are to be for both pollutant and hydromodification control, while the vegetated swale serves only pollutant control purposes.

All proposed BMPs have been sized adequately to treat their respective DCV. The DCV was calculated based on the contributing impervious and pervious areas. The Biofiltration Basins were designed per Fact Sheet BF-1 and the vegetated swale was designed per fact sheet FT-1.

(Continue on following page as necessary.)

Description of structural **BMP** strategy continued (Page reserved for continuation of description of general strategy for structural **BMP** implementation at the site)
(Continued from previous page)

Step 6.2: Structural BMP Checklist

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP-1	
Construction Plan Sheet No.	
Type of structural BMP: ☐Retention by harvest and use (HU-1) ☐Retention by infiltration basin (INF-1) ☐Retention by bioretention (INF-2) ☐Retention by permeable pavement (INF-3) ☐Partial retention by biofiltration with partial retention (PR-1) ☒Biofiltration (BF-1) ☐Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐Detention pond or vault for hydromodification management ☐Other (describe in discussion section below)	
Purpose: ☐Pollutant control only ☐Hydromodification control only ☒Combined pollutant control and hydromodification control ☐Pre-treatment/forebay for another structural BMP ☐Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP-2	
Construction Plan Sheet No.	
Type of structural BMP: ☐Retention by harvest and use (HU-1) ☐Retention by infiltration basin (INF-1) ☐Retention by bioretention (INF-2) ☐Retention by permeable pavement (INF-3) ☐Partial retention by biofiltration with partial retention (PR-1) ☒Biofiltration (BF-1) ☐Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐Detention pond or vault for hydromodification management ☐Other (describe in discussion section below)	
Purpose: ☐Pollutant control only ☐Hydromodification control only ☒Combined pollutant control and hydromodification control ☐Pre-treatment/forebay for another structural BMP ☐Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP-3	
Construction Plan Sheet No.	
Type of structural BMP: ☐Retention by harvest and use (HU-1) ☐Retention by infiltration basin (INF-1) ☐Retention by bioretention (INF-2) ☐Retention by permeable pavement (INF-3) ☐Partial retention by biofiltration with partial retention (PR-1) ☒Biofiltration (BF-1) ☐Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐Detention pond or vault for hydromodification management ☐Other (describe in discussion section below)	
Purpose: ☐Pollutant control only ☐Hydromodification control only ☒Combined pollutant control and hydromodification control ☐Pre-treatment/forebay for another structural BMP ☐Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)

Structural BMP ID No. BMP-4

Construction Plan Sheet No.

Type of structural BMP:
☐Retention by harvest and use (HU-1)
☐Retention by infiltration basin (INF-1)
☐Retention by bioretention (INF-2)
☐Retention by permeable pavement (INF-3)
☐Partial retention by biofiltration with partial retention (PR-1)
☒Biofiltration (BF-1)
☐Biofiltration with Nutrient Sensitive Media Design (BF-2)
☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F
☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below)
☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below)
☐Detention pond or vault for hydromodification management
☐Other (describe in discussion section below)

Purpose:
☐Pollutant control only
☐Hydromodification control only
☒Combined pollutant control and hydromodification control
☐Pre-treatment/forebay for another structural BMP
☐Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)

Structural BMP ID No. BMP-5

Construction Plan Sheet No.

Type of structural BMP:
☐Retention by harvest and use (HU-1)
☐Retention by infiltration basin (INF-1)
☐Retention by bioretention (INF-2)
☐Retention by permeable pavement (INF-3)
☐Partial retention by biofiltration with partial retention (PR-1)
☒Biofiltration (BF-1)
☐Biofiltration with Nutrient Sensitive Media Design (BF-2)
☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F
☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below)
☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below)
☐Detention pond or vault for hydromodification management
☐Other (describe in discussion section below)

Purpose:
☐Pollutant control only
☐Hydromodification control only
☒Combined pollutant control and hydromodification control
☐Pre-treatment/forebay for another structural BMP
☐Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP-6	
Construction Plan Sheet No.	
Type of structural BMP: ☐Retention by harvest and use (HU-1) ☐Retention by infiltration basin (INF-1) ☐Retention by bioretention (INF-2) ☐Retention by permeable pavement (INF-3) ☐Partial retention by biofiltration with partial retention (PR-1) ☐Biofiltration (BF-1) ☐Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐Detention pond or vault for hydromodification management ☒Other (describe in discussion section below)	
Purpose: ☒Pollutant control only ☐Hydromodification control only ☐Combined pollutant control and hydromodification control ☐Pre-treatment/forebay for another structural BMP ☐Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 8.2.3.2 of the Storm Water Design Manual)	Jonathan Raab Rydeen REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Who will maintain this BMP into perpetuity?	☐HOA ☒Property Owner ☐City ☐Other (describe)
Discussion (as needed): *(Continue on subsequent pages as necessary)*	Greenstreet / Vegetated Swale

Step 6.3: Offsite Alternative Compliance Participation Form

THIS FORM IS NOT APPLICABLE AT THIS TIME: An Alternative Compliance Program is under consideration by the City of Escondido.	
PDP INFORMATION	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
What are your PDP Pollutant Control Debits? *See Attachment 1 of the PDP SWQMP	
What are your PDP HMP Debits? (if applicable) *See Attachment 2 of the PDP SWQMP	
ACP Information	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
What are your ACP Pollutant Control Credits? *See Attachment 1 of the ACP SWQMP	
What are your ACP HMP Debits? (if applicable) *See Attachment 2 of the ACP SWQMP	
Is your ACP in the same watershed as your PDP? ☐Yes ☐No	Will your ACP project be completed prior to the completion of the PDP? ☐Yes ☐No
Does your ACP account for all Deficits generated by the PDP? ☐Yes ☐No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.)	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits)

ATTACHMENT 1

BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 1a	Storm Water Pollutant Control Worksheet Calculations -Worksheet B.2-1 (Required) -Worksheet B.3-1 (Form I-4; Required) -Worksheet B.4-1 (if applicable) -Worksheet B.5-1 (if applicable) -Worksheet B.5-2 (if applicable) -Worksheet B.5-3 (if applicable) -Worksheet B.6-1 (if applicable) -Summary Worksheet (optional)	☒Included
Attachment 1b	Form I-5, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the Storm Water Design Manual to complete Form I-5.	☒Included ☐Not included because the entire project will use harvest and use BMPs
Attachment 1c	Form I-6, Factor of Safety and Design Infiltration Rate Worksheet (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the Storm Water Design Manual to complete Form I-6.	☒Included ☐Not included because the entire project will use harvest and use BMPs
Attachment 1d	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	☒Included
Attachment 1e	Individual Structural BMP DMA Mapbook (Required) -Place each map on 8.5”x11” paper. -Show at a minimum the DMA, Structural BMP, and any existing hydrologic features within the DMA.	☒Included

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Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

☒Underlying hydrologic soil group
☒Approximate depth to groundwater
☒Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
☒Critical coarse sediment yield areas to be protected
☒Existing topography and impervious areas
☒Existing and proposed site drainage network and connections to drainage offsite
☒Proposed demolition
☒Proposed grading
☒Proposed impervious features
☒Proposed design features and surface treatments used to minimize imperviousness
☒Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
☒Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Step 3.5)
☒Structural BMPs (identify location, structural BMP ID#, type of BMP, and size/detail)

Worksheet B.2-1. DCV: BMP-1

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.7	inches
2	Area tributary to BMP (s)	A=	1.414	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.525	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	1,886	cubic-feet

Worksheet B.2-1. DCV: BMP-2

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.7	inches
2	Area tributary to BMP (s)	A=	0.542	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.698	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	961	cubic-feet

Worksheet B.2-1. DCV: BMP-3

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.7	inches
2	Area tributary to BMP (s)	A=	0.679	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.446	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	770	cubic-feet

Worksheet B.2-1. DCV: BMP-4

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.7	inches
2	Area tributary to BMP (s)	A=	0.835	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.598	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	1,269	cubic-feet

Worksheet B.2-1. DCV: BMP-5

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.7	inches
2	Area tributary to BMP (s)	A=	4.238	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.419	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	4,512	cubic-feet

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-1	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	61585	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.525	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1886	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	6	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.517	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	9.102	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	15.6	inches
15	Total Depth Treated [Line 13 + Line 14]	24.702	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	2829	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	1374	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	1415	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	1088	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	970	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	1088	sq. ft.
23	Provided BMP Footprint	1468	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-2	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	23622	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.698	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	962	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	6	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.409	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	8.454	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	15.6	inches
15	Total Depth Treated [Line 13 + Line 14]	24.054	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	1443	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	720	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	721	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	555	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	495	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	555	sq. ft.
23	Provided BMP Footprint	650	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-3	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	29576	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.446	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	769	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	6	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.686	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	10.116	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	15.6	inches
15	Total Depth Treated [Line 13 + Line 14]	25.716	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	1154	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	539	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	577	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	444	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	396	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	444	sq. ft.
23	Provided BMP Footprint	539	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-4	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	36369	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.598	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1269	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	6	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.535	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	9.21	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	15.6	inches
15	Total Depth Treated [Line 13 + Line 14]	24.81	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	1903	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	920	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	952	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	732	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	652	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	732	sq. ft.
23	Provided BMP Footprint	1202	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-5	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	184603	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.419	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	4512	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	6	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	6	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.997	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	11.982	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	16.8	inches
15	Total Depth Treated [Line 13 + Line 14]	28.782	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	6768	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	2822	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	3384	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	2417	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	2320	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	2417	sq. ft.
23	Provided BMP Footprint	3137	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-1	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	61585	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.525	
3	85^{th} percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1886	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0.1	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0.05	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	15.0	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.106	
10	Target volume retention [Line 9 x Line 4]	200	cu. ft.

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-2	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	23622	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.698	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	962	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0.1	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0.05	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	15.0	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = 0.0000013 x Line 8^3 - 0.000057 x Line 8^2 + 0.0086 x Line 8 - 0.014 When Line 8 ≤ 8% = 0.023	0.106	
10	Target volume retention [Line 9 x Line 4]	102	cu. ft.

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-3	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	29576	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.446	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	769	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0.1	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0.05	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	15.0	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = 0.0000013 x Line 8^3 - 0.000057 x Line 8^2 + 0.0086 x Line 8 - 0.014 When Line 8 ≤ 8% = 0.023	0.106	
10	Target volume retention [Line 9 x Line 4]	82	cu. ft.

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-4	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	36369	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.598	
3	85^{th} percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1269	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0.1	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0.05	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	15.0	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.106	
10	Target volume retention [Line 9 x Line 4]	134	cu. ft.

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-5	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	184603	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.419	
3	85^{th} percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	4512	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0.3	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0.15	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	31.7	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.242	
10	Target volume retention [Line 9 x Line 4]	1092	cu. ft.

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-1	
Volume Retention from Biofiltration with Partial Retention BMPs		**Worksheet B.5-3**	
1	Area draining to the BMP	61585	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.525	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1886	cu. ft.
BMP Parameters			
5	Footprint of the BMP	1468	sq. ft.
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Media retained pore space [50% of (Field Capacity-Wilting Point)]	0.05	in/in
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Porosity of aggregate storage	0.4	in/in
10	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30	0.1	in/hr.
11	Factor of safety	2	
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11]	0.05	in/hr.
Evapotranspiration: Average Annual Volume Retention			
13	Effective evapotranspiration depth [Line 6 x Line 7]	0.9	inches
14	Retained Pore Volume [(Line 13 x Line 5)/12]	110	cu. ft.
15	Fraction of DCV retained in pore spaces [Line 14/Line 4]	0.06	
16	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	4.5	%
Infiltration: Average Annual Volume Retention			
17	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	24	hours
18	Equivalent DCV fraction from evapotranspiration (use Line 16 and Line 17 in Figure B.4-1; Refer to Appendix B.4.2.2)	0.02	
19	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	147	cu. ft.
20	Infiltration Storage Fraction of DCV [Line 19/Line 4]	0.08	
21	Total Equivalent Fraction of DCV [Line 18 + Line 20]	0.10	
22	Biofiltration BMP average annual capture [use Line 21 and 17 in Figure B.4-1]	18.83	%
23	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 22^3 - 0.000057 \times \text{Line } 22^2 + 0.0086 \times \text{Line } 22 - 0.014$	0.136	
24	Volume retention achieved by biofiltration BMP [Line 23 x Line 4]	257	cu. ft.
Volume Retention = 257 cubic feet			

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-2	
Volume Retention from Biofiltration with Partial Retention BMPs		**Worksheet B.5-3**	
1	Area draining to the BMP	23622	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.698	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	962	cu. ft.
BMP Parameters			
5	Footprint of the BMP	650	sq. ft.
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Media retained pore space [50% of (Field Capacity-Wilting Point)]	0.05	in/in
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Porosity of aggregate storage	0.4	in/in
10	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30	0.1	in/hr.
11	Factor of safety	2	
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11]	0.05	in/hr.
Evapotranspiration: Average Annual Volume Retention			
13	Effective evapotranspiration depth [Line 6 x Line 7]	0.9	inches
14	Retained Pore Volume [(Line 13 x Line 5)/12]	49	cu. ft.
15	Fraction of DCV retained in pore spaces [Line 14/Line 4]	0.05	
16	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	3.8	%
Infiltration: Average Annual Volume Retention			
17	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	24	hours
18	Equivalent DCV fraction from evapotranspiration (use Line 16 and Line 17 in Figure B.4-1; Refer to Appendix B.4.2.2)	0.02	
19	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	65	cu. ft.
20	Infiltration Storage Fraction of DCV [Line 19/Line 4]	0.07	
21	Total Equivalent Fraction of DCV [Line 18 + Line 20]	0.09	
22	Biofiltration BMP average annual capture [use Line 21 and 17 in Figure B.4-1]	16.49	%
23	Fraction of DCV retained (Figure B.5-3) 0.0000013 x Line 22^3 - 0.000057 x Line 22^2 + 0.0086 x Line 22 - 0.014	0.118	
24	Volume retention achieved by biofiltration BMP [Line 23 x Line 4]	113	cu. ft.
Volume Retention = 113 cubic feet			

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-3	
Volume Retention from Biofiltration with Partial Retention BMPs		**Worksheet B.5-3**	
1	Area draining to the BMP	29576	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.446	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	769	cu. ft.
BMP Parameters			
5	Footprint of the BMP	539	sq. ft.
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Media retained pore space [50% of (Field Capacity-Wilting Point)]	0.05	in/in
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Porosity of aggregate storage	0.4	in/in
10	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30	0.1	in/hr.
11	Factor of safety	2	
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11]	0.05	in/hr.
Evapotranspiration: Average Annual Volume Retention			
13	Effective evapotranspiration depth [Line 6 x Line 7]	0.9	inches
14	Retained Pore Volume [(Line 13 x Line 5)/12]	40	cu. ft.
15	Fraction of DCV retained in pore spaces [Line 14/Line 4]	0.05	
16	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	3.8	%
Infiltration: Average Annual Volume Retention			
17	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	24	hours
18	Equivalent DCV fraction from evapotranspiration (use Line 16 and Line 17 in Figure B.4-1; Refer to Appendix B.4.2.2)	0.02	
19	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	54	cu. ft.
20	Infiltration Storage Fraction of DCV [Line 19/Line 4]	0.07	
21	Total Equivalent Fraction of DCV [Line 18 + Line 20]	0.09	
22	Biofiltration BMP average annual capture [use Line 21 and 17 in Figure B.4-1]	16.49	%
23	Fraction of DCV retained (Figure B.5-3) 0.0000013 x Line 22^3 - 0.000057 x Line 22^2 + 0.0086 x Line 22 - 0.014	0.118	
24	Volume retention achieved by biofiltration BMP [Line 23 x Line 4]	91	cu. ft.
Volume Retention = 91 cubic feet			

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-4	
Volume Retention from Biofiltration with Partial Retention BMPs		**Worksheet B.5-3**	
1	Area draining to the BMP	36369	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.598	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1269	cu. ft.
BMP Parameters			
5	Footprint of the BMP	1202	sq. ft.
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Media retained pore space [50% of (Field Capacity-Wilting Point)]	0.05	in/in
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Porosity of aggregate storage	0.4	in/in
10	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30	0.1	in/hr.
11	Factor of safety	2	
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11]	0.05	in/hr.
Evapotranspiration: Average Annual Volume Retention			
13	Effective evapotranspiration depth [Line 6 x Line 7]	0.9	inches
14	Retained Pore Volume [(Line 13 x Line 5)/12]	90	cu. ft.
15	Fraction of DCV retained in pore spaces [Line 14/Line 4]	0.07	
16	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	5.2	%
Infiltration: Average Annual Volume Retention			
17	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	24	hours
18	Equivalent DCV fraction from evapotranspiration (use Line 16 and Line 17 in Figure B.4-1; Refer to Appendix B.4.2.2)	0.03	
19	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	120	cu. ft.
20	Infiltration Storage Fraction of DCV [Line 19/Line 4]	0.09	
21	Total Equivalent Fraction of DCV [Line 18 + Line 20]	0.12	
22	Biofiltration BMP average annual capture [use Line 21 and 17 in Figure B.4-1]	20.82	%
23	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 22^3 - 0.000057 \times \text{Line } 22^2 + 0.0086 \times \text{Line } 22 - 0.014$	0.152	
24	Volume retention achieved by biofiltration BMP [Line 23 x Line 4]	193	cu. ft.
Volume Retention = 193 cubic feet			

ESCONDIDO City of Choice	**Project Name**	Iskcon Krishna Temple & Residential	
	BMP ID	BMP-5	
Volume Retention from Biofiltration with Partial Retention BMPs		**Worksheet B.5-3**	
1	Area draining to the BMP	184603	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.419	
3	85th percentile 24-hour rainfall depth	0.7	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	4512	cu. ft.
BMP Parameters			
5	Footprint of the BMP	3137	sq. ft.
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	21	inches
7	Media retained pore space [50% of (Field Capacity-Wilting Point)]	0.05	in/in
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	6	inches
9	Porosity of aggregate storage	0.4	in/in
10	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30	0.3	in/hr.
11	Factor of safety	2	
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11]	0.15	in/hr.
Evapotranspiration: Average Annual Volume Retention			
13	Effective evapotranspiration depth [Line 6 x Line 7]	1.05	inches
14	Retained Pore Volume [(Line 13 x Line 5)/12]	274	cu. ft.
15	Fraction of DCV retained in pore spaces [Line 14/Line 4]	0.06	
16	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	4.3	%
Infiltration: Average Annual Volume Retention			
17	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	16	hours
18	Equivalent DCV fraction from evapotranspiration (use Line 16 and Line 17 in Figure B.4-1; Refer to Appendix B.4.2.2)	0.02	
19	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	627	cu. ft.
20	Infiltration Storage Fraction of DCV [Line 19/Line 4]	0.14	
21	Total Equivalent Fraction of DCV [Line 18 + Line 20]	0.16	
22	Biofiltration BMP average annual capture [use Line 21 and 17 in Figure B.4-1]	32.97	%
23	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 22^3 - 0.000057 \times \text{Line } 22^2 + 0.0086 \times \text{Line } 22 - 0.014$	0.254	
24	Volume retention achieved by biofiltration BMP [Line 23 x Line 4]	1146	cu. ft.
Volume Retention = 1146 cubic feet			

Harvest and Use Feasibility Checklist

Form I-4

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?

- ☒ Toilet and urinal flushing
- ☒ Landscape irrigation
- ☐ Other:_____

2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.

[Provide a summary of calculations here]

Irrigated Landscaped Area:
Hydrozone: Moderate plant water use, 36-hour planning level irrigation demand: 1470 gallons/acre
Planning level irrigation demand: (2.951)x(1470)= gallons
4,338 gallons = 580 cubic feet
DCV = 9,398 cubic feet
(0.25)x(9,398) = 2,350 cubic feet > 580 cubic feet

3. Calculate the DCV using worksheet B-2.1.

DCV = 9,398 (cubic feet)

3a. Is the 36 hour demand greater than or equal to the DCV?	3b. Is the 36 hour demand greater than 0.25DCV but less than the full DCV?	3c. Is the 36 hour demand less than 0.25DCV?
☐ Yes / ☑ No ⇨ ⇩	☐ Yes / ☑ No ⇨ ⇩	☑ Yes ⇩
Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.	Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.	Harvest and use is considered to be infeasible. 0.25*(9,398) > 580 2,350 > 580

Is harvest and use feasible based on further evaluation?

- ☐ Yes, refer to Appendix E to select and size harvest and use BMPs.
- ☑ No, select alternate BMPs.

Categorization of Infiltration Feasibility Condition		Form I-5	
Part 1 - Full Infiltration Feasibility Screening Criteria **Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?**			
Criteria	Screening Question	**Yes**	**No**
1	**Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Form I-5			
Criteria	Screening Question	**Yes**	**No**
3	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	**Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "**Yes**" a full infiltration design is potentially feasible. The feasibility screening category is **Full Infiltration** If any answer from row 1-4 is "**No**", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		

Form I-5

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	**Do soil and geologic conditions allow for infiltration in any appreciable rate or volume?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		

Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	**Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		

Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Form I-5			
Criteria	Screening Question	**Yes**	**No**
7	**Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	**Can infiltration be allowed without violating downstream water rights**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 5-8 are yes then partial infiltration design is potentially feasible. The feasibility screening category is **Partial Infiltration.** If any answer from row 5-8 is no, then infiltration of any volume is considered to be **infeasible** within the drainage area. The feasibility screening category is **No Infiltration.**		

Form I-5 Certification

The Geotechnical Engineer certifies they completed Form I-5 except Criteria 4 & 8 (see Appendix C.4.3).

Professional Geotechnical Engineer's Printed Name:

_____

Professional Geotechnical Engineer's Signed Name:

_____

Date: _____

[SEAL]

The Project Design Engineer certifies they completed Criteria 4 & 8 (see Appendix C.4.4).

Professional Project Design Engineer's Printed Name:

_____

Professional Project Design Engineer's Signed Name:

_____

Date: _____

[SEAL]

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Factor of Safety and Design Infiltration Rate Worksheet				Form I-6	
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25		
		Predominant soil texture	0.25		
		Site soil variability	0.25		
		Depth to groundwater / impervious layer	0.25		
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			
B	Design	Level of pretreatment/ expected sediment loads	0.5		
		Redundancy/resiliency	0.25		
		Compaction during construction	0.25		
		Design Safety Factor, $S_B = \Sigma p$			
Combined Safety Factor, $S_{total} = S_A \times S_B$					
Observed Infiltration Rate, inch/hr, $K_{observed}$ (corrected for test-specific bias)					
Design Infiltration Rate, in/hr, $K_{design} = K_{observed} / S_{total}$					
Supporting Data					
Briefly describe infiltration test and provide reference to test forms:					

Factor of Safety and Design Infiltration Rate Worksheet	Form I-6 Certification

The Geotechnical Engineer certifies they completed Form I-6 (see Appendix C.4.3).

Professional Geotechnical Engineer's Printed Name:

_____

Professional Geotechnical Engineer's Signed Name:

_____

Date: _____

[SEAL]

LEGEND

POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREA PER CARLSBAD WMAA

DMA BOUNDARY

SOIL TYPE BOUNDARY

AREA NOT BEING ANALYZED

APN: 224-100-34

DMA-1-B-1

DMA-1-D-2

RIDGE LINE

AREA WILL REMAIN THE SAME IN POST-DEVELOPED CONDITION AND WILL NOT BE ANALYZED

(4.047 ACRES)

APN: 224-100-73
NOT A PART

DMA-1-D-1

DMA-1-B-2

SOIL TYPE D

SOIL TYPE C

EXISTING BUILDING

PROPOSED TEMPLE
APN: 224-100-85

DMA-1-C-1

SOIL TYPE C

SOIL TYPE B

SOIL TYPE D

SOIL TYPE B

SOIL TYPE D

DMA-1-B-3

DMA-1-D-3

RINCON AVENUE

EXISTING BUILDING

DMA-1-C-2

RIDGE LINE

APN: 224-901-46

R/W

R/W

SOIL TYPE C

SOIL TYPE A

PROPOSED RESIDENTIAL
APN: 224-100-84

DMA-1-A

POC-1

RINCON AVENUE

EXISTING STORM DRAIN

60 30 0 60 120 180

SCALE: 1" = 60'

BASIN PRE-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	POC
DMA-1-A	A	0.492	0.000	0.492	POC-1
DMA-1-B-1	B	1.373	0.000	1.373	
DMA-1-B-2	B	0.764	0.000	0.764	
DMA-1-B-3	B	3.093	0.044	3.136	
DMA-1-C-1	C	3.901	0.095	3.996	
DMA-1-C-2	C	4.827	0.187	5.014	
DMA-1-D-1	D	3.556	0.000	3.556	
DMA-1-D-2	D	0.269	0.000	0.269	
DMA-1-D-3	D	1.336	0.000	1.336	
TOTAL		19.611	0.326	19.936	

ESCONDIDO
City of Choice

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NO.	DESCRIPTION	DATE	APP'D

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

R·E·C Consultants, Inc.

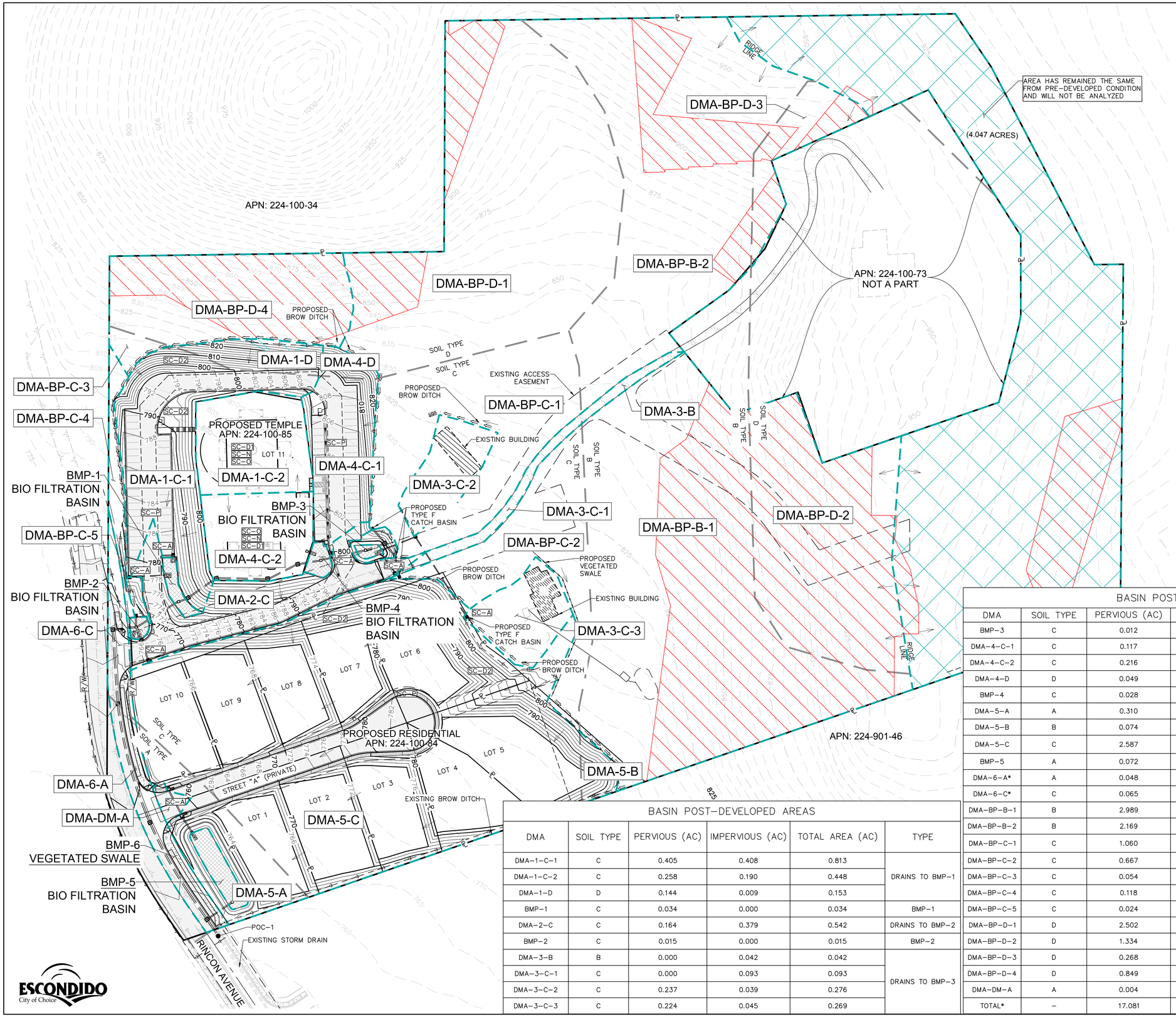
DATE: 2-1-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: PRE-DEVELOPED DMA EXHIBIT

PROJECT:
ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

SAVE DATE: 3/1/2023 ~ PLOT DATE: 3/13/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPre.dwg



LEGEND

- POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREA PER CARLSBAD WMAA
- PROJECT AREA ENCROACHING INTO PCCSYA
- DMA BOUNDARY
- SOIL TYPE BOUNDARY
- AREA NOT BEING ANALYZED
- BMP BASIN
- RETAILING WALL

PCCSYA CALCS		
EXISTING PCCSYA	225,262	SF
PROJECT AREA IN PCCSYA	1,221	SF
PERCENT OF ENCROACHED AREA	0.54	%

SOURCE CONTROL BMP'S

SC-A: ON-SITE STORM DRAIN INLETS
SC-D1: NEED FOR FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC-D2: LANDSCAPE/OUTDOOR PESTICIDE USE
SC-G: REFUSE AREAS
SC-N: FIRE SPRINKLER TEST WATER
SC-O: MISCELLANEOUS DRAIN OR WASH WATER
SC-P: PLAZAS, SIDEWALKS, AND PARKING LOTS

NOTE:
1. DEPTH TO GROUNDWATER > 20 FT
2. THE AVERAGE ASSUMED IMPERVIOUS AREA FOR THE PADS IN THE RESIDENTIAL AREA IS 25% FOR LOW DENSITY RESIDENTIAL (LDR) RESIDENTIAL, 2.9 DU/A OR LESS.

60 30 0 60 120 180
SCALE: 1" = 60'

* FOR WATER QUALITY ONLY BECAUSE AREA IS WITHIN PUBLIC RIGHT OF WAY (NOT INCLUDED IN HMP MODEL)

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
DMA-1-C-1	C	0.405	0.408	0.813	DRAINS TO BMP-1
DMA-1-C-2	C	0.258	0.190	0.448	
DMA-1-D	D	0.144	0.009	0.153	
BMP-1	C	0.034	0.000	0.034	BMP-1
DMA-2-C	C	0.164	0.379	0.542	DRAINS TO BMP-2
BMP-2	C	0.015	0.000	0.015	BMP-2
DMA-3-B	B	0.000	0.042	0.042	DRAINS TO BMP-3
DMA-3-C-1	C	0.000	0.093	0.093	
DMA-3-C-2	C	0.237	0.039	0.276	
DMA-3-C-3	C	0.224	0.045	0.269	

BASIN POST-DEVELOPED AREAS

DMA	SOIL TYPE	PERVIOUS (AC)	IMPERVIOUS (AC)	TOTAL AREA (AC)	TYPE
BMP-3	C	0.012	0.000	0.012	BMP-3
DMA-4-C-1	C	0.117	0.292	0.409	DRAINS TO BMP-4
DMA-4-C-2	C	0.216	0.157	0.374	
DMA-4-D	D	0.049	0.003	0.053	
BMP-4	C	0.028	0.000	0.028	BMP-4
DMA-5-A	A	0.310	0.078	0.388	DRAINS TO BMP-5
DMA-5-B	B	0.074	0.000	0.074	
DMA-5-C	C	2.587	1.189	3.776	
BMP-5	A	0.072	0.000	0.072	BMP-5
DMA-6-A*	A	0.048	0.184	0.231	GREENSTREET / DRAINS TO BMP-6
DMA-6-C*	C	0.065	0.066	0.130	
DMA-BP-B-1	B	2.989	0.000	2.989	BYPASS
DMA-BP-B-2	B	2.169	0.000	2.169	
DMA-BP-C-1	C	1.060	0.000	1.060	
DMA-BP-C-2	C	0.667	0.000	0.667	
DMA-BP-C-3	C	0.054	0.000	0.054	
DMA-BP-C-4	C	0.118	0.000	0.118	
DMA-BP-C-5	C	0.024	0.000	0.024	
DMA-BP-D-1	D	2.502	0.000	2.502	
DMA-BP-D-2	D	1.334	0.000	1.334	
DMA-BP-D-3	D	0.268	0.000	0.268	
DMA-BP-D-4	D	0.849	0.000	0.849	
DMA-DM-A	A	0.004	0.027	0.031	DE-MINIMIS
TOTAL*	–	17.081	3.213	19.936	–

NO.	DESCRIPTION	DATE	APP'D

REVISIONS

R·E·C Consultants, Inc.
Civil Engineering · Environmental Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 2-1-2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

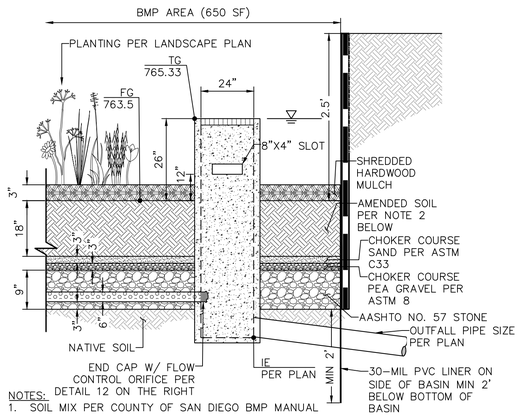
SHEET TITLE: POST-DEVELOPED DMA EXHIBIT

PROJECT: ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 1 OF 1 SHEETS

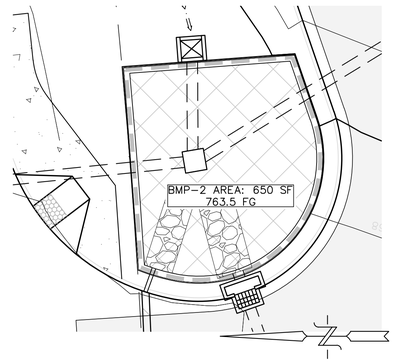
SAVE DATE: 3/10/2023 ~ PLOT DATE: 3/13/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPst.dwg

ESCONDIDO City of Choice

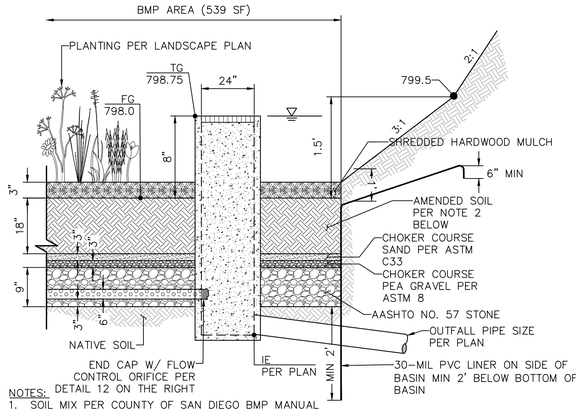


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

1 BMP-2 BASIN DETAIL
NOT TO SCALE

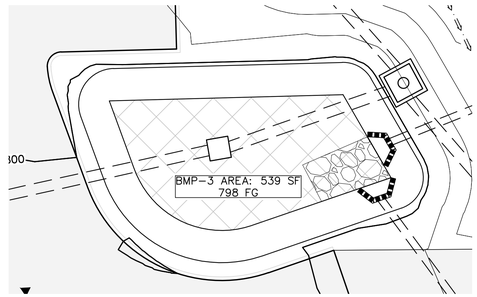


2 BMP-2 BASIN PLAN VIEW
SCALE: 1" = 10'

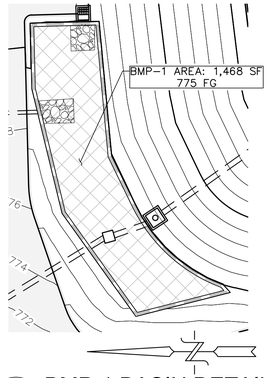


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

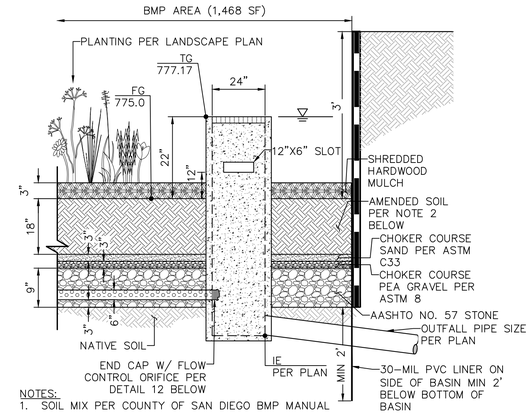
3 BMP-3 BASIN DETAIL
NOT TO SCALE



4 BMP-3 BASIN PLAN VIEW
SCALE: 1" = 10'

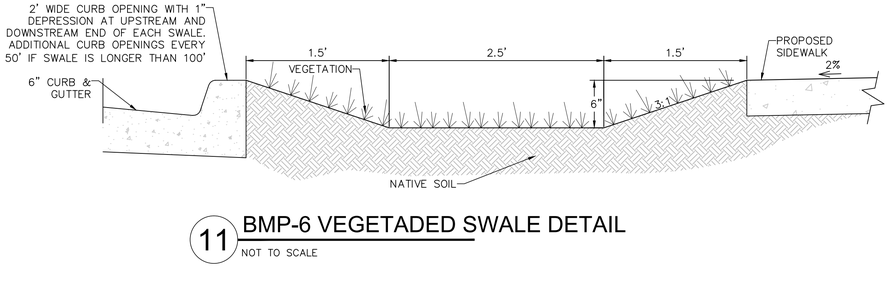


5 BMP-1 BASIN DETAIL
SCALE: 1" = 20'



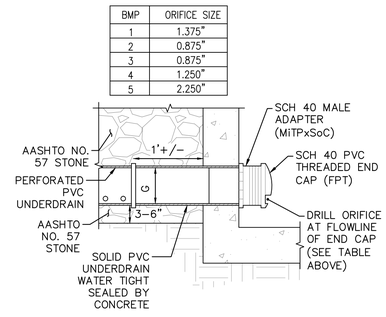
NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

6 BMP-1 BASIN DETAIL
NOT TO SCALE

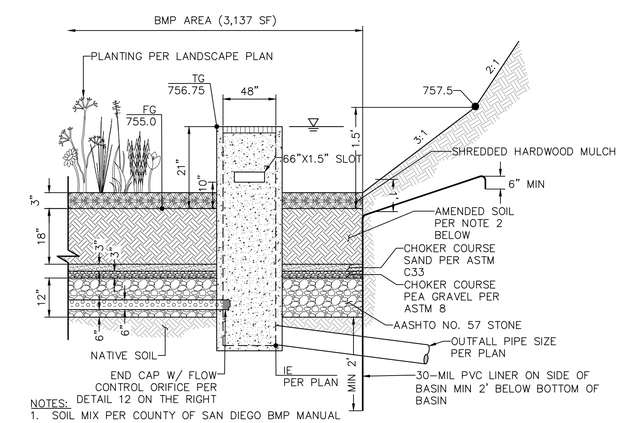


11 BMP-6 VEGETADED SWALE DETAIL
NOT TO SCALE

BMP	ORIFICE SIZE
1	1.375"
2	0.875"
3	0.875"
4	1.250"
5	2.250"

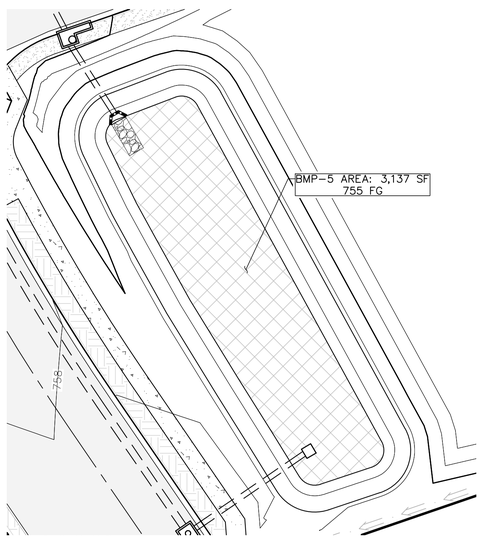


12 BMP ORIFICE DETAIL
NOT TO SCALE

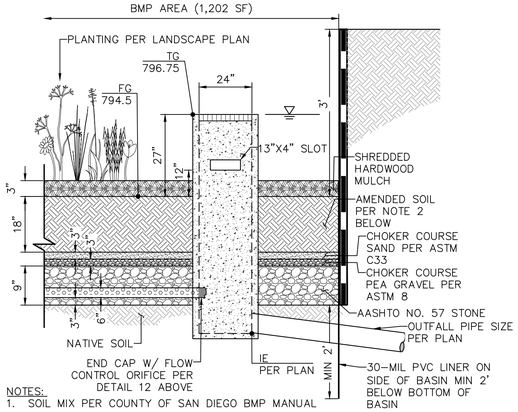


NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

7 BMP-5 BASIN DETAIL
NOT TO SCALE

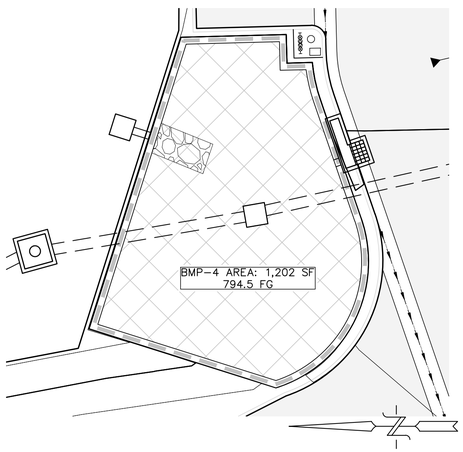


8 BMP-5 BASIN DETAIL
SCALE: 1" = 20'



NOTES:
1. SOIL MIX PER COUNTY OF SAN DIEGO BMP MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

9 BMP-4 BASIN DETAIL
NOT TO SCALE



10 BMP-4 BASIN PLAN VIEW
SCALE: 1" = 10'

ESCONDIDO
City of Choice

NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

DATE: 2-1-2023
SCALE: N/A
DRAWN: JMW
CHECKED: J.R.R.

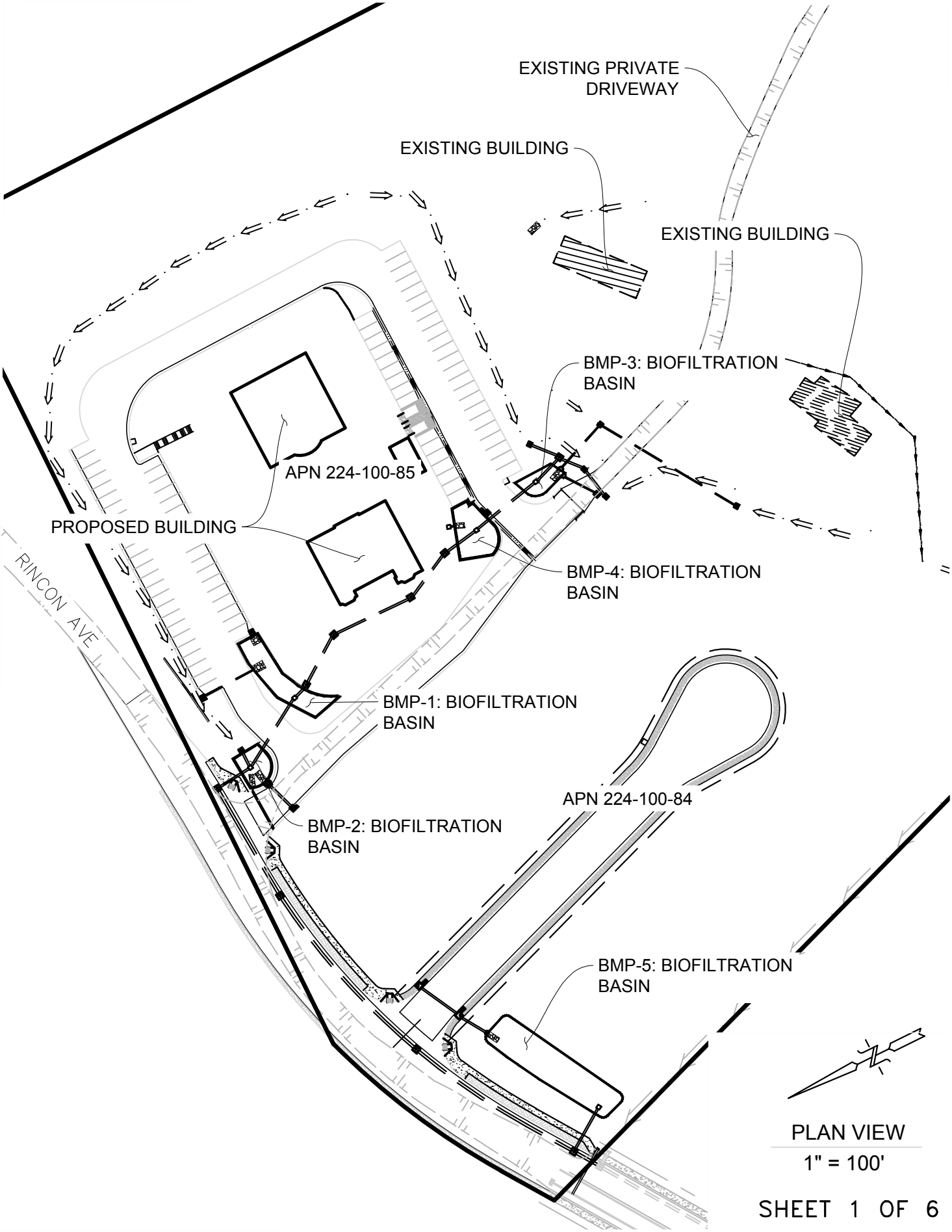
SHEET TITLE: POST-DEVELOPED DMA EXHIBIT DETAILS

PROJECT
ISKCON KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 2 OF 2 SHEETS

SAVE DATE: 3/10/2023 ~ PLOT DATE: 3/10/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Reports\SWQMP\1829-DMAPst.dwg

SITE PLAN - EXHIBIT A-1

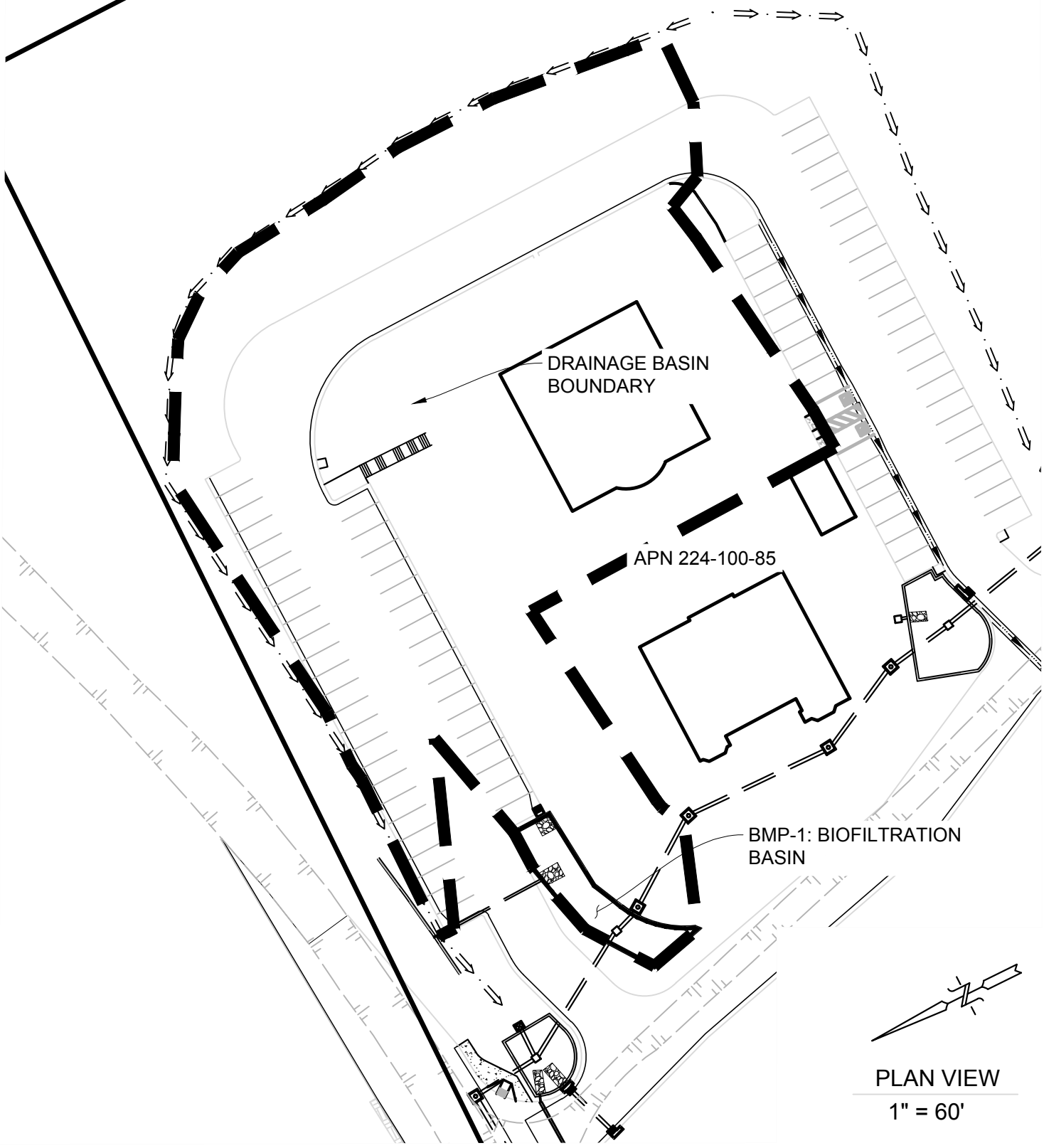


PLAN VIEW

1" = 100'

SHEET 1 OF 6

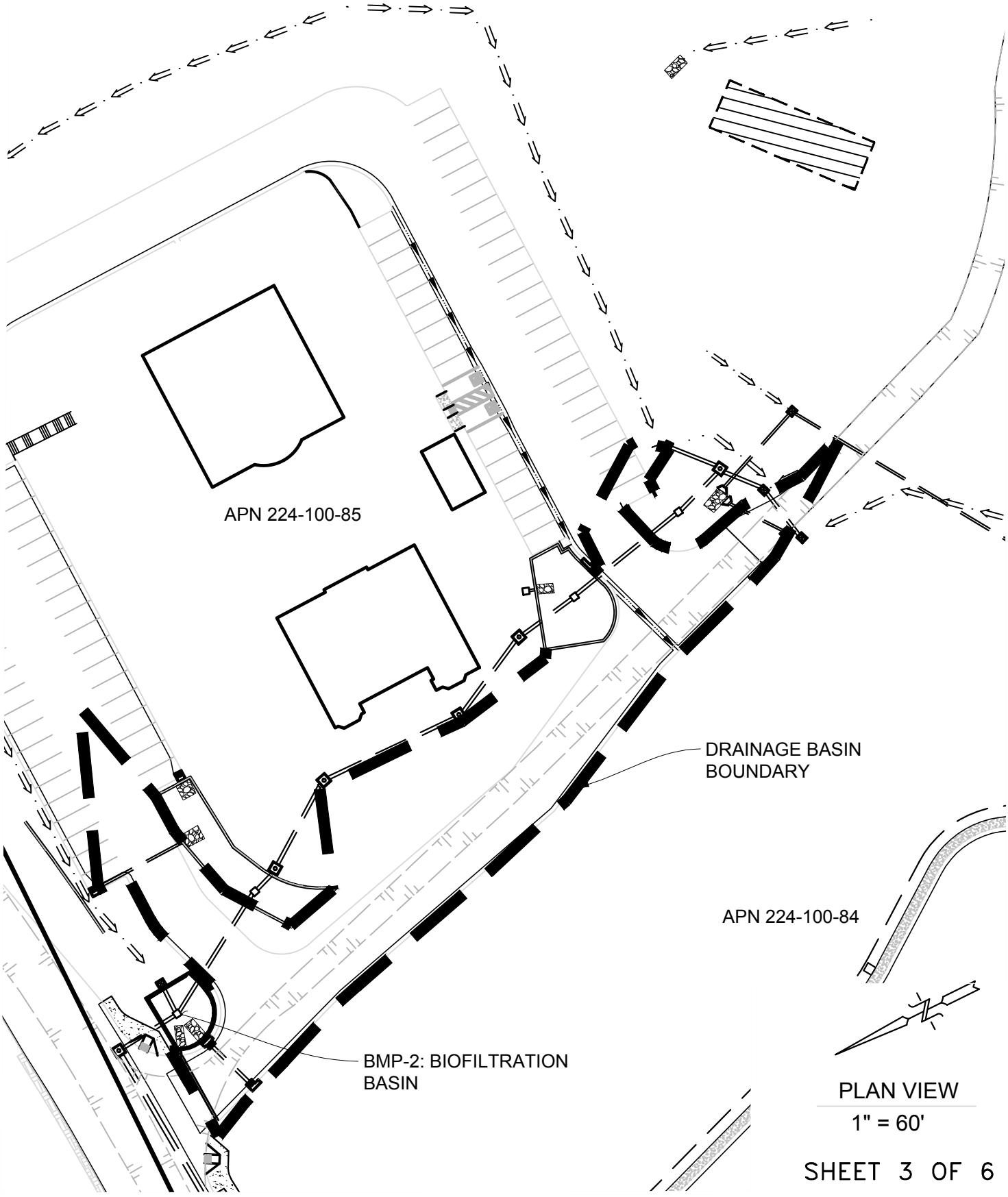
DMA MAP FOR BMP 1 - EXHIBIT A-2



PLAN VIEW

1" = 60'

DMA MAP FOR BMP 2 - EXHIBIT A-3

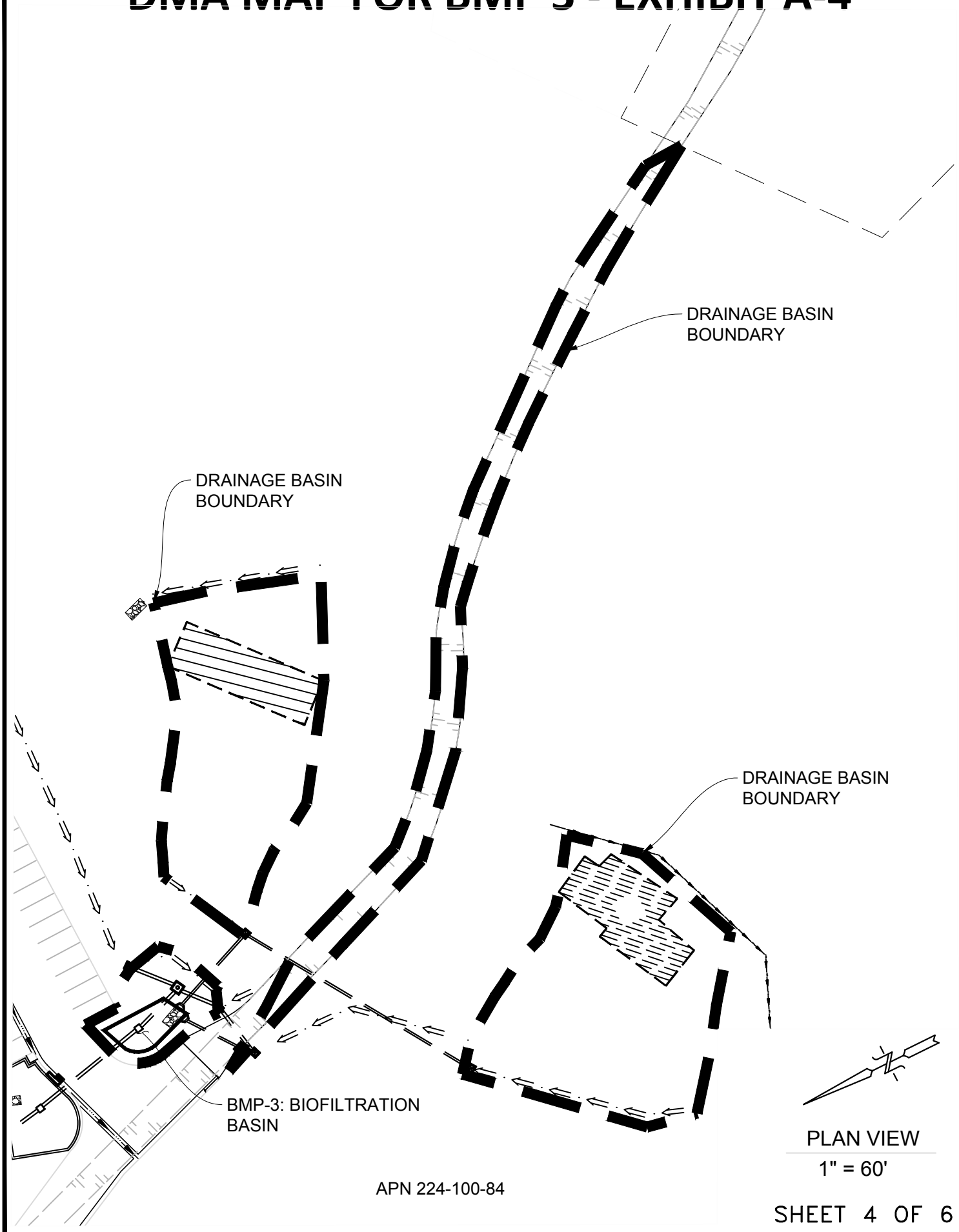


PLAN VIEW

1" = 60'

SHEET 3 OF 6

DMA MAP FOR BMP 3 - EXHIBIT A-4

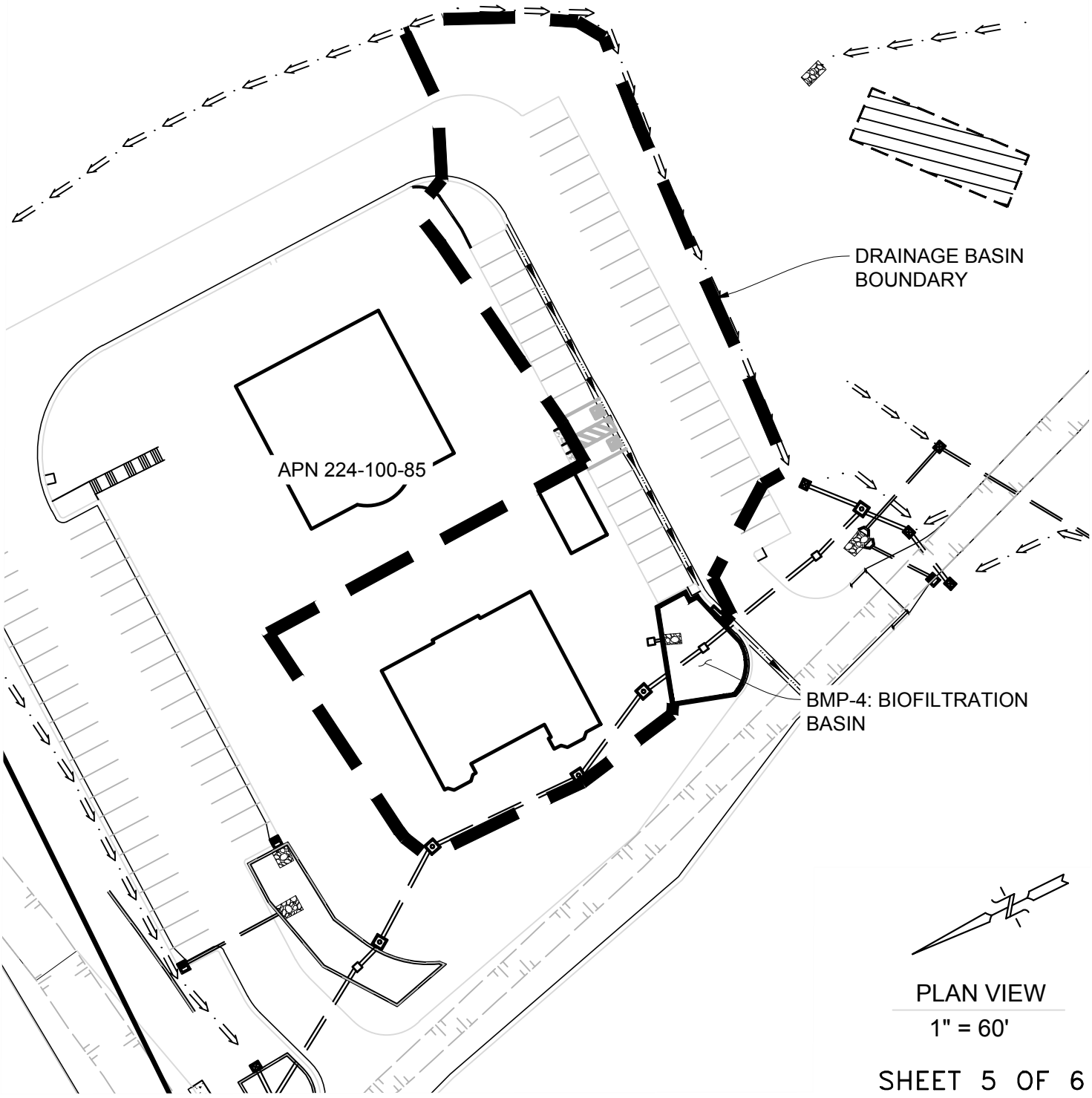


PLAN VIEW

1" = 60'

APN 224-100-84

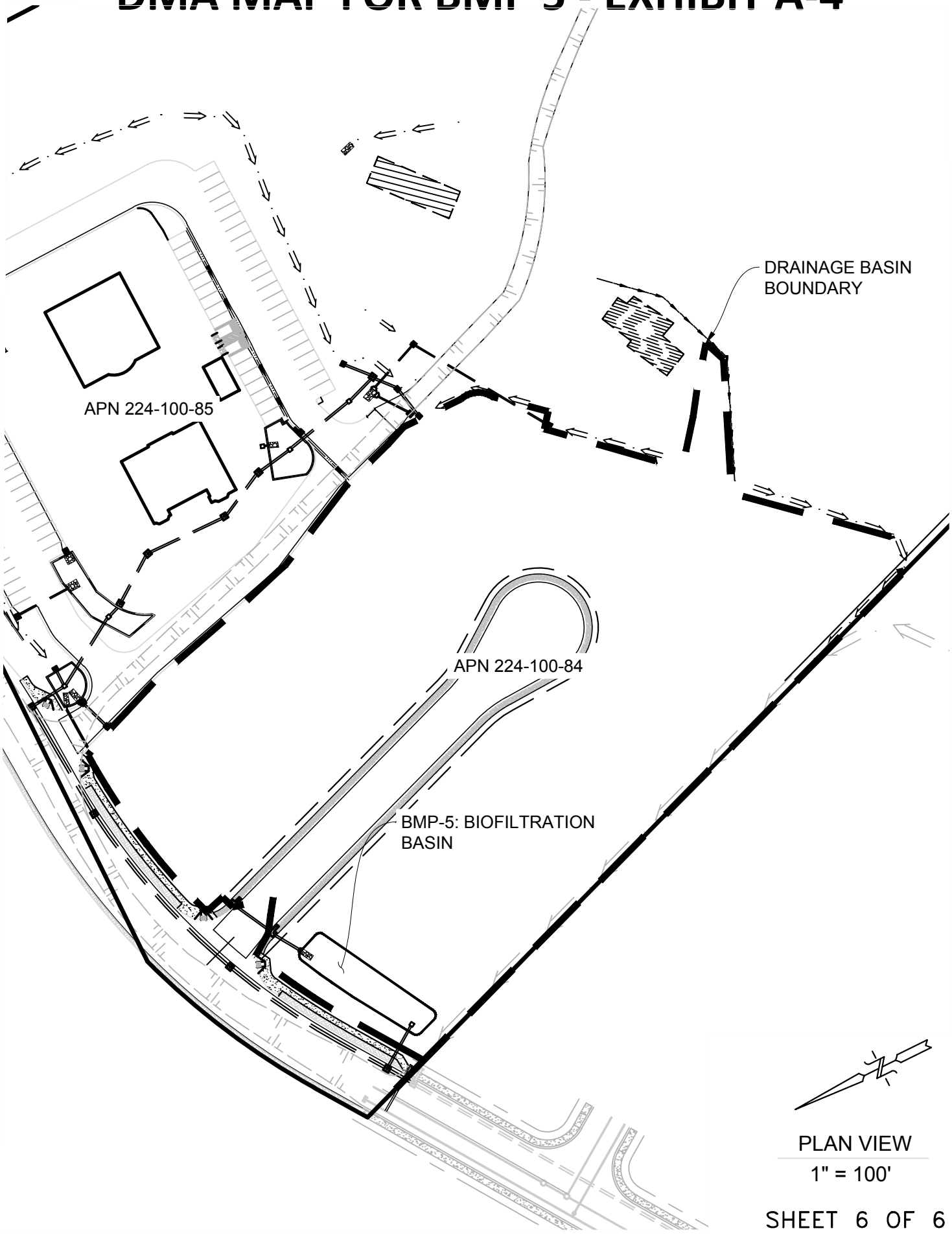
DMA MAP FOR BMP 4 - EXHIBIT A-4



PLAN VIEW

1" = 60'

DMA MAP FOR BMP 5 - EXHIBIT A-4



PLAN VIEW

1" = 100'

SHEET 6 OF 6

ATTACHMENT 2

BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

☐Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 2a	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the Storm Water Design Manual	☐Included ☒Submitted as separate stand-alone document
Attachment 2b	Hydromodification Management Exhibit (Required)	☒Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2c	Management of Critical Coarse Sediment Yield Areas See Section 6.2 and Appendix H of the Storm Water Design Manual.	☒Exhibit depicting onsite and/or upstream sources of critical coarse sediment as mapped in the WMAA AND, ☐Demonstration that the project effectively avoids and bypasses sources of mapped critical coarse sediment OR, ☒Demonstration that project does not generate a net impact on the receiving water.
Attachment 2d	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the Storm Water Design Manual.	☒Not performed ☐Included ☐Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	☐Included ☒Not required because BMPs will drain in less than 96 hours

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Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

☒Underlying hydrologic soil group
☒Approximate depth to groundwater
☒Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
☒Critical coarse sediment yield areas to be protected
☒Existing topography
☒Existing and proposed site drainage network and connections to drainage offsite
☒Proposed grading
☒Proposed impervious features
☒Proposed design features and surface treatments used to minimize imperviousness
☒Point(s) of Compliance (POC) for Hydromodification Management
☒Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
☒Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

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ATTACHMENT 3

Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Plan (Required)	☒Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Storm Water Control Facilities Maintenance Agreement (SWCFMA) (when applicable)	☐Included ☐Not Applicable

This page was left intentionally blank.

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

Attachment 3a must identify:

- ☐Specific maintenance indicators and actions for proposed structural BMP(s). This must be based on Section 7.7 of the Storm Water Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- ☐How to access the structural BMP(s) to inspect and perform maintenance
- ☐Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- ☐Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- ☐Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- ☐Recommended equipment to perform maintenance
- ☐When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

Attachment 3b: For all Structural BMPs, Attachment 3b must include a draft maintenance agreement in the City's standard format (PDP applicant to contact City staff to obtain the current maintenance agreement forms or download from City's website).

FREE RECORDING REQUESTED
PURSUANT TO GOVERNMENT
CODE SECTION 27383
RECORDING REQUESTED BY:

CITY OF ESCONDIDO

WHEN RECORDED MAIL TO:

CITY ENGINEER
CITY OF ESCONDIDO
201 N. BROADWAY
ESCONDIDO, CA 92025

(SPACE ABOVE FOR RECORDER'S USE ONLY)

Documentary Transfer Tax $_____
Signature _____

STORM WATER CONTROL FACILITY MAINTENANCE AGREEMENT
APN NO. 224-100-84,85

THIS AGREEMENT for the design, construction, maintenance and repair of the Storm Water Control Facilities (SWCF(s)), installed on the property as identified in the San Diego County Assessor Tax Roll for 20__, as APN No. 224-100-84,85, and commonly known as Iskcon Krishna Temple & Residential, Escondido, California, ("Property") is entered into between the **CITY OF ESCONDIDO**, a municipal corporation ("CITY") and Iskcon of Escondido, Inc., Developer and/or Property Owner ("LOT OWNER(s)"), and in accordance with the CITY of Escondido Grading Plan No. GP__-_____ ("Grading Plan"). ("Agreement")

WHEREAS, installation and maintenance of Storm Water Control Facilities is required pursuant to the Escondido Municipal Code, the California Regional Water Quality Control Board ("RWQCB") and by the CITY as a condition of approval of property development; and

WHEREAS, LOT OWNER(s) is the owner of certain real property being developed that provides benefit to the general public and the CITY and meets the requirements of the California RWQCB Order R9-2013-0001 and National Pollution Discharge Elimination System No. CAS0109266 and subsequent amendments; and

WHEREAS, the current and future subdivision LOT OWNER(s) will use the SWCF(s) as installed per the Grading Plan and the provisions of the Storm Water Quality Management Plan ("Storm Water Plan") prepared by the LOT OWNER(s) and approved by the CITY on _____, 201__; and

WHEREAS, it is the mutual desire of the parties to this Agreement that the SWCF(s) be maintained in a safe and usable condition by the LOT OWNER(s); and

WHEREAS, it is the mutual desire of the parties to this Agreement to establish a method for the maintenance and repair of the SWCF(s); and

WHEREAS, the CITY shall have the right but not the obligation to enforce full compliance with the

terms and conditions of this Agreement; and

WHEREAS, it is the mutual intention of the parties that this Agreement constitute a covenant running with the land, binding upon each successive LOT OWNER of all or any portion of the property.

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

1. The Property is benefited by this Agreement, and present and successive LOT OWNER(s) of all or any portion of the property are expressly bound hereby for the benefit of the land. In the event any of the herein described parcels of land are subdivided further, the LOT OWNER(s), heirs, assigns and successors in interest of each such newly created parcel shall be liable under this Agreement for their then pro rata share of expenses and such pro rata shares of expenses shall be computed to reflect such newly created parcels.

2. The cost and expense of maintaining the SWCF(s) shall be the responsibility of and paid by the LOT OWNER(s) or their heirs, assigns and successors in interest. The SWCF(s) shall be constructed and maintained by the LOT OWNER(s) in accordance with the CITY- approved Grading Plan and Storm Water Plan, on file with the CITY.

3. Repair and maintenance responsibilities for all structural SWCF(s) and required Best Management Practices associated with the project are set forth in the Storm Water Plan. LOT OWNER(s) shall, as changes occur, provide the CITY with the name, title, and phone number the persons or entities responsible for maintenance and reporting activity, the persons or entities responsible for funding, schedules and procedures for inspection and maintenance of the SWCF(s) and implementation of worker training requirements, and any other activities necessary to ensure BMP maintenance. The Storm Water Plan shall provide for the servicing of all SWCF(s) as needed and at least once during August or September of each year, and for the retention of inspection and maintenance records for at least three (3) years. LOT OWNER(s) shall submit annual certification to the CITY's Department of Engineering Services between September 1 and October 1 of each year until the property is redeveloped. The certification shall document all maintenance performed and compliance with applicable permits.

4. CITY shall have the right to inspect the SWCF(s) and records as needed to ensure the SWCF(s) are being properly maintained.

5. Should any LOT OWNER(s) fail to pay their share of costs and expenses as required to use, maintain or repair the SWCF(s) in this Agreement, then the CITY or any other LOT OWNER shall be entitled without further notice to institute legal action for the collection of funds advanced on behalf of the LOT OWNER who did not pay their share of costs and expenses and shall be entitled to recover in such action in addition to the funds advanced, interest thereon at the current prime rate of interest, until paid, all costs and disbursements of such action, including such sum or sums as the court may fix as and for a reasonable attorney's fees.

6. Any liability of the LOT OWNER(s) to any worker employed to make repairs or provide maintenance under this Agreement, or to third persons, as well as any liability of the LOT OWNER(s) for damage to the property of agent, or any such worker, or any third persons, as a result of or arising out of repairs and maintenance under this Agreement, shall be borne, as between the LOT OWNER(s) in the same percentages as they bear the costs and expenses of

such repairs and maintenance. Each LOT OWNER shall be responsible for and maintain his own insurance, if any. By this Agreement, the parties do not intend to provide for the sharing of liability with respect to personal injury or property damage other than that attributable to the repairs and maintenance undertaken under this Agreement. Each of the LOT OWNER(s) agrees to indemnify the others from any and all liability for injury to him or damage to their property when such injury or damage results from, arises out of, or is attributable to any maintenance or repairs undertaken pursuant to this Agreement.

7. CITY Indemnification.

a) To the fullest extent permitted by law, LOT OWNER(s) shall jointly and severally indemnify, defend with legal counsel reasonably satisfactory to the CITY, and hold harmless the CITY and the CITY's officers, directors, employees, and council members (hereinafter referred to as "Indemnitees") from all actions, fines, sanctions, levies, penalties, orders and assessments of any kind harmless against any and all liability, loss, damage, fine, penalty, expense, claim, or cost (including without limitation costs and fees of litigation) of every nature (collectively referred to as "RWQCB Orders") that may arise out of or relate to LOT OWNER(s)'s obligations for implementation of storm water management in accordance with the RWQCB Order R9-2013-0001 and subsequent amendments, including any reasonable attorney's fees, costs and expenses incurred by the Indemnitees in responding to any RWQCB Orders arising out of or relating to implementation of storm water management. LOT OWNER(s) obligations shall include but not be limited to design, construction, maintenance and required documentation of the maintenance activities related to all storm water treatment measures proposed for the project and included in the STORM WATER PLAN, approved _____, arising out of or in connection with this Agreement or its performance (including acts of omission) except for liability caused by the Indemnitiees' willful misconduct.

b) LOT OWNER(s) obligation to defend shall apply whether or not Indemnitees were negligent or otherwise at fault and whether or not the RWQCB's Orders have any merit. LOT OWNER(s) obligation to defend shall apply with full force and effect regardless of any concurrent negligence or fault by the Indemnitees, or any of them. However LOT OWNER(s) shall not be obligated under this Agreement to indemnify any Indemnitee after entry of a non-appealable final judgment after trial or award in a judicial proceeding for that portion of the final judgment that arises from the willful misconduct of that Indemnitee.

c) LOT OWNER(s) duty to defend the Indemnitees is separate, independent and free standing from LOT OWNER(s) duty to indemnify and hold harmless the Indemnitees. LOT OWNER(s) defense obligation shall arise immediately upon receipt by CITY or LOT OWNER(s) of any written Notice of Violation or equivalent notice of intent to levy any fines, penalties or sanctions against Indemnitees by the RWQCB or other enforcement agency, and shall continue until the entry of any final and non-appealable RWQCB or other enforcement orders.

d) LOT OWNER(s) obligation to indemnify, defend and hold harmless shall be carried on to future property OWNERS and shall continue until the time that the site is redeveloped.

e) It is expressly understood and agreed that the foregoing provisions will survive termination of this Agreement, unless the property is properly redeveloped.

(f) The indemnity protections provided by this Agreement are not intended to exceed the indemnity available under applicable law. If the indemnity protections are found by a court to be unlawful in any way, the protection shall be curtailed or adjusted, but only to the minimum extent required to conform to applicable law.

(g) Nothing in the Agreement, the specifications or other contract documents or CITY approval of the plans and specifications or inspection of the work is intended to include a review, inspection, acknowledgment of any responsibility for any such matter, and CITY, CITY's engineer, and their consultants, and each of their officials, directors, officers, employees and agents, shall have absolutely no responsibility or liability thereof.

8. If, in the CITY's sole judgment said SWCF(s) are not being maintained to standards set forth in paragraph 3 of this Agreement, the CITY may thereupon provide written notice to all LOT OWNER(s) to initiate repairs or construction within ninety (90) days. Upon failure to demonstrate good faith to make repairs or construction within ninety (90), the LOT OWNER(s) agree that the CITY may make all needed repairs to said SWCF(s) and/or construct SWCF(s) to meet the standards set forth in paragraph 3 and to then assess costs to all LOT OWNER(s) equally.

9. If the CITY elects to make necessary maintenance or repairs in accordance with this Agreement, said work shall be without warranty. Said repairs shall be accepted "as is" by the LOT OWNER(s) without any warranty of workmanship and be guaranteed and indemnified by them in accordance this Agreement.

10. The foregoing covenants shall run with the land and shall be deemed to be for the benefit of the land of each of the LOT OWNER(s) and each and every person who shall at any time own all or any portion of the property referred to herein.

11. It is understood and agreed that the covenants herein contained shall be binding on the heirs, executors, administrators, successors, and assigns of each of the LOT OWNER(s).

12. This Agreement shall be recorded and that all obligations created shall constitute a covenant running with the land and any subsequent purchaser of all or any portion thereof, by acceptance of delivery of a deed and/or conveyance regardless of form shall be deemed to have consented to and become bound by this Agreement.

13. The terms of this Agreement may be amended in writing upon majority approval of the LOT OWNER(s) and consent of the CITY.

14. This Agreement shall be governed by the laws of the State of California. In the event that any of the provisions of this Agreement are held to be unenforceable or invalid by any court of competent jurisdiction, the validity, and enforceability of the remaining provisions shall not be affected thereby.

SIGNATURE PAGE FOLLOWS ON PAGE 5:

SIGNATURE PAGE

LOT OWNER(s): _____

_____
PRINT NAME AND TITLE

_____ _____
SIGNATURE DATE SIGNED

_____
PRINT NAME AND TITLE

_____ _____
SIGNATURE DATE SIGNED

_____
PRINT NAME AND TITLE

_____ _____
SIGNATURE DATE SIGNED

ATTACH CALIFORNIA ALL PURPOSE NOTARY ACKNOWLEDGMENT FOR ABOVE SIGNATURES

CITY OF ESCONDIDO,
a municipal Corporation

Date Signed: _____ By: _____
Director of Public Works / City Engineer

APPROVED AS TO FORM:
Jeffrey Epp, City Attorney

By: _____

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ATTACHMENT 4

City of Escondido PDP Structural BMP Verification for Permitted Land Development Projects

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City of Escondido Storm Water Structural BMP Verification Form Page 1 of 4	
Project Summary Information	
Project Name	Iskcon Krishna Temple & Residential
Record ID (e.g., grading/improvement plan number)	TBD
Project Address	1365 Rincon Avenue, Escondido, CA 92026
Assessor's Parcel Number(s) (APN(s))	224-100-84,85
Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Carlsbad 904,
Maintenance Notification / Agreement No.	N/A
Responsible Party for Construction Phase	
Developer's Name	
Address	
Email Address	
Phone Number	
Engineer of Work	
Engineer's Phone Number	
Responsible Party for Ongoing Maintenance	
Owner's Name(s)*	
Address	
Email Address	
Phone Number	
*Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at time of project closeout.	

City of Escondido Storm Water Structural BMP Verification Form Page 2 of 4				
Stormwater Structural Pollutant Control & Hydromodification Control BMPs* (List all from SWQMP)				
Description/Type of Structural BMP	**Plan Sheet #**	**Structural BMP ID#**	**Maintenance Agreement Recorded Doc #**	**Revisions**
Bio-Filtration Basin		BMP-1	N/A	
Bio-Filtration Basin		BMP-2	N/A	
Bio-Filtration Basin		BMP-3	N/A	
Bio-Filtration Basin		BMP-4	N/A	
Bio-Filtration Basin		BMP-5	N/A	
Vegetated Swale		BMP-6	N/A	
*All Priority Development Projects (PDPs) require a Structural BMP				

Note: If this is a partial verification of Structural BMPs, provide a list and map denoting Structural BMPs that have already been submitted, those for this submission, and those anticipated in future submissions.

City of Escondido Storm Structural BMP Verification Form Page 3 of 4

Checklist for Engineer of Work (EOW) to submit to Field Engineering:

- ☐ Copy of the final accepted SWQMP and any accepted addendum.
- ☐ Copy of the most current plan showing the Storm Water Structural BMP Table, plans/cross-section sheets of the Structural BMPs and the location of each verified as-built Structural BMP.
- ☐ Photograph of each Structural BMP.
- ☐ Photograph(s) of each Structural BMP during the construction process to illustrate proper construction.
- ☐ Copy of the approved Structural BMP maintenance agreement and associated security

By signing below, I certify that the Structural BMP(s) for this project have been constructed and all BMPs are in substantial conformance with the approved plans and applicable regulations. I understand the City reserves the right to inspect the above BMPs to verify compliance with the approved plans and Storm Water Ordinance. Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Please sign your name and seal.

Professional Engineer's Printed Name:

_____

Professional Engineer's Signed Name:

_____

Date: _____

[SEAL]

City of Escondido Storm Water Structural BMP Verification Form Page 4 of 4

CITY - OFFICIAL USE ONLY:

Permit #:_____

City Inspector: _____

Date Project has/expects to close: _____

Date verification received from Engineer of Work (EOW): _____

By signing below, City Inspector concurs that every noted Structural BMP has been installed per plan.

City Inspector's Signature: _____Date: _____

FOR Environmental Programs:

Date Received from Field Engineering:_____

Environmental Programs Submittal Reviewer:_____

Environmental Programs Reviewer concurs that the information provided for the following Structural BMPs is acceptable to enter into the Structural BMP Maintenance verification inventory:

List **acceptable** Structural BMPs:

Environmental Programs Reviewer's Signature: _____

Date: _____

ATTACHMENT 5

Copy of Plan Sheets Showing Permanent Storm Water BMPs, Source Control, and Site Design

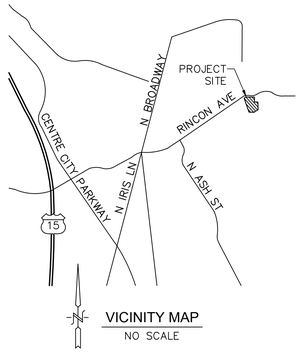
This is the cover sheet for Attachment 5.

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

☒Structural BMP(s) with ID numbers matching Step 6 Summary of PDP Structural BMPs
☒The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
☒Details and specifications for construction of structural BMP(s)
☒Signage indicating the location and boundary of structural BMP(s) as required by City staff
☒How to access the structural BMP(s) to inspect and perform maintenance
☒Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
☒Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
☒Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
☒Recommended equipment to perform maintenance
☒When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
☒Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
☒All BMPs must be fully dimensioned on the plans
☒When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number must be provided. Photocopies of general brochures are not acceptable.
☒Include all source control and site design measures described in Steps 4 and 5 of the SWQMP. Can be included as a separate exhibit as necessary.

***Note: Plan sheets included in this attachment can be full size or half size.**



VICINITY MAP
NO SCALE

LEGAL DESCRIPTION

PARCELS A AND B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. SUB14–0004, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. SUB14–0017, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 7, 2014 AS DOCUMENT NO. 2014–0487232 OF OFFICIAL RECORDS

OWNER / APPLICANT DEVELOPER:

ISKCON OF ESCONDIDO, INC.
ATTN: DHIRU TANTOD
10707 EL CABALLO AVENUE
SAN DIEGO, CA, 52127
(858) 344–0892

I (WE) HEREBY CERTIFY THAT I (WE) AM (ARE) THE RECORD OWNER OF THE PROPERTY SHOWN ON THE TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS ALL MY (OUR) CONTIGUOUS OWNERSHIP IN WHICH I (WE) HAVE ANY DEED OR TRUST INTEREST. I (WE) UNDERSTAND THAT MY (OUR) PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS–OF–WAY.

(SIGNATURE)

SITE ADDRESS:

1315 & 1356 RINCON AVENUE ESCONDIDO, CA 92026

ASSESSOR'S PARCEL NO.:

224–100–84, 224–100–85

ZONING:

EXISTING: RE–20
PROPOSED: RE–20

SCOPE OF WORK:

PROPOSED SUBDIVISION OF EXISTING PARCELS INTO ELEVEN (11) PARCELS WITH TEN (10) LOTS FOR SINGLE FAMILY DWELLINGS WITH DRIVEWAY ACCESS, AN ACCESS ROAD AND CUL–DE–SAC. AND ONE (1) LOT FOR THE PROPOSED NEW DEVELOPMENT INCLUDING THE CONSTRUCTION OF A RELIGIOUS TEMPLE, HALL WITH LIVING AREA, PATIO, DETACHED RESTROOMS, PARKING LOT, AND DRIVEWAY.

GRADING QUANTITIES

CUT	30,000 CY	MAX CUT = 17.4'
FILL	30,000 CY	MAX FILL = 25.1'
NET	BALANCE	

TOPO SOURCE

TOPOGRAPHIC CONTOURS PROVIDED BY REC CONSULTANTS DATED 6–16–2022

SEWER NOTE

ALL LOTS ARE TO BE ON THE PROPOSED SANITARY SEWER SYSTEM THAT SHALL CONNECT TO THE EXISTING PUBLIC SEWER MAIN.

PROJECT AREA CALCULATIONS:

	RESIDENTIAL	TEMPLE
PARCEL AREA:	182,961 SF	885,575 SF
EXISTING PERVIOUS AREA:	181,046 SF	885,575 SF
EXISTING IMPERVIOUS AREA:	1,915 SF	0 SF
PROPOSED PERVIOUS AREA:	164,616 SF	821,300 SF
PROPOSED IMPERVIOUS AREA:	18,345 SF	64,275 SF
PROPOSED BUILDING AREA:	N/A	9,293 SF
ASSEMBLY AREA:	N/A	8,784 SF

PARKING INFORMATION (RESIDENTIAL):

REQUIRED: 2 CAR GARAGE OR CARPORT REQUIRED FOR EACH UNIT PER SINGLE FAMILY RESIDENCE
PROPOSED: 10 LOTS X 2 SPACES = 20 SPACES

PARKING INFORMATION (TEMPLE):

REQUIRED: PER CITY OF ESCONDIDO ORDINANCE, 1 PARKING SPACE FOR EVERY 100 S.F. OF ASSEMBLY AREA
PROPOSED: 8,784 S.F. OF ASSEMBLY AREA / 100 SF = 87.84 ~ 88 PARKING SPACES

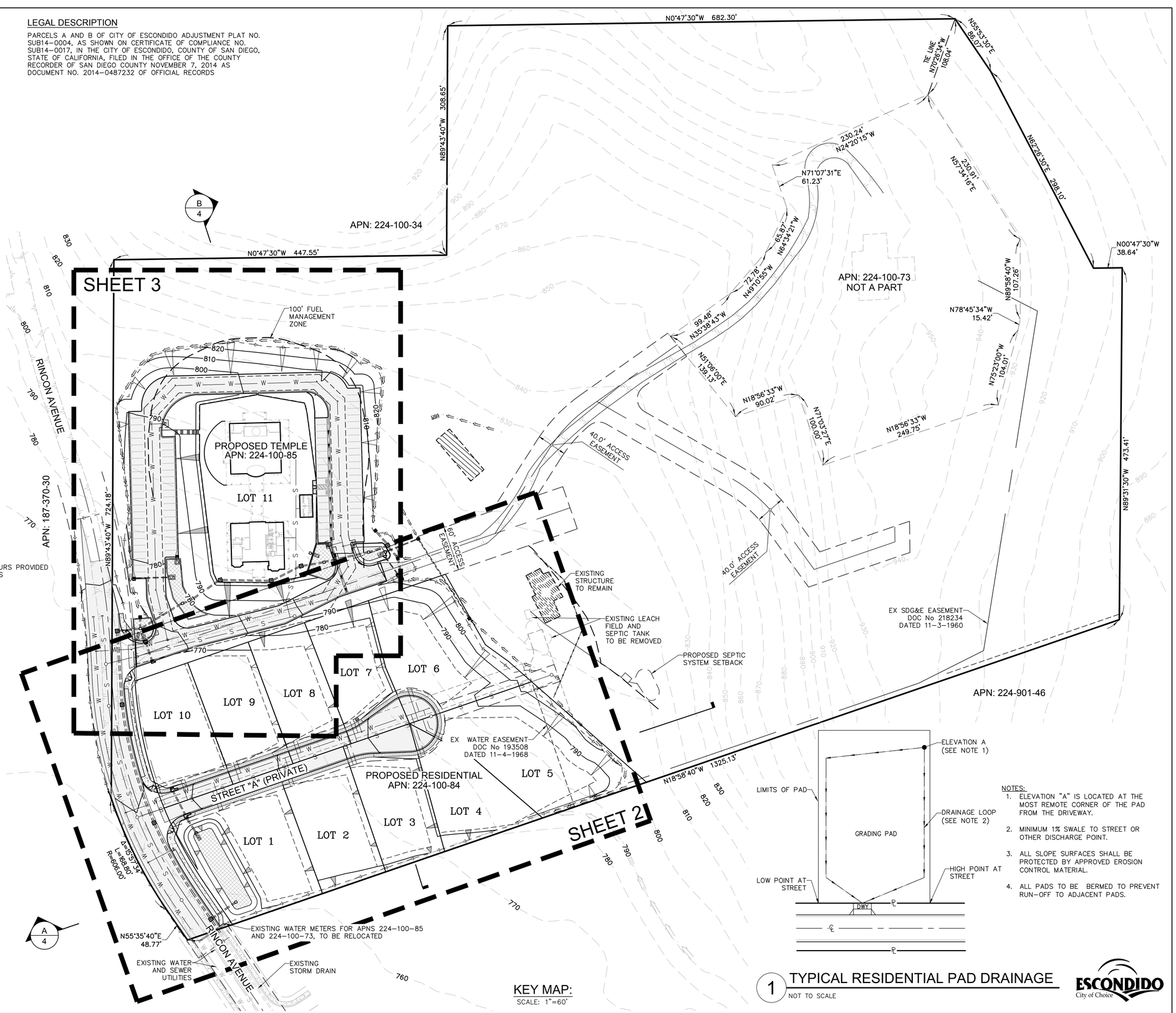
FOR EXISTING IMPROVEMENTS, UTILITIES, AND ALIGNMENT STATIONING, SEE CITY OF ESCONDIDO DWG. NO. P–1755, P–1865

REGISTERED PROFESSIONAL ENGINEER
JONATHAN RAAB RYDEEN
RCE ~ 64811
CIVIL
STATE OF CALIFORNIA

ENGINEER

JONATHAN RAAB RYDEEN

60 30 0 60 120 180
SCALE: 1" = 60'



KEY MAP:
SCALE: 1"=60'

NOTES:
1. ELEVATION "A" IS LOCATED AT THE MOST REMOTE CORNER OF THE PAD FROM THE DRIVEWAY.
2. MINIMUM 1% SWALE TO STREET OR OTHER DISCHARGE POINT.
3. ALL SLOPE SURFACES SHALL BE PROTECTED BY APPROVED EROSION CONTROL MATERIAL.
4. ALL PADS TO BE BERMED TO PREVENT RUN–OFF TO ADJACENT PADS.

1 TYPICAL RESIDENTIAL PAD DRAINAGE
NOT TO SCALE

ESCONDIDO City of Choice

REVISIONS NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232–9200 (619)232–9210 Fax

DATE: 2–19–2023
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: TM - SITE PLAN

PROJECT: KRISHNA RESIDENTIAL
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 1 OF 4 SHEETS

SAVE DATE 3/9/2023 ~ PLOT DATE 3/9/2023 ~ FILE NAME P:\Acad\1829 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan ~ 1st Submittal ~ 2023.dwg

SEE SHEET 3

B 4

PROPOSED TEMPLE
APN: 224-100-85

RINCON AVENUE

EXISTING DRIVEWAY

PROPOSED SEWER MANHOLE
762.3 RIM
754.3 IE
CLEANOUT
PROPOSED SIDEWALK
PUBLIC STREET EASEMENT
DOC NO. 2008-0145655
RECORDED MARCH 19, 2008
6" AC BERM
6" CURB, GUTTER AND SIDEWALK
VEGETATED SWALE
CONSTRUCTION CENTERLINE
PROPOSED PED RAMP
759.9 RIM
751.9 IE
PROPOSED SEWER MANHOLE
CLEANOUT
PROPOSED PED RAMP
6" AC BERM
6" CURB, GUTTER AND SIDEWALK
PROPOSED 12" WATER LINE
PROPOSED 8" SEWER LINE
PROPOSED SEWER MANHOLE
VEGETATED SWALE
CLEANOUT
CONSTRUCTION CENTERLINE
EXISTING WATER METERS FOR APNS 224-100-85 AND 224-100-73, TO BE RELOCATED
EXISTING 12" ACP CL. 150 WATER LINE PER DWG. NO. P-1755

PAD 764.0
PAD 766.0
PAD 770.0
PAD 776.0
PAD 782.0
PAD 774.0

LOT 10 0.37 AC
LOT 9 0.34 AC
LOT 8 0.33 AC
LOT 7 0.34 AC
LOT 6 0.54 AC
LOT 1 0.60 AC
LOT 2 0.38 AC
LOT 3 0.36 AC
LOT 4 0.31 AC
LOT 5 0.63 AC

PROPOSED 1" WATER SERVICE WITH WATER METER AND BACK FLOW ASSEMBLY (TYPICAL)
PROPOSED D.G. PATHWAY (TYPICAL)
PROPOSED 4" SEWER LATERAL (TYPICAL)
EXISTING TREES TO BE REMOVED (TYPICAL)
PROPOSED 24.0' WIDE PRIVATE ACCESS AND UTILITY EASEMENT
PROPOSED 56.0' WIDE PRIVATE ACCESS AND UTILITY EASEMENT
STREET "A" (PVT)
9.0%
5.5%
20.0' REAR SET BACK (TYPICAL)
10.0' SIDE SET BACK (TYPICAL)
25.0' FRONT SET BACK (TYPICAL)
2:1 MAX
BASIN 755.0 FS
PROPOSED BASIN
BASIN OUTLET STRUCTURE
758.0 RIM
750.0 IE
EX HEADWALL
PROPOSED SIDEWALK
CONNECT TO EX SD CLEANOUT
EXISTING 8" PVC SEWER LINE PER DWG. NO. P-1755
EXISTING 30" RCP STORM DRAIN PER DWG. NO. P-1865
±140 FEET TO NEAREST EXISTING HYDRANT
LIMITS OF GRADING
CONNECT TO EX BROW DITCH

LIMITS OF GRADING
EXISTING PROP LINE
EXISTING STRUCTURE TO REMAIN
TYPE "F" INLET
135' SEPTIC SETBACK
APN: 224-100-85
SEPTIC SETBACK LIMIT
EXISTING SEPTIC SYSTEM TO BE REMOVED
PUBLIC UTILITIES EASEMENT
DOC NO 2008-0146646
DATED MARCH 19, 2008
PROPOSED SEWER MANHOLE
783.7 RIM
775.7 IE
807.9 RIM
799.9 IE
TEMPORARY EMERGENCY VEHICLE EASEMENT
DOC NO 2008-0130665
DATED MARCH 12, 2008
PROPOSED SEPTIC SYSTEM RELOCATION
90' SEPTIC SETBACK
EX WATER EASEMENT
DOC No 193508
DATED 11-4-1968
EX SDG&E EASEMENT
DOC No 218234
DATED 11-3-1960

A 4

30 15 0 30 60 90
SCALE: 1" = 30'

ESCONDIDO City of Choice

REVISIONS			
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax

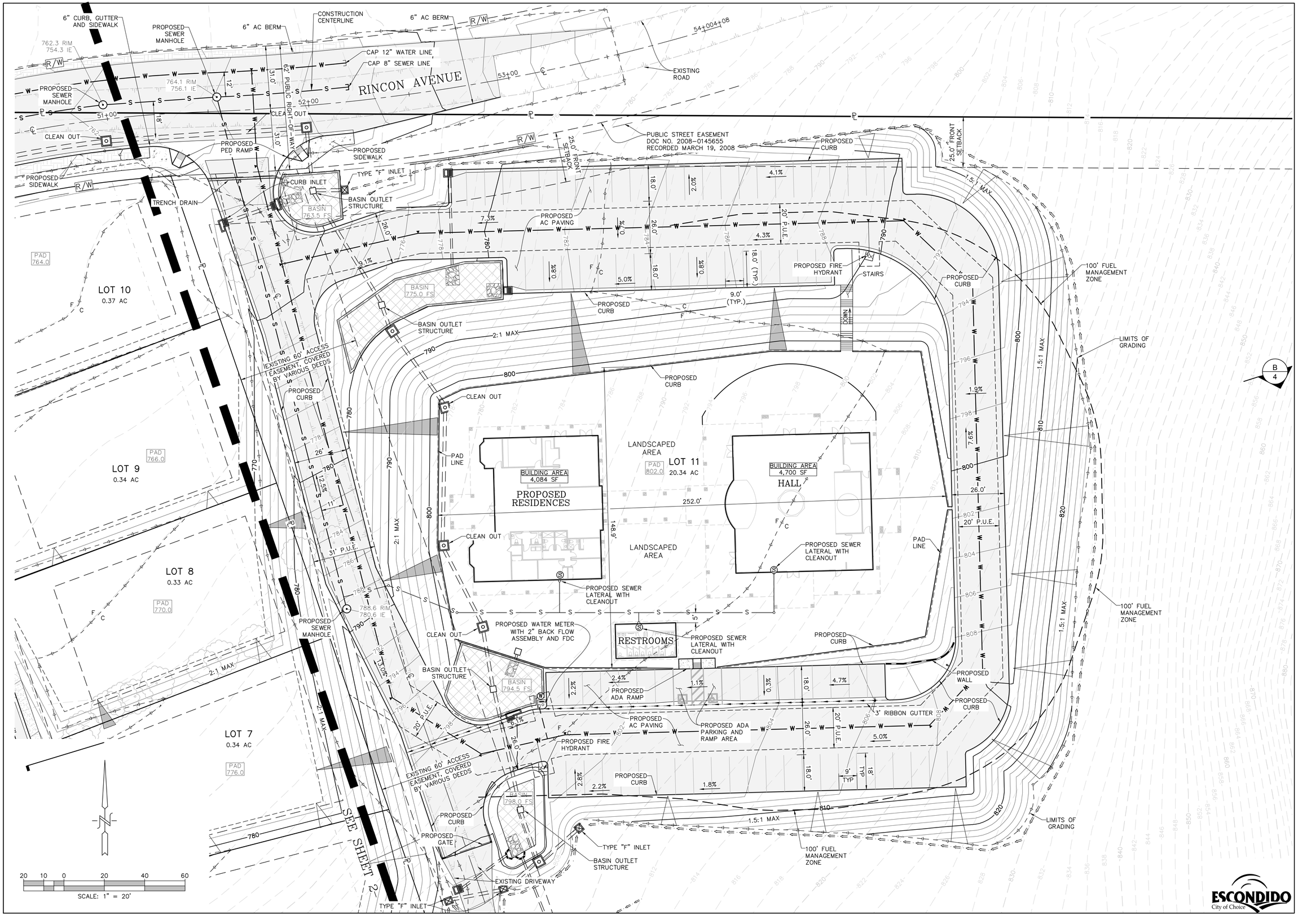
DATE: 2-19-2023
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TM - SITE PLAN

PROJECT: KRISHNA RESIDENTIAL
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 2 OF 4 SHEETS

SAVE DATE 3/9/2023 ~ PLOT DATE 3/9/2023 ~ FILE NAME P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan - 1st Submittal - 2023.dwg



NO.	DESCRIPTION	DATE	APP'D
	REVISIONS		

Civil Engineering · Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
R·E·C
Consultants, Inc.

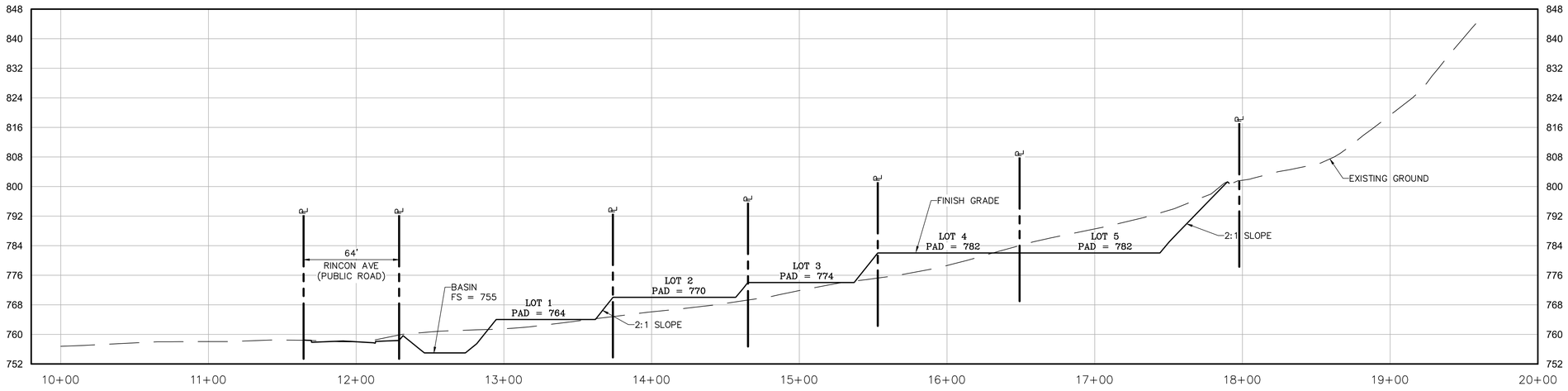
DATE: 2-19-2023
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TM - SITE PLAN

PROJECT: KRISHNA TEMPLE
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

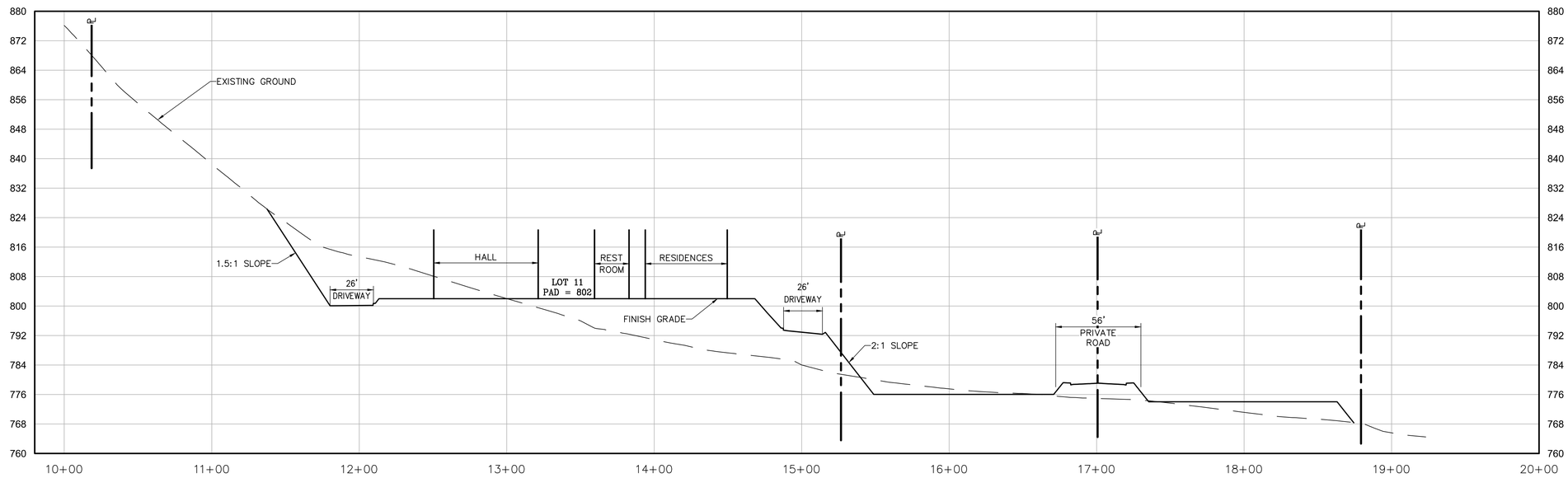
SHEET 3 OF 4 SHEETS

SAVE DATE: 3/9/2023 ~ PLOT DATE: 3/9/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan - 1st Submittal - 2023.dwg



SECTION A - CENTERLINE

SCALE: HORZ: 1" = 40'
VERT: 1" = 16'



SECTION B - CENTERLINE

SCALE: HORZ: 1" = 40'
VERT: 1" = 16'

ESCONDIDO
City of Choice

REVISIONS

NO.	DESCRIPTION	DATE	APP'D

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Civil Engineering · Environmental
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DATE: 2-19-2023
SCALE: N/A
DRAWN: JNW
CHECKED: J.R.R.

SHEET TITLE: TM - SITE PLAN

PROJECT:
KRISHNA RESIDENTIAL
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE - ESCONDIDO, CA 92026

SHEET 4 OF 4 SHEETS

SAVE DATE: 3/9/2023 ~ PLOT DATE: 3/9/2023 ~ FILE NAME: P:\Acad\1829 Iskcon Temple - Residential\Civil\Site Plan\TM - Site Plan - 1st Submittal - 2023.dwg

APPENDIX H

Noise Impact Analysis

ISKCON OF ESCONDIDO NOISE IMPACT ANALYSIS

City of Escondido

September 20, 2024

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

ISKCON OF ESCONDIDO NOISE IMPACT ANALYSIS

City of Escondido

September 20, 2024

prepared by
Roma Stromberg, INCE, MS
Catherine Howe, MS

GANDDINI GROUP INC.
555 Parkcenter Drive, Suite 225
Santa Ana, CA 92705
(714) 795-3100 | ganddini.com

Project No. 19648

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EXECUTIVE SUMMARY

The project site is located at 1315 and 1356 Rincon Avenue in the City of Escondido, California.

The proposed project involves a subdivision of two existing parcels into 11 parcels, with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple.

Existing Noise Environment

Sensitive receptors that may be affected by project generated noise include the existing single-family residential uses located adjacent to the west, approximately 236 feet (~72 meters) to the northwest, and 31 feet (~9 meters) to the north of the project site boundaries. In addition, two existing single-family residences with associated agricultural uses are also located within the southern portion of the project boundaries but are not a part of the project.

Measured short-term ambient noise levels in the project vicinity ranged between 42.7 and 53.1 dBA L_{eq}. The dominant noise source in the project vicinity was residential activity including the use of gardening and power tool equipment and dogs barking.

Construction Noise Impacts

Modeled construction noise levels are expected to reach up to 71.8 dBA L_{eq} at the nearest residential receptor and 72.4 at the nearest agricultural/commercial receptor. Project construction will not occur outside of the hours outlined as "exempt" in City of Escondido Municipal Code Section 7-234 and will not exceed the City's 75 dBA L_{eq} noise standard. Therefore, the project would not exceed City-established standards relating to construction noise. The project impact is less than significant; no mitigation is required.

Notwithstanding the above, best management practices (BMPs) are provided in the Project Description and should be added to project plans and in contract specifications to minimize construction noise emanating from the proposed project.

Operational Noise - Mobile Noise Sources

The addition of project trips is not expected to change noise levels more than the applicable threshold at any of the study roadway segments (see Table 11). The project impact is less than significant; no mitigation is required.

Operational Noise – Stationary Noise Sources

Existing measured noise levels near receptors that may be affected by project noise range between 43 and 53 dBA L_{eq}; and project generated noise is expected to range between 0 and 32 dBA L_{eq}. Project generated noise would not cause a violation of the daytime standard of (50 dBA L_{eq}) or the nighttime noise standard (45 dBA L_{eq}) at the surrounding residential land uses. Furthermore, project operation would not noticeably increase ambient noise levels. This impact would be less than significant. No mitigation is required.

Impacts to the Project– Future Traffic

Future roadway noise levels are not anticipated to exceed 70 dB CNEL are at the nearest proposed residential property. The project impact is less than significant; no mitigation is required.

1. INTRODUCTION

This section describes the purpose of this study and the proposed project.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development and operation of the proposed project and to identify mitigation measures that may be necessary to reduce potentially significant impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state, and local policies, including those of the City of Escondido, in the context of the California Environmental Quality Act (CEQA).

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise and vibration analysis.

PROJECT LOCATION

The project site is located at 1315 and 1356 Rincon Avenue in the City of Escondido, California. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves a subdivision of two existing parcels into 11 parcels, with ten lots for single-family dwelling units and one lot for an approximately 11,767 square foot temple. Figure 2 illustrates the project site plan.

The following best management practices (BMPs) shall be provided on project plans and in contract specifications to minimize construction noise emanating from the proposed project:

1. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

2. As applicable, all equipment shall be shut off when not in use.

3. To the degree possible, equipment staging will be located in acres that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.

4. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away and shielded from existing residences in the vicinity of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding should be without holes and cracks.

5. No amplified music and/or voice will be allowed on the project site.

6. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City of Escondido Municipal Code Section 7-234.

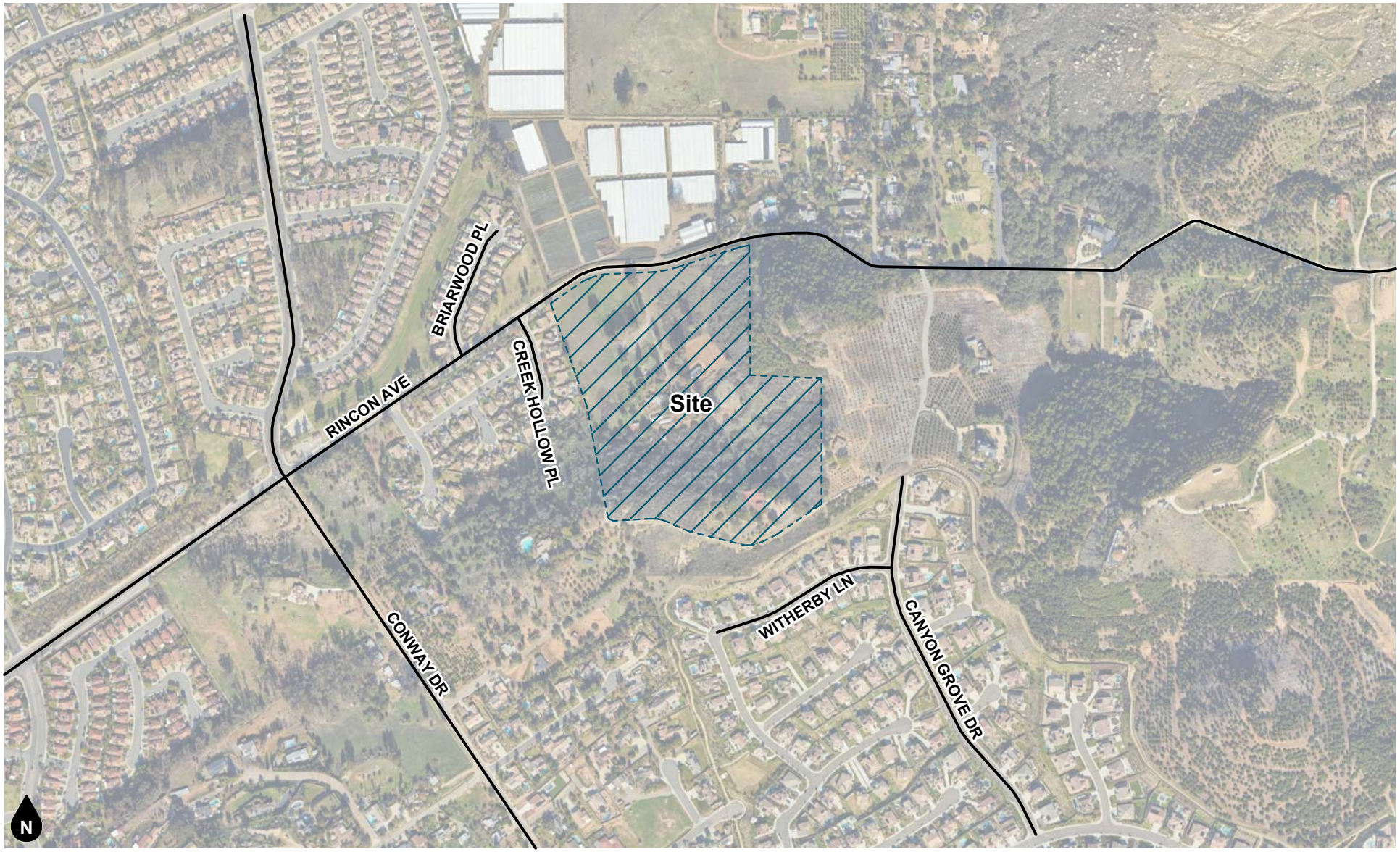


Figure 1
Project Location Map

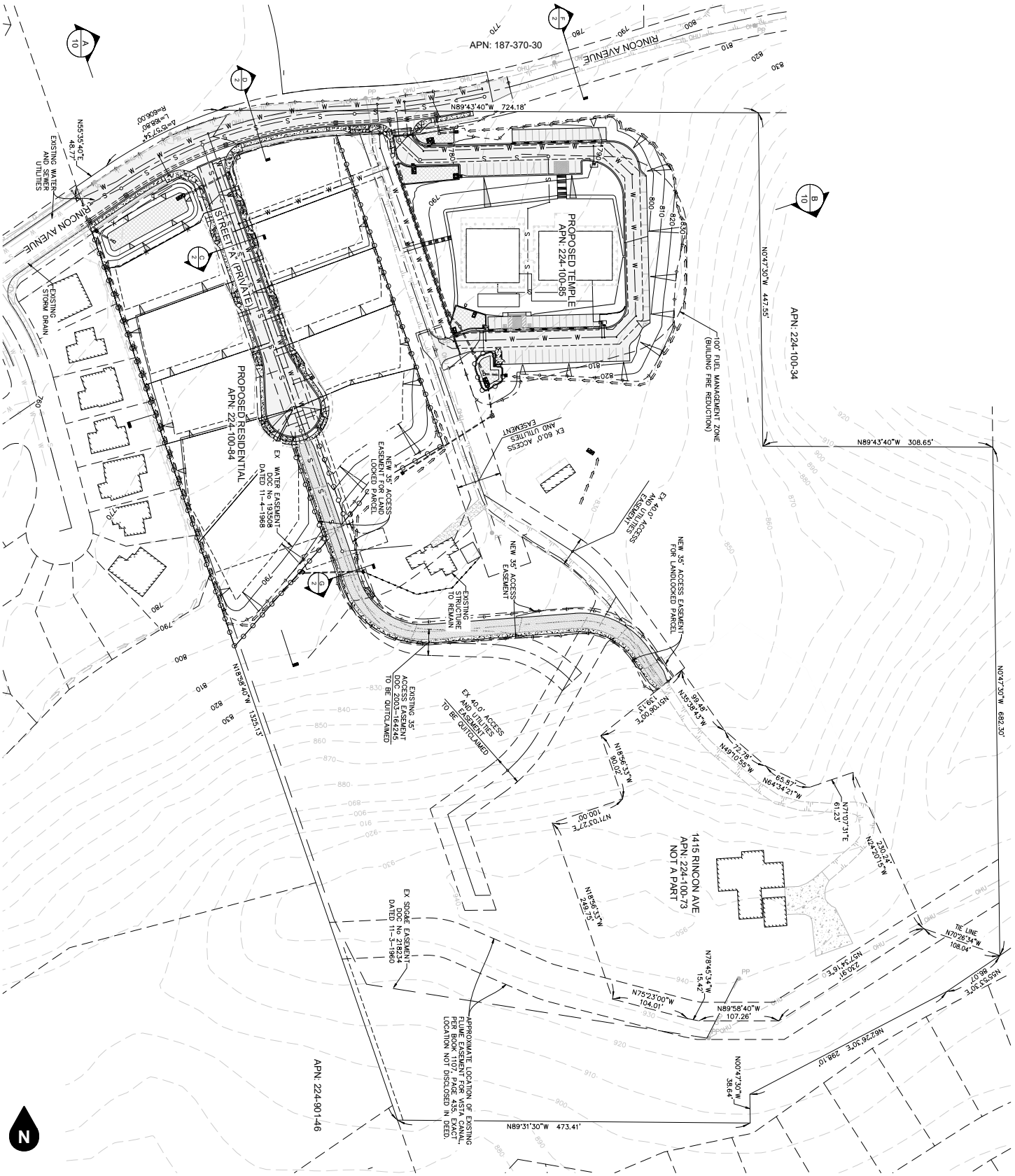


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

This section provides an overview of key noise and vibration concepts.

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

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 effects, and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weighs only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

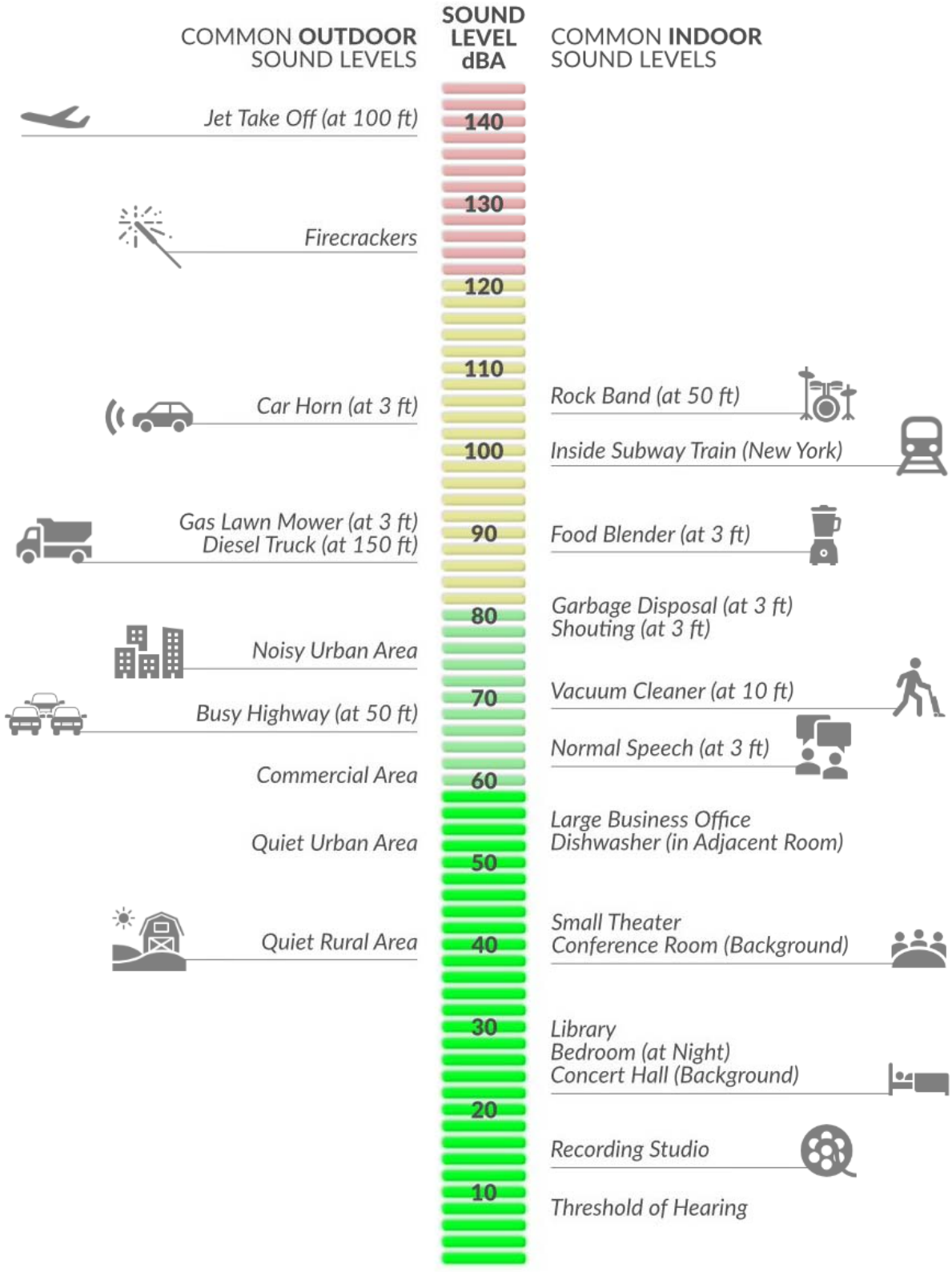
The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which

waves travel. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Raleigh 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. Compression waves, or P-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. Shear waves, or S-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 energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

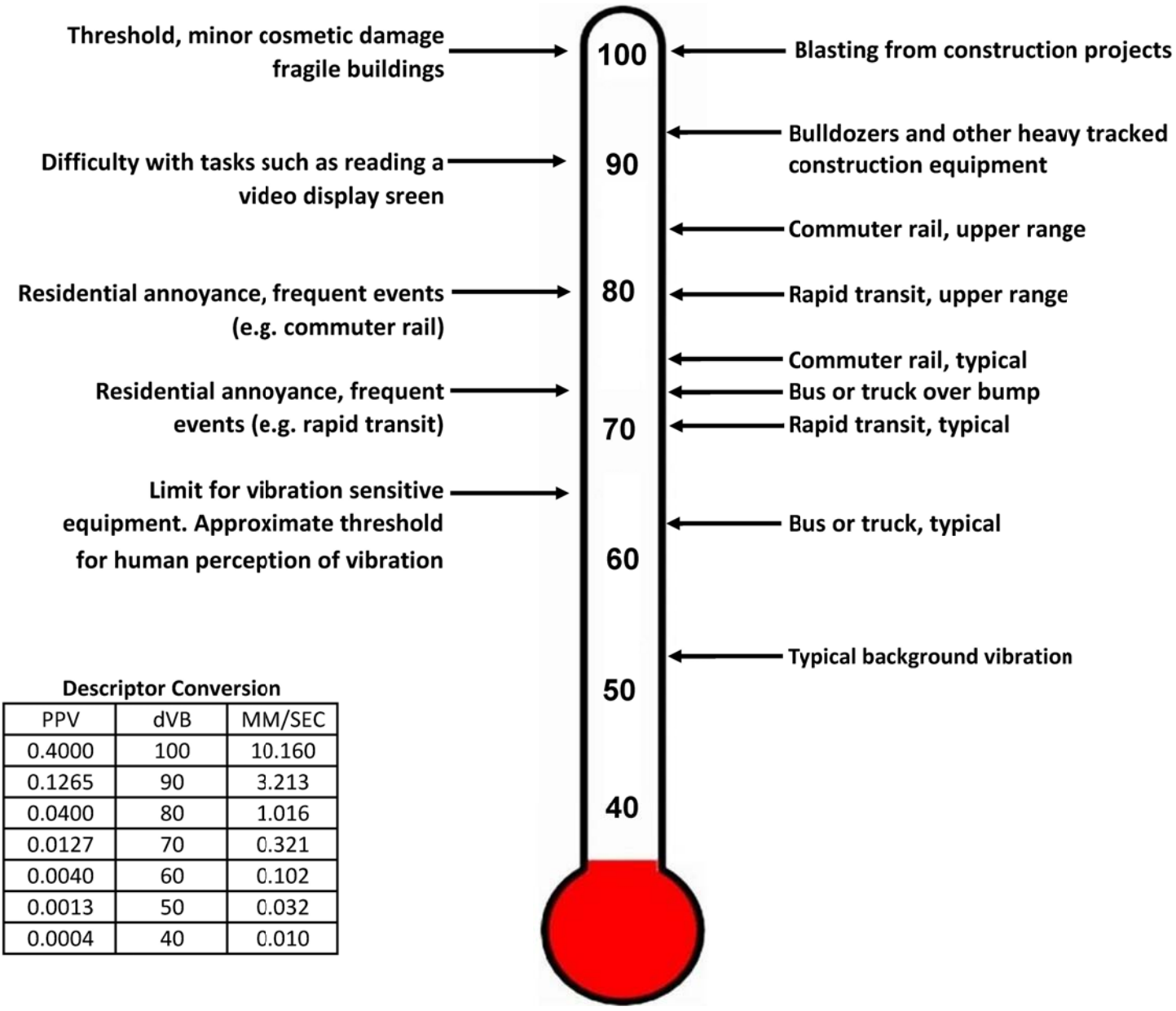
Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.



Based on Policy & Guidance from Federal Aviation Administration

Figure 3
A-Weighted Comparative Sound Levels



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

This section describes the existing noise setting in the project vicinity.

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by Rincon Avenue to the north, vacant land and a single-family residential use to the east, single-family residential uses to the west, and Vista Canal to the south of the project site.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the existing single-family residential uses located adjacent to the west, approximately 236 feet (~72 meters) to the northwest, and 31 feet (~9 meters) to the north of the project site boundaries. In addition, two existing single-family residences with associated agricultural uses are also located within the southern portion of the project boundaries but are not a part of the project.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, seven (7) 15-minute daytime noise measurements were taken between 12:31 PM and 4:21 PM on September 14, 2023. Figure 5 shows the noise measurement location map. Field worksheets and noise measurement worksheets are provided in Appendix C.

As shown in Figure 5, the noise meter was placed at the following locations:

- NM1: represents the existing noise environment of the residential uses located to the west of the boundaries of the project site (2276 Creek Hollow Place, Escondido). The noise meter was placed just west of the residential use.

- NM2: represents the existing noise environment of the residential uses located to the northwest of the boundaries of the project site (2336 Briarwood Place, Escondido). The noise meter was placed just west of the residential use.

- NM3: represents the existing noise environment of the residential use located to the northeast of the boundaries of the project site (1448 Rincon Avenue, Escondido). The noise meter was placed just south of the residential use.

- NM4: represents the existing noise environment of the residential to the east of the project site boundaries (1643 Rincon Avenue, Escondido). The noise meter was placed south of Rincon Avenue along the access road to the residential use.

- NM5: represents the existing noise environment of the residential use located at the southeastern corner of the project site (1415 Rincon Avenue, Escondido). The noise meter was just south of the residential use along the access road.

- NM6: represents the existing noise environment of the residential uses located to the south of the boundaries of the project site (1149 Witherby Lane, Escondido). The noise meter was placed just south of the residential use.

- NM7: represents the existing noise environment of the residential use located to the southwest of the boundaries of the project site along Orane Blossom Way. The noise meter was placed just northeast of Orange Blossom Way and southeast of the residential dwelling unit.

Table 1 provides a summary of the short-term ambient noise data. Ambient noise levels were measured between 42.7 and 53.1 dBA L_{eq}. The dominant noise source was residential activity including the use of gardening and power tool equipment and dogs barking.

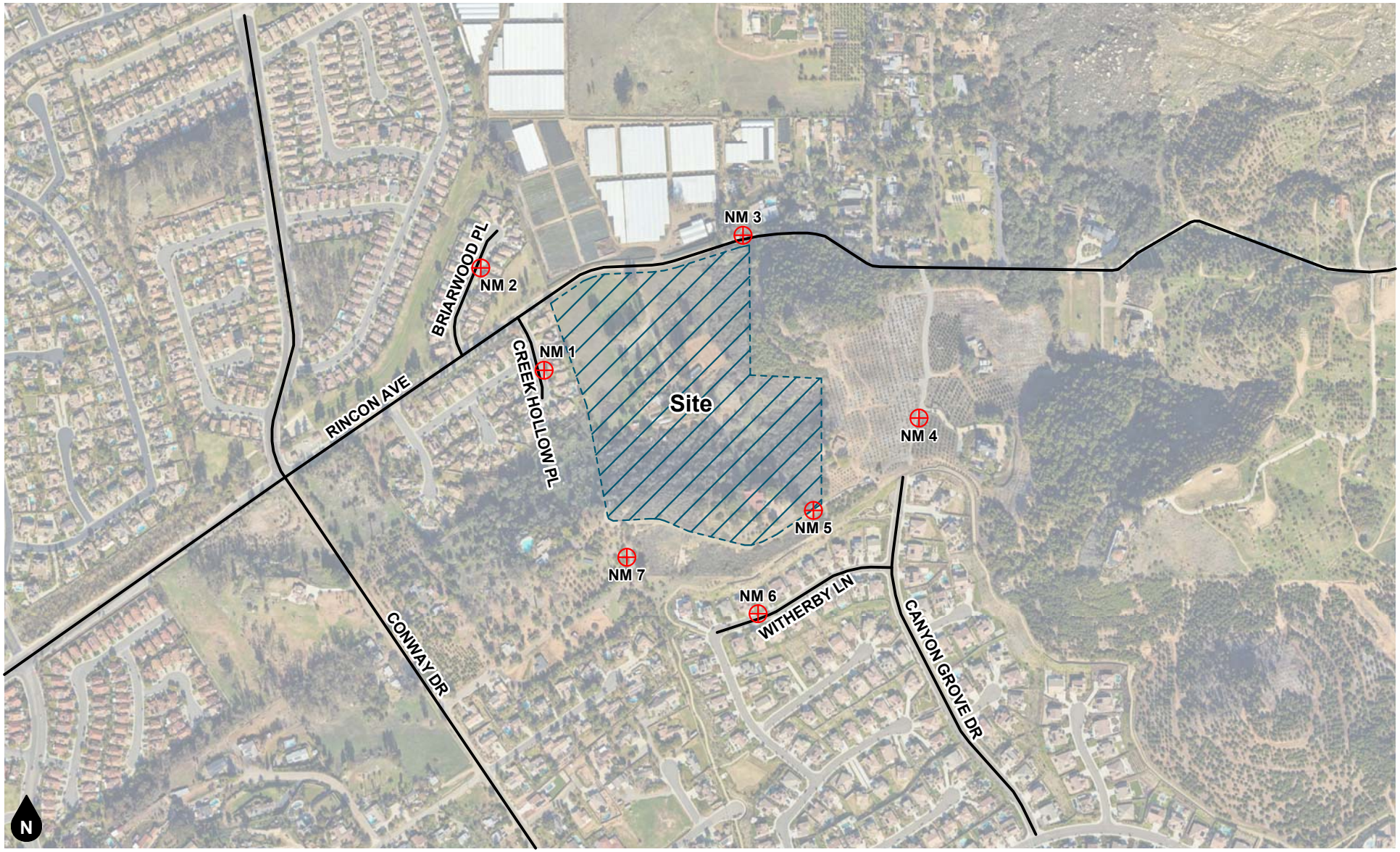
Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
NM1	12:31 PM	51.2	63.3	38.3	58.6	55.7	51.8	48.5
NM2	1:01 PM	49.5	61.7	36.0	57.7	54.5	48.1	45.9
NM3	1:37 PM	53.1	73.7	35.7	62.6	52.4	46.8	42.6
NM4	2:09 PM	44.1	60.1	39.5	50.7	46.6	44.0	41.9
NM5	2:37 PM	42.9	54.7	35.6	51.4	46.6	42.7	40.0
NM6	4:06 PM	48.4	64.8	33.8	58.5	53.4	45.1	40.4
NM7	3:10 PM	42.7	53.7	37.4	48.4	45.9	43.0	41.3

Notes:

(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.

(2) Noise measurements performed on September 14, 2023.



Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

Federal Transit Administration (FTA)

Ground-borne noise refers to the noise generated by ground-borne vibration. Ground-borne noise that accompanies the building vibration is usually perceptible only inside buildings and typically is only an issue at locations with subway or tunnel operations where there is no airborne noise path or for buildings with substantial sound insulation such as a recording studio.[1] As such, available guidelines from the Federal Transit Administration (FTA) are utilized to assess impacts due to ground-borne vibration. The FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. As shown in Table 2, the threshold at which there is a risk to "architectural" damage to reinforced concrete, steel, or timber (no plaster) buildings is a peak particle velocity (PPV) of 0.5, at engineered concrete and masonry (no plaster) buildings a PPV of 0.3, at non-engineered timber and masonry buildings a PPV of 0.2 and at buildings extremely susceptible to vibration damage a PPV of 0.1.

The FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories:

(1) Vibration Category 1 – High Sensitivity,

(2) Vibration Category 2 – Residential, and

(3) Vibration Category 3 – Institutional.

The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference. The vibration criteria associated with human annoyance for these three land-use categories are shown in Table

[1] Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2018, pp 108, 112.

3. Table 3 shows that 80 VdB is the threshold for annoyance from groundborne vibration at sensitive receptors.

Therefore, impacts related to building damage would be significant if construction activities result in groundborne vibration of 0.2 PPV or higher at residential structures and/or a PPV of 0.3 or higher at commercial structures. Impacts related to human annoyance would be significant if they result in groundborne vibration levels that exceed 80 VdB at sensitive receptor locations.

STATE REGULATIONS

California Code of Regulations

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2 and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, including residential buildings, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dB CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings the acceptable interior noise limit for new construction is 45 dB CNEL

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project.

LOCAL REGULATIONS

City of Escondido General Plan

The City of Escondido General Plan Community Protection Element contains goals and policies that address noise. The goals and policies from the City of Escondido General Plan Community Protection Element that are applicable to the proposed project are present below:

Goal 5 Protection of the community from excessive noise exposure.

Policy 5.1 Require development to meet acceptable exterior noise level standards as established in Table 4 and use the future noise contour map (FigureVI-17 of the City's General Plan) as a guide for evaluating the compatibility of new noise sensitive uses with projected noise levels. Noise shall be controlled at the source where possible.

Policy 5.2 Apply a CNEL of 60 dB or less for single family and 65 dB or less for multi-family as goals where outdoor use is a major consideration (back yards and single-family housing developments, and recreation areas in multifamily housing developments) as discussed in Figure VI-13 of the City's General Plan and recognize that such levels may not necessarily be achievable in all residential areas.

Policy 5.5 Require construction projects and new development to ensure acceptable vibration levels at nearby noise-sensitive uses based on Federal Transit Administrator criteria.

Policy 5.6 Require the preparation of noise studies, as deemed necessary by the Planning Department, to analyze potential noise impacts associated with new development which could significantly alter existing noise levels in accordance with provisions outlined in Figure VI-14 of the City's General Plan.

Policy 5.7 Encourage use of site and building design, noise barriers, and construction methods as outlined in Figure VI-15 of the City's General Plan to minimize impacts on and from new development.

Policy 5.10 Require development projects that are subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.

Policy 5.11 Limit direct access from individual properties along Major Roads and Prime Arterials in residential areas in order to minimize gaps in nose barrier sound walls.

City of Escondido Municipal Code

The City addresses noise in Article 12 Noise Abatement and Control of its Municipal Code. These ordinances are summarized below.

Section 17-229. Sound level limits.

a) Unless a variance has been applied for and granted pursuant to this article, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth in the Table 5, except that construction noise level limits shall be governed by Section 17-234 of this article.

b) Maximum Permissible Sound Levels by Receiving Land Use.

1) The noise standards for the various categories of land use as presented in subsection (a) of this section shall, unless otherwise specifically indicated, apply to each property or portion of property substantially used for a particular type of land use reasonably similar to the land use types shown in subsection (a) of this section. Where two (2) or more dissimilar land uses occur on a single property, the more restrictive noise limits shall apply.
2) Additional land use classifications may be added by action of the city council to reflect both lower and higher existing ambient levels than those shown.
3) Where doubt exists when making identification of receiving land use, the city manager shall make an interpretation.
4) No person shall operate or cause to be operated, any source of sound at any location within the city or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level to exceed the

environmental and/or nuisance interpretation of the applicable limits given in subsection (a) of this section.

5) Environmental noise shall be measured by the equivalent sound level (Leq) for such hours as are specified; Nuisance noise shall be measured as a sound level not to be exceeded at any time; Sound levels by receiving land use shall be measured at the boundary or at any point within the boundary of the property affected; Fixed location public utility distribution or fixed transmission facilities, located on or adjacent to a property line shall be subject to noise level limits of this section measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

c) Corrections to Exterior Noise Level Limits.

1) If the noise is continuous, the Leq for any hour will be represented by any lesser time period within that hour. Noise measurements of a few minutes only will thus suffice to define the noise level.
2) If the noise is intermittent, the Leq for any hour may be represented by a time period typical of the operating cycle. Measurement should be made of a representative number of noisy/quiet periods. A measurement period of not less than fifteen (15) minutes is, however, strongly recommended when dealing with intermittent noise.
3) In the event the alleged offensive noise, as judged by the enforcement officer, contains a steady, audible sound such as a whine, screech, or hum, or contains a repetitive impulsive noise such as hammering or riveting, the standard limits set forth in Table 17-229 shall be reduced by ten (10) dB or to the ambient noise level when such noises are not occurring.
4) If the measured ambient level exceeds that permissible in subsection (a) of this section, the allowable noise exposure standard shall be the ambient noise level. The ambient level shall be measured when the alleged noise violations source is not operating.
5) The sound level limit at a location on a boundary between two (2) land use classifications is the limit applicable to the receiving land use; provided, however, that the one-hour average sound level limit applicable to extractive industries including but not limited to borrow pits and mines, shall be seventy-five (75) decibels (dB) at the property line regardless of the zone where the extractive industry is actually located. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

Section 17-232. Refuse vehicles and parking lot sweepers.

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or parking lot sweeper between the hours of ten (10) PM to six (6) AM in or adjacent to any residential zone unless a variance has been applied for and granted pursuant to this article.

Section 17-234. Construction equipment.

Except for emergency work, it shall be unlawful for any person, including the City of Escondido, to operate construction equipment as follows:

a) It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site, except on Monday through Friday during a week between the hours of seven 7:00 AM and 6:00 PM and on Saturdays between the hours of 9:00 AM and 5:00 PM, and provided that the operation of such construction equipment complies with the requirements of subsection (d) of this section.
b) It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site on Sundays and on days designated by the president, governor, or city council as public holidays.

c) A person may operate construction equipment at his/her residence or for the purpose of constructing or modifying a residence for himself/herself on Monday through Friday of a week between the hours of 7:00 AM and 6:00 PM, and on Saturdays, Sundays, and holidays between the hours of 9:00 AM and 5:00 PM; provided, that such operation of construction equipment is not carried on for profit or livelihood and complies with the requirements of subsection (d) of this section.
d) No construction equipment or combination of equipment, regardless of age or date of acquisition, shall be operated so as to cause noise in excess of a one-hour average sound level limit of seventy-five (75) dB at any time, unless a variance has been obtained in advance from the city manager.
e) Persons engaged in construction for profit or as a business shall post signs at conspicuous places on a construction site, indicating hours of work as prescribed by this article or authorized by permit and the applicable noise level limits.

Section 17-237. Landscape equipment.

It shall be unlawful for any person, including the City of Escondido to use any motorized landscape equipment, including but not limited to power blowers and vacuums, which causes a disturbing, excessive, or offensive noise as defined under section 17-227 (k) of this article.

Section 17-238. Grading.

a) It shall be unlawful for any person, including the City of Escondido, to do any authorized grading at any construction site, except on Mondays through Fridays during a week between the hours of 7:00 AM and 6:00 PM and, provided a variance has been obtained in advance from the city manager, on Saturdays from 10:00 AM to 5:00 PM.
b) For the purpose of this section, "grading" shall include but not be limited to compacting, drilling, rock crushing or splitting, bulldozing, clearing, dredging, digging, filling, and blasting.
c) In addition, any equipment used for grading shall not be operated so as to cause noise in excess of a one-hour sound level limit of seventy-five (75) dB at any time when measured at or within the property lines of any property which is developed and used in whole or in part for residential purposes, unless a variance has been obtained in advance from the city manager.

Section 17-240. General noise regulations.

a) General Prohibitions. In the absence of objective measurement by use of a sound level meter, it additionally shall be unlawful for any person to make, continue or cause to be made or continued, within the limits of said city, any disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity.

   The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

   6) Schools, Courts, Churches, Hospitals. The creation of any *noise* on any street, sidewalk or public place adjacent to any school, institution of learning (except recreational areas of schools), church, court, library or other *noise*-sensitive zone, while the same are in use, or adjacent to a hospital, rest home, or long-term medical or mental care facility which *noise* interferes with the workings of such institution or which disturbs or annoys patients in the hospital, rest home, or long-term medical or mental care facility, provided conspicuous signs are displayed in such streets, sidewalks or public places indicating the presence of a school, institution of learning, church, court, library, rest home, long-term medical or mental care facility, or other *noise*-sensitive zones, is prohibited.

9) Loading, Unloading Vehicles—Opening, Destroying Bales, Boxes. The creation of a loud and excessive *noise* in connection with loading or unloading any vehicle or the opening and destruction of bales, boxes, crates, and containers is a violation of this article.

12) Pile Drivers, Pneumatic Hammers, etc. No person shall operate between the hours of 6:00 PM and 7:00 AM on weekdays, or on Saturdays, Sundays or any legal holidays, any pile driver, pneumatic hammer, derrick, or other similar appliance, the use of which is attended by loud or unusual *noise*, unless a variance has been obtained in advance from the city manager.

Table 2
Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate Lv*
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 extemely susceptible to vibration damage	0.1	90

Notes:

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018).

*RMS velocity in decibels, VdB re 1 micro-in/sec

Table 3
Ground-Borne Vibration (GBV) Impact Criteria for General Vibration Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB*	65 VdB*	65 VdB*
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Notes:
Source:Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018).
*This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical

Table 4
Land Use Noise Exposure Levels

Land Use Category	Community Noise Exposure Ldn or CNEL, dBA 55	60	65	70	75	80
Residential-Single Family, Duplex, Mobile Home						
Residential-Multi-Family, Residential Mixed Use						
Transient Lodging, Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Businesses, Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

Source: City of Escondido General Plan Community Protection Element Figure VI-12 (May 2012).

Normally Acceptable: Specified land use is satisfactory based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation or requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Table 5
City of Escondido Sound Level Limits

Zone	Time	Applicable Limit One-hour Average Sound Level (Decibels)
Residential Zones	7:00 AM to 10:00 PM	50
	10:00 PM to 7:00 AM	45
Multi-Residential Zones	7:00 AM to 10:00 PM; 10:00 PM to 7:00 AM	55, 50
Commercial Zones	7:00 AM to 10:00 PM	60
	10:00 PM to 7:00 AM	55
Light Industrial/ Industrial Park Zones	Anytime	70*
General Industrial Zones	Anytime	75*

Notes:
(1) Source: City of Escondido Municipal Code Section 17-229.
*Subject to provisions of Ection 17-229(c)(5)

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (2018) together with several key construction parameters, including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the project site.

The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the California Emissions Estimator Model (CalEEMod) modeling provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2023). For analysis purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors are provided in Table 6. Construction noise worksheets are provided in Appendix D.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model project operational worst-case stationary noise impacts from the proposed project to adjacent sensitive uses (e.g., residences) as well as to estimate future traffic generated noise at the proposed sensitive receptors. SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, heating, and ventilation systems (HVAC) drive-thru menus, car wash equipment, vacuums, etc.). The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix E.

Transportation Noise Impacts to Proposed Residential Land Uses

Anticipated future noise associated with Rincon Avenue was modeled considering that the City of Escondido General Plan Mobility and Infrastructure Element has identified it as a local collector that has the capacity to handle 15,000 average daily trips. The Riverside County General Plan vehicle mix of 97.4, 1.85, and 0.75 was utilized along with a speed of 40 mph (as posted). These are worst-case conditions.

On-Site Operational Noise

Peak hour operational noise levels were modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include parking lot noise and HVAC equipment noise. All noise sources were modeled to be in full operation for an entire hour.

Parking Lot Noise

Parking lot noise was calculated using SoundPLAN methodology. Specifically, the traffic volume of the parking lot is entered with the number of moves per parking space, the hour, and the number of parking

bays. The user defines whether the parking lots are for automobiles, motorcycles, or trucks, and the emission level of a parking lot is automatically adjusted accordingly. The values for the number of parking moves for each time slice is the number of parking moves per reference unit (most often per parking bay), averaged for the hour[2].

SoundPLAN utilizes parking lot noise emission levels from the 6th revised edition of the parking lot study "Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations as well as of Multi-Story Car Parks and Underground Car Parks" published by the Bavarian Landesamt für Umwelt provides calculation methods to determine the emissions of parking lots.

The parking lot emission table documents the reference level (Lw, ref) from the parking lot study.

Lw, ref = Lw0 + KPA + KI + KD + KStrO + 10 log(B) [dB(A)]

With the following parameters:

Lw0 = Basic sound power, sound power level of one motion / per hour on P+R areas = 63 dB(A)
KPA = Surcharge parking lot type
KI = Surcharge for impulse character
KD = Surcharge for the traffic passaging and searching for parking bays in the driving lanes 2,5 * lg (f * B - 9)
f = Parking bays per unit of the reference value
B = Reference value
KStrO = Surcharge for the road surface
B = Reference value

Mechanical Equipment (HVAC Units) Noise

A noise reference level of 67.7 dBA at 3 feet (sound power level of 78.7 dB) was utilized to represent rooftop 5 Ton Carrier HVAC units[3]. A rooftop HVAC plan is not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 8 rooftop units were modeled on the proposed rooftops.

OFFSITE MOBILE SOURCE NOISE MODELING

Noise from vehicular traffic was projected using a computer program that replicates the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Project average daily traffic volumes for all roadway segments obtained from the Project Specific Scoping Plan prepared by LOS Engineering, Inc (September 20, 2023). Existing average daily traffic volumes obtained from the SANDAG Transportation Forecast Center.[4] Key model parameters and REMEL adjustments are presented below:

- Roadway classification (e.g., freeway, major arterial, arterial, secondary, collector, etc.)
- Roadway active width (distance between the center of the outer most travel lanes on each side of the roadway)
- Average Daily Traffic (ADT) Volumes, Travel Speeds, Percentages of automobiles, medium trucks and heavy trucks
- Roadway grade and angle of view
- Site conditions (e.g., soft vs. hard)
- Percentage of total ADT which flows each hour throughout a 24-hour period.

[2] SoundPLAN Essential 4.0 Manual. SoundPLAN International, LLC. May 2016.

[3] MD Acoustics, LLC Noise Measurement Data for RTU –Carrier 50TFQ0006.

[4] SANDAG Transportation Forecast Center. Version ABM2+/2021RP and year 2016 obtained at https://experience.arcgis.com/experience/81b2daca1827470ca8beeb4708139f79/.

Table 7 shows the roadway volumes, speeds, and site conditions used in the analysis. The following outlines key adjustments made to the REMEL for project site parameter inputs:

- Vertical and horizontal distances (sensitive receptor distance from noise source)
- Noise barrier vertical and horizontal distances (noise barrier distance from sound source and receptor).
- Traffic noise source spectra
- Topography

Traffic noise levels were calculated at the right-of-way based on distance from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the modeled noise levels are shown for comparative purposes only to show the difference between with and without project conditions. The traffic noise calculation worksheets are included in Appendix F.

GROUNDBORNE VIBRATION MODELING

Groundborne vibration modeling was performed using vibration propagation equations and construction equipment source levels obtained from the FTA *Transit Noise and Vibration Impact Assessment Manual* (2018). Table 8 shows typical vibration levels associated with commonly used construction equipment based on data from the FTA.

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 8, a vibratory roller could generate up to 0.21 in/sec PPV at and operation of a large bulldozer could generate up to 0.089 PPV at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 in/sec PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^{n}$$

Where: PPV_{ref} = *reference PPV at 25ft.*
D_{rec} = *distance from equipment to receiver in ft.*
n = 1.5 (*the value related to the attenuation rate through ground*)

Groundborne vibration calculations are provided in Appendix G.

Table 6 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 6 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

Table 7
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
North Broadway	North of Rincon Avenue	6,900	6,909	40	Hard
	South of Rincon Avenue	4,200	4,245	40	Hard
North Ash Street	South of Rincon Avenue	3,900	3,909	35	Hard
Conway Drive	South of Rincon Avenue	1,200	1,209	35	Hard
Rincon Avenue	West of North Broadway	8,400	8,507	40	Hard
	North Broadway to North Ash Street	6,300	6,461	40	Hard
	North Ash Street to Conway Drive	5,000	5,170	40	Hard
	East of Conway Drive	3,000	3,179	40	Hard

Vehicle Distribution (Light Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM-7 PM)	Evening % (7 PM-10 PM)	Night % (10 PM-7 AM)
Automobiles	75.56	13.96	10.49
Medium Trucks	48.91	2.17	48.91
Heavy Trucks	47.30	5.41	47.30

Notes:

(1) Project average daily traffic volumes for all roadway segments obtained from the Project Specific Scoping Plan prepared by LOS Engineering, Inc (September 20, 2023). Existing average daily traffic volumes obtained from the SANDAG Transportation Forecast Center at https://experience.arcgis.com/experience/81b2daca1827470ca8beeb4708139f79/. Utilized Version ABM2+/2021RP and year 2016 for existing average daily traffic volumes in the SANDAG Transportation Forecast Center.

(2) As no vehicle mix data for San Diego County is available, the existing and project vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 8
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

6. NOISE AND VIBRATION IMPACTS

This section analyzes the significance of project-related noise and groundborne vibration impacts relative to standards established by the City of Escondido and other applicable agencies in the context of CEQA. Appendix G of the California Environmental Quality Act Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations) includes an environmental checklist that identifies issues upon which findings of significance should be made. The CEQA Environmental Checklist Appendix G, XIII. Noise, requires determination if the project would result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
b) Generation of 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 area to excessive noise levels?

NOISE IMPACTS

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Less Than Significant

In relation to the Environmental Checklist noise issue "a", applicable standards established by the City of Riverside can be categorized into the following areas:

- Construction Noise
- Mobile Source Noise
- Operational Noise

Construction Noise

Construction noise is regulated within City of Escondido Municipal Code Section 17-234 (see Regulatory Setting section of this report). Accordingly, the project would result in a significant impact if:

- Project construction occurs outside the hours of 7:00 AM to 6:00 PM on Monday through Friday; 9:00 AM and 5:00 PM on Saturdays; or at any time on Sundays and days designated as a public holiday; or,

- Project construction equipment or combination of equipment exceeds a one-hour average sound level limit of seventy-five (75) dB at any time (unless a variance has been obtained in advance from the city manager).

Project construction noise levels at nearby sensitive receptors were calculated using the FTA methodology. Construction noise modeling worksheets for each phase are provided in Appendix D. Anticipated noise levels during each construction phase are presented in Table 9. Project construction will not occur outside of the hours outlined in Section 17-234 of the City's Municipal Code. Based on the modeled construction noise levels, construction noise levels are estimated to reach 71.8 dBA L_{eq} at the nearest residential property line and 72.4 at the nearest agricultural/commercial property line. Therefore, the project would not exceed

City-established standards relating to construction noise. The project impact is less than significant; no mitigation is required.

Notwithstanding the above, best management practices (BMPs) are provided in the Project Description and should be added to project plans and in contract specifications to minimize construction noise emanating from the proposed project.

Mobile Source Noise

California courts have rejected use of what is effectively a single "absolute noise level" threshold of significance (e.g., exceed 65 dBA CNEL) on the grounds that the use of such a threshold fails to consider the magnitude or severity of increases in noise levels attributable to the project in different environments (see *King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814). California courts have also upheld the use of "ambient plus increment" thresholds for assessing project noise impacts as consistent with CEQA, noting however, that the severity of existing noise levels should not be ignored by incorporating a smaller incremental threshold for areas where existing ambient noise levels were already high (see *Mission Bay Alliance v. Office of Community Investment and Infrastructure* (2016) 6 Cal.App.5th 160).

Project Generated Mobile Source Noise

As stated in the City of Escondido General Plan, Downtown Specific Plan and Climate Action Plan Environmental Impact Report (EIR) (April 2012), the city considers an increase in noise levels of 5 dB or greater as generating a significant impact.

Project Operational Mobile Source Noise

Roadway noise levels were calculated at roadways included in the project specific traffic scoping agreement (LOS Engineering, Inc., August 30, 2024) based on the FHWA Traffic Noise Prediction Model methodology. The Traffic Scoping found that the proposed project would create approximately 173 vehicle trips per day on weekdays, 167 vehicle trips per day on Saturdays, and 346 vehicle trips per day on Sundays. The Scoping Agreement included trip generation rates of 10 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday for the single-family residential uses and 9 trips per thousand square foot per weekday, 9 trips per thousand square foot per Saturday, and 36 trips per thousand square foot per Sunday for the temple.

- *Existing (without Project)*: This scenario refers to existing year traffic noise conditions.
- *Existing Plus Project*: This scenario refers to existing year plus project traffic noise conditions.

Table 10 shows the change in existing roadway noise levels with the addition of project-generated operational trips. FHWA Traffic Noise Prediction Model calculation worksheets are provided in Appendix F.

As shown in Table 10, modeled existing traffic noise levels range between 60-69 dBA CNEL and the modeled Existing Plus Project traffic noise levels range between 60-69 dBA CNEL at the right-of-way of each study roadway segment. The addition of project trips is not expected to change noise levels in excess of the applicable threshold at any of the study roadway segments (see Table 10). The project impact is less than significant; no mitigation is required.

Construction Mobile Source Noise

Construction truck trips would occur throughout the construction period. Given the project site's proximity to Interstate 15 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps.

Rincon Avenue currently handles between approximately 3,000 to 8,400 average daily vehicle trips in the vicinity of the project site.[5] According to the *ISKCON of Escondido Air Quality, Global Climate Change, and Energy Impact Analysis* (Ganddini Group, Inc., 2023-Rev. 1), the greatest number of construction-related vehicle trips per day would be during grading and paving at up to 15 vehicle trips per day (for worker trips). Therefore, vehicle traffic generated during project construction is nominal relative to existing roadway volumes and would not result in the doubling of traffic volume necessary to increase noise levels by 5 dBA. The project impact is less than significant; no mitigation is required.

Future Roadway Mobile Source Noise

The City of Escondido General Plan Mobility and Infrastructure Element has designated Rincon Avenue as a two-lane local collector in the vicinity of the project. The Mobility and Infrastructure that a Local Collector could handle up to 15,000 average daily trips.

As shown in Table 4, per the City of Escondido General Plan, noise levels of up to 60 dBA CNEL are considered "normally acceptable" and up to 70 dBA CNEL are considered "conditionally acceptable" for single-family residential uses. In addition, noise levels of up to 65 dBA CNEL are considered "normally acceptable" and up to 70 dBA CNEL are considered "conditionally acceptable" for church uses. Facades with anticipated noise levels of 65 dBA CNEL are expected to have interior noise levels that do not exceed 45 dBA CNEL. This is based on the assumption that heating and ventilation systems will be provided in order to allow for a windows-closed condition.

Figure 6 and Figure 7 display transportation noise modeling results. The white boxes with numbers in them represent anticipated noise at proposed residential locations. As shown in Figure 6, transportation related noise is expected to range between 63 and 68 dBA CNEL. As shown in Table 4, development of residential land uses are considered to be "conditionally acceptable" in areas where noise levels reach up to 70 dBA CNEL as long as air conditioning is provided to allow windows to be in a closed condition. This impact would be less than significant. No mitigation is required.

Operational Noise

Article 12 *Section 17-229. Sound level limits*, sets forth noise level limits for noise generated from one property to another. These land use-based noise level limits are shown in Table 5. Unless a variance has been applied for and granted pursuant to this article, it is unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth in the Table 5, except that construction noise level limits shall be governed by Section 17-234 of Article 12.

Sensitive land uses that may be affected by project operational noise include single family residential land uses to the north, south, east, and west. Ambient noise levels were conducted to establish existing noise levels in the vicinity of these land uses (see Table 1). Subsequently, the SoundPLAN noise model was used to model operational noise (discussed in Section 4 of this report). SoundPLAN modeling results are shown on Figure 8 and in Table 11. Existing measured noise levels near receptors that may be affected by project noise range between 43 and 53 dBA L_{eq}; and project generated noise is expected to range between 0 and 32 dBA L_{eq}. Project generated noise would not cause a violation of the daytime standard of (50 dBA L_{eq}) or the nighttime noise standard (45 dBA L_{eq}) at the surrounding residential land uses. Furthermore, project operation would not noticeably increase ambient noise levels. This impact would be less than significant. No mitigation is required.

[5] Existing average daily traffic volumes obtained from SANDAG Transportation Forecast Center. Version ABM2+/2021RP and year 2016 obtained at https://experience.arcgis.com/experience/81b2daca1827470ca8beeb4708139f79/.

GROUNDBORNE VIBRATION IMPACTS

Would the project result in:

b) Generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less Than Significant

In relation to the Environmental Checklist noise issue "b", the City of Escondido has not established thresholds of significance concerning groundborne vibration. In the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual* (FTA, September 2018) (see Regulatory Setting section). Accordingly, the project would result in a significant impact if:

- Groundborne vibration levels generated by the project have the potential to cause architectural damage at nearby buildings by exceeding the following PPV:
  - 0.10 in/sec at buildings extremely susceptible to vibration damage
  - 0.20 in/sec at non-engineered timber and masonry buildings
  - 0.30 in/sec at engineered concrete and masonry (no plaster) buildings
  - 0.50 in/sec at reinforced-concrete, steel or timber (no plaster) buildings
- Groundborne vibration levels generated by the project have the potential to cause annoyance at sensitive receptors by exceeding 72 VdB.

Groundborne vibration modeling worksheets are provided in Appendix G.

Construction-Related Vibration Impacts

Existing structures in the immediate vicinity of the project site include the residential buildings located as close as approximately 21 feet to the west of the project site, the residential buildings located as close as approximately 249 feet to the northwest of the project site, the commercial building located as close as approximately 80 feet north of the project site, the residential buildings located as close as approximately 70 feet to the northeast of the project site and the residential building located within the project site boundaries but approximately 75 feet to the south of the disturbance area of the project site.

Groundborne vibration levels associated with project construction are provided in Table 12. As shown in Table 12, the residential threshold of 0.2 PPV in/sec will be exceeded at the residential uses to the west. Best management practices prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 26 feet of residential structures to the west will reduce potential architectural damage impacts. Furthermore, potential annoyance at the nearest residential uses is expected to be temporary, occurring only when vibratory equipment such as vibratory rollers are within 136 feet and large bulldozers are within 80 feet of residential structures, and during daytime hours.
Therefore, project construction would not result in the exposure of persons to excessive groundborne vibration and impacts would be less than significant with incorporation of best management practices.

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020), which is a substantially lower PPV than that of a vibratory roller (0.210 in/sec PPV at 25 feet). Therefore, groundborne vibration levels generated by project operation would not exceed those modeled for project construction.

AIR TRAFFIC IMPACTS

Would the project result in:

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 area to excessive noise levels?*

Finding: No Impact

The closest airport to the project site is the McClellan-Palomar Airport, with associated airport runways located as close as approximately 11.4 miles southwest of the project site. As stated in the City of Escondido General Plan Community Protection Element (May 2012), the project site is not located within the 60 dBA CNEL noise contour of McClellan-Palomar Airport. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. There is no impact, and no mitigation is required.

Table 9 (1 of 2)
Construction Noise Levels (dBA L_{eq})

Receptor Location	Representative Noise Measurement[1]	Existing Ambient Noise Levels (dBA Leq)	Construction Noise Levels (dBA Leq)[2]	Exceeds 75 dBA Leq (Yes/No)
Phase: Site Preparation				
Residential to West (2281 Creek Hollow Place, Escondido)	NM1	51.2	65.7	No
Residential to Northwest (2352 Briarwood Place, Escondido)	NM2	49.5	60.4	No
Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)	NM3	53.1	66.6	No
Residential to Northeast (1448 Rincon Avenue, Escondido)	NM3	53.1	61.7	No
Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)	NM5	42.9	57.8	No
Residential to South (1165 Witherby Lane, Escondido)	NM6	48.4	54.9	No
Phase: Grading				
Residential to West (2281 Creek Hollow Place, Escondido)	NM1	51.2	70.9	No
Residential to Northwest (2352 Briarwood Place, Escondido)	NM2	49.5	65.6	No
Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)	NM3	53.1	71.8	No
Residential to Northeast (1448 Rincon Avenue, Escondido)	NM3	53.1	66.9	No
Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)	NM5	42.9	63.0	No
Residential to South (1165 Witherby Lane, Escondido)	NM6	48.4	60.1	No
Phase: Building Construction				
Residential to West (2281 Creek Hollow Place, Escondido)	NM1	51.2	71.5	No
Residential to Northwest (2352 Briarwood Place, Escondido)	NM2	49.5	66.2	No
Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)	NM3	53.1	72.4	No
Residential to Northeast (1448 Rincon Avenue, Escondido)	NM3	53.1	67.5	No
Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)	NM5	42.9	63.7	No
Residential to South (1165 Witherby Lane, Escondido)	NM6	48.4	60.7	No

Table 9 (2 of 2)
Construction Noise Levels (dBA L_{eq})

Receptor Location	Representative Noise Measurement[1]	Existing Ambient Noise Levels (dBA Leq)	Construction Noise Levels (dBA Leq)[2]	Exceeds 75 dBA Leq (Yes/No)
Phase: Paving				
Residential to West (2281 Creek Hollow Place, Escondido)	NM1	51.2	65.1	No
Residential to Northwest (2352 Briarwood Place, Escondido)	NM2	49.5	59.7	No
Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)	NM3	53.1	65.9	No
Residential to Northeast (1448 Rincon Avenue, Escondido)	NM3	53.1	61.0	No
Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)	NM5	42.9	57.2	No
Residential to South (1165 Witherby Lane, Escondido)	NM6	48.4	54.2	No
Phase: Architectural Coating				
Residential to West (2281 Creek Hollow Place, Escondido)	NM1	51.2	57.6	No
Residential to Northwest (2352 Briarwood Place, Escondido)	NM2	49.5	52.2	No
Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)	NM3	53.1	58.5	No
Residential to Northeast (1448 Rincon Avenue, Escondido)	NM3	53.1	53.6	No
Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)	NM5	42.9	49.7	No
Residential to South (1165 Witherby Lane, Escondido)	NM6	48.4	46.7	No

Notes:

(1) Per measured existing ambient noise levels. See Figure 5 for noise measurement locations.

(2) Construction noise worksheets are provided in Appendix D.

Table 10
Increase in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)[1]				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 5 dB or More?
North Broadway	North of Rincon Ave	31	68.57	68.57	0.00	Yes	No
	South of Rincon Ave	31	66.41	66.46	0.05	Yes	No
North Ash St	South of Rincon Ave	31	64.88	64.89	0.01	Yes	No
Conway Dr	South of Rincon Ave	31	59.76	59.79	0.03	No	No
Rincon Ave	West of North Broadway	40	68.32	68.37	0.05	Yes	No
	North Broadway to North Ash St	40	67.10	67.20	0.10	Yes	No
	North Ash St to Conway Dr	40	65.00	65.10	0.10	Yes	No
	East of Conway Dr	31	64.95	65.20	0.25	Yes	No

Notes:

(1) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

(2) Right of way per the City of Escondido General Plan Mobility and Infrastructure Element.

(3) Per the City of Escondido normally acceptable standard for single-family detached residential dwelling units of 60 dBA CNEL (see Table 5).

Table 11
On-Site Operational Noise (dBA Leq)

dBA, Leq				
Site Location	Measured Noise Level	Project Operational Noise	Combined Existing and Project Noise	Increase Due to Project
NM1	51	30	51	0
NM2	50	25	50	0
NM3	53	32	53	0
NM4	44	0	44	0
NM5	43	22	43	0
NM6	48	11	48	0
NM7	43	18	43	0

Notes:

(1) See Figure 5 for noise measurement locations and Figure 8 for Modeled Operational Noise Levels. Each noise measurement was performed over a 15-minute duration.

Table 12
Construction Vibration Levels at the Nearest Receptors

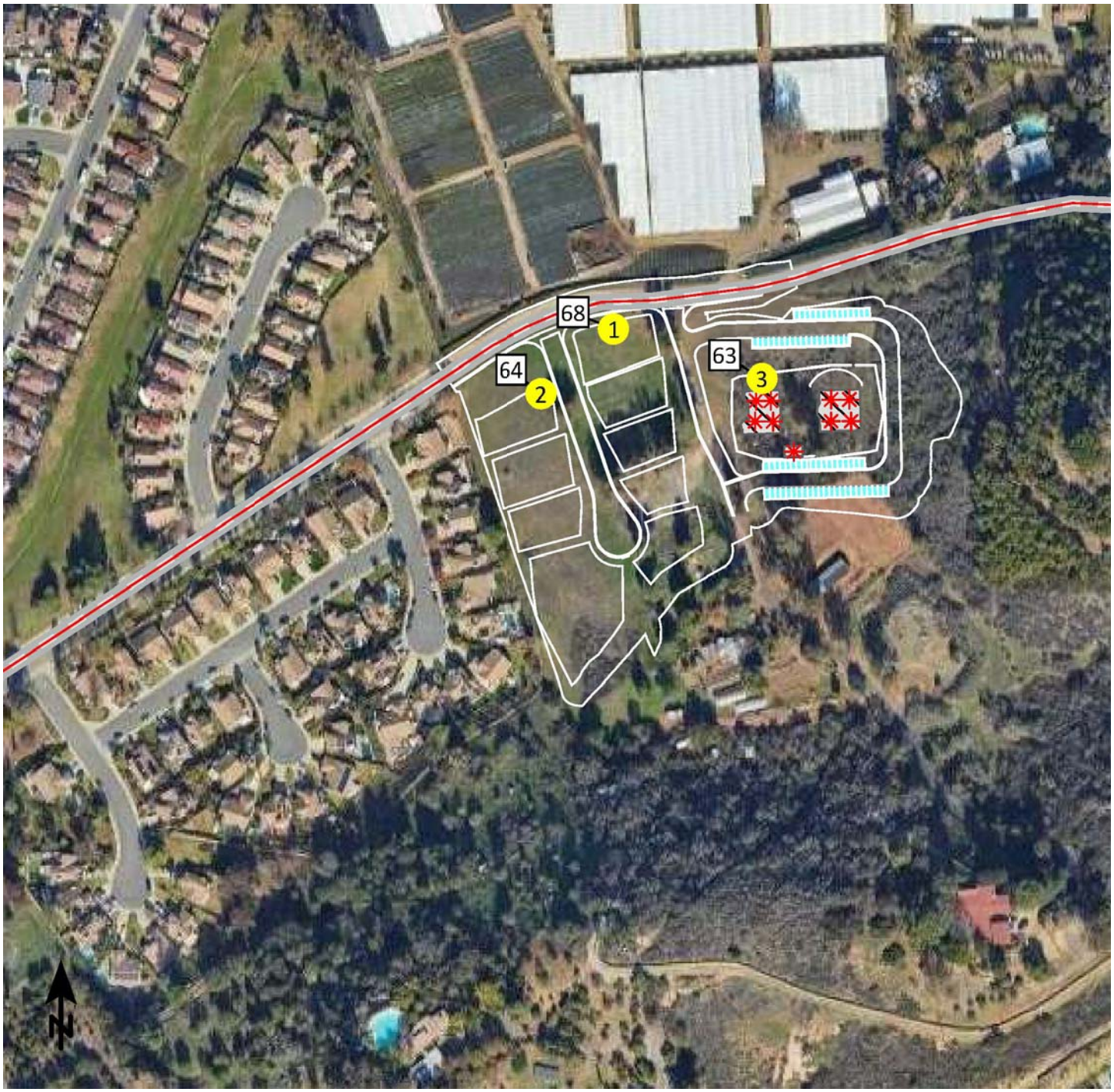
Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level[1]	Threshold Exceeded?[2]	Vibration Level with BMPs?	Threshold Exceeded?
Architectural Damage Analysis in (PPV)						
Residential to West (2292 Creek Hollow Place, Escondido)	21	Vibratory Roller	0.273	Yes	0.198	No
	21	Large Bulldozer	0.116	No	-	-
Residential to Northwest (2332 Briarwood Place, Escondido)	249	Vibratory Roller	0.007	No	-	-
	249	Large Bulldozer	0.003	No	-	-
Commercial to North (1501 Rincon Avenue, Escondido)	80	Vibratory Roller	0.037	No	-	-
	80	Large Bulldozer	0.016	No	-	-
Residetial to Northeast (1448 Rincon Avenue, Escondido)	70	Vibratory Roller	0.045	No	-	-
	70	Large Bulldozer	0.019	No	-	-
Residential to South (Krishna Farm, 1365 Rincon Avenue, Escondido, located within southern portion of project site)	75	Vibratory Roller	0.040	No	-	-
	75	Large Bulldozer	0.017	No	-	-
Annoyance Analysis (in dVB)						
Residential to West (2292 Creek Hollow Place, Escondido)	21	Vibratory Roller	96	Yes	-	-
	21	Large Bulldozer	89	Yes	-	-
Residential to Northwest (2332 Briarwood Place, Escondido)	249	Vibratory Roller	64	No	-	-
	249	Large Bulldozer	57	No	-	-
Residetial to Northeast (1448 Rincon Avenue, Escondido)	70	Vibratory Roller	81	Yes	-	-
	70	Large Bulldozer	74	Yes	-	-
Residential to South (Krishna Farm, 1365 Rincon Avenue, Escondido, located within southern portion of project site)	75	Vibratory Roller	80	Yes	-	-
	75	Large Bulldozer	73	Yes	-	-

Notes:

(1) Vibration levels are provided in PPV in/sec for architectural damage and VdB for annoyance.

(2) The FTA identifies the threshold at which there is a risk to "architectural" damage to non-engineered timber and masonry buildings as a PPV of 0.2 in/sec (see Table 2). In addition, the FTA identifies a vibration annoyance threshold of 72 VdB for residential uses (see Table 3). Per the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018), commercial uses are not considered vibration-sensitive land uses; therefore, the annoyance threshold does not apply to commercial uses.

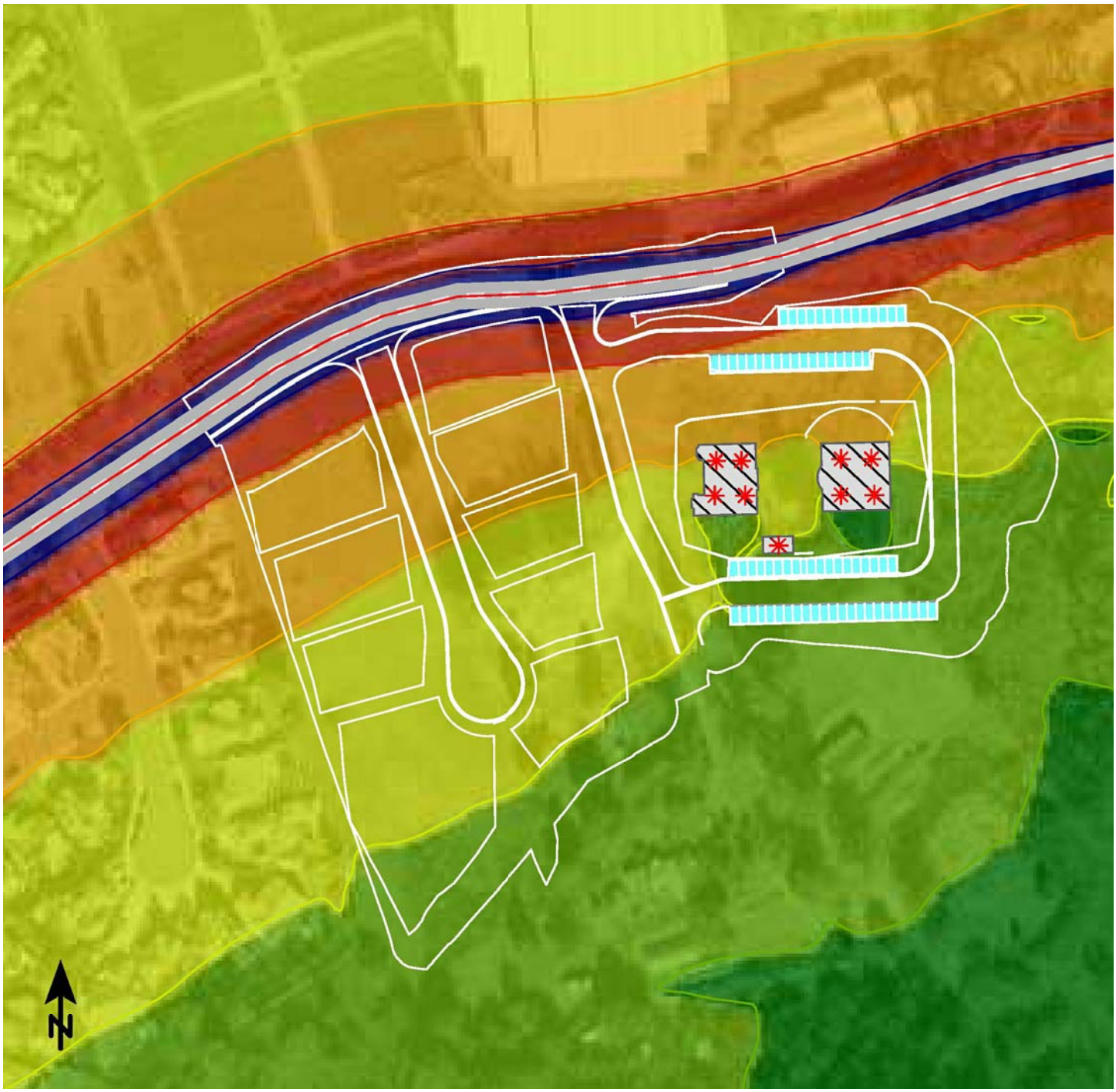
(3) Needed Best Management Practices (BMPs) for architectural damage would include prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 26 feet of residential strucures to the west of the project site.



Signs and symbols

- Proposed Project
- Proposed Temple Buildings
- Receiver
- Road
- Point source (Rooftop HVAC)
- Parking lot

Figure 6
Future Traffic Noise Levels



Signs and symbols

- Proposed Project
- Proposed Temple Buildings
- Road
- Point source (Rooftop HVAC)
- Parking lot

Levels in dB(A) CNEL

- < 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- >= 70

Figure 7
Future Traffic Noise Contours

Signs and symbols

- Proposed Project
- Proposed Temple Buildings
- Receiver
- Point source (Rooftop HVAC)
- Parking lot

Figure 8
Operational Noise Levels

Figure 9
Operational Noise Level Contours

7. REFERENCES

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APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Construction Noise Model Worksheets
Appendix E SoundPLAN Worksheets
Appendix F FHWA Traffic Noise Model Worksheets
Appendix G Groundborne Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM1 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 2276 Creek Hollow Pl, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just west of frontyard to residence 2276 Creek Hollow Pl. Adjacent: Rincon Ave (running NE-SW0 ~240' NW of NM1. Residential neighborhood surrouding site, with project site just past neighborhood to east with farmland & plant nursery (~200' E).

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 12:31 PM **End Time:** 12:46 PM **Run Time:**

Leq: 51.2 dB **Primary Noise Source:** Residential ambiance, gardening power tools in operation within neighborhood,

Lmax 63.3 dB lawn mowers, weed wackers, leaf blowers, other power tools.

L2 58.6 dB **Secondary Noise Sources:** Leaf rustle from 8mph breeze through trees. Bird song. Distant dogs barking.

L8 55.7 dB Some overhad air traffic, choppers & propeller planes.

L25 51.8 dB

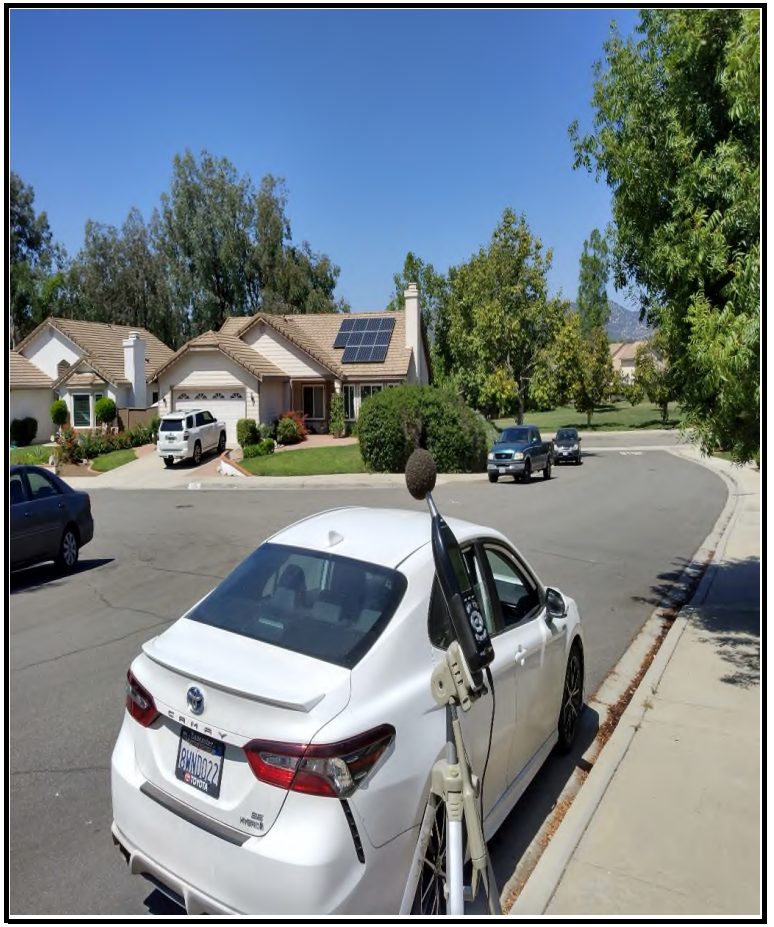
L50 48.5 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM1 looking ENW across frontyard to residence 2276 Creek Hollow Pl, Escondido.



NM1 looking NW towards Creek Hollow Pl & Rocky Point Way intersection.

Summary	
File Name on Meter	LxT_Data.328.s
File Name on PC	LxT_0003099-20230914 123108-LxT_Data.328.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM1 33° 9'57.54"N 117° 4'48.82"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 12:31:08
Stop	2023-09-14 12:46:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 12:30:13
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	122.9 dB

Results			
LA_{eq}	51.2		
LAE	80.7		
EA	13.16946 µPa²h		
EA8	421.4226 µPa²h		
EA40	2.107113 mPa²h		
$LA_{peak\ (max)}$	2023-09-14 12:34:39	86.6 dB	
LAS_{max}	2023-09-14 12:32:33	63.3 dB	
LAS_{min}	2023-09-14 12:31:08	38.3 dB	
			Statistics
LC_{eq}	61.3 dB		**LA2.00** 58.6 dB
LA_{eq}	51.2 dB		**LA8.00** 55.7 dB
LC_{eq} - LA_{eq}	10.1 dB		**LA25.00** 51.8 dB
LAI_{eq}	54.9 dB		**LA50.00** 48.5 dB
LA_{eq}	51.2 dB		**LA66.60** 45.4 dB
LAI_{eq} - LA_{eq}	3.7 dB		**LA90.00** 40.7 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.328.s	Computer's File Name	LxT_0003099-20230914 123108-LxT_Data.328.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM1 33° 9'57.54"N 117° 4'48.82"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 12:31:08	Duration	0:15:00.0
End Time	2023-09-14 12:46:08	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	51.2 dB		
LAE	80.7 dB	SEA	--- dB
EA	13.2 µPa²h	LAFTM5	56.5 dB
EA8	421.4 µPa²h		
EA40	2.1 mPa²h		
LA_{peak}	86.6 dB	2023-09-14 12:34:39	
LAS_{max}	63.3 dB	2023-09-14 12:32:33	
LAS_{min}	38.3 dB	2023-09-14 12:31:08	
LA_{eq}	51.2 dB		
LC_{eq}	61.3 dB	LC_{eq} - LA_{eq}	10.1 dB
LAI_{eq}	54.9 dB	LAI_{eq} - LA_{eq}	3.7 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

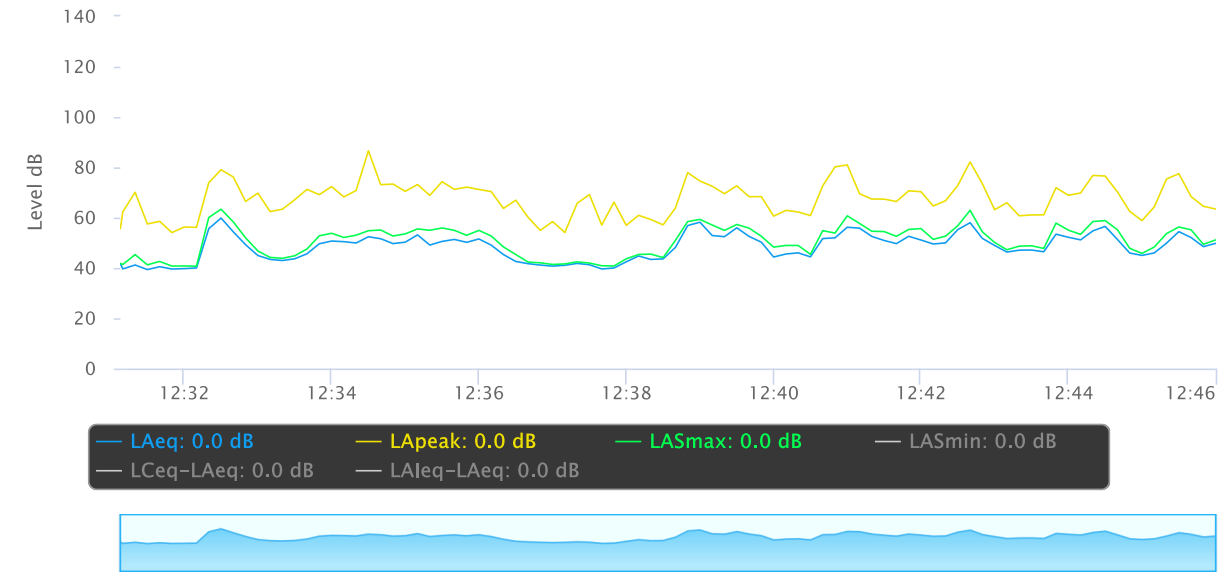
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	51.2 dB		61.3 dB		--- dB	
$L_{S(max)}$	63.3 dB	2023-09-14 12:32:33	--- dB		--- dB	
$L_{S(min)}$	38.3 dB	2023-09-14 12:31:08	--- dB		--- dB	
$L_{Peak(max)}$	86.6 dB	2023-09-14 12:34:39	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

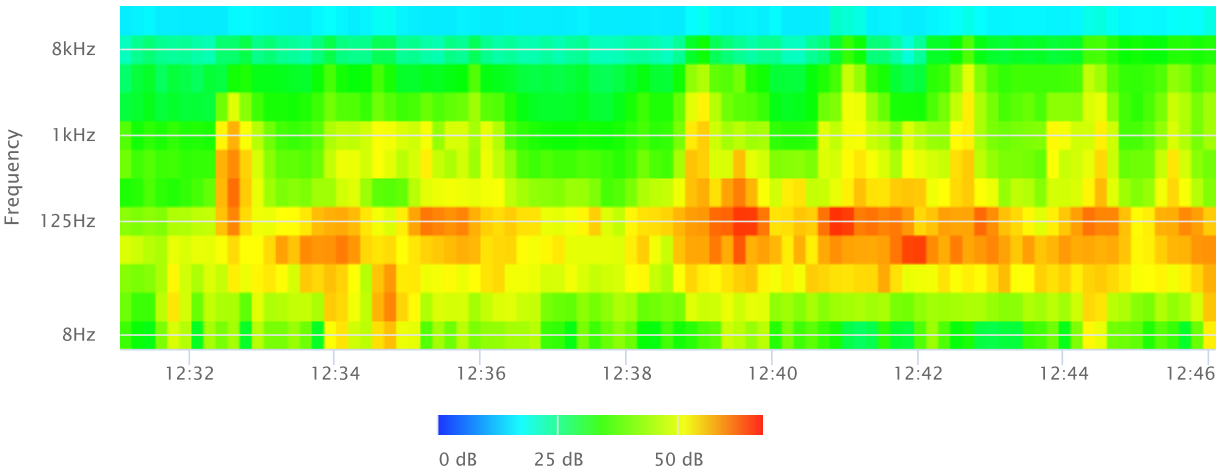
Statistics

LAS 2.0	58.6 dB
LAS 8.0	55.7 dB
LAS 25.0	51.8 dB
LAS 50.0	48.5 dB
LAS 66.6	45.4 dB
LAS 90.0	40.7 dB

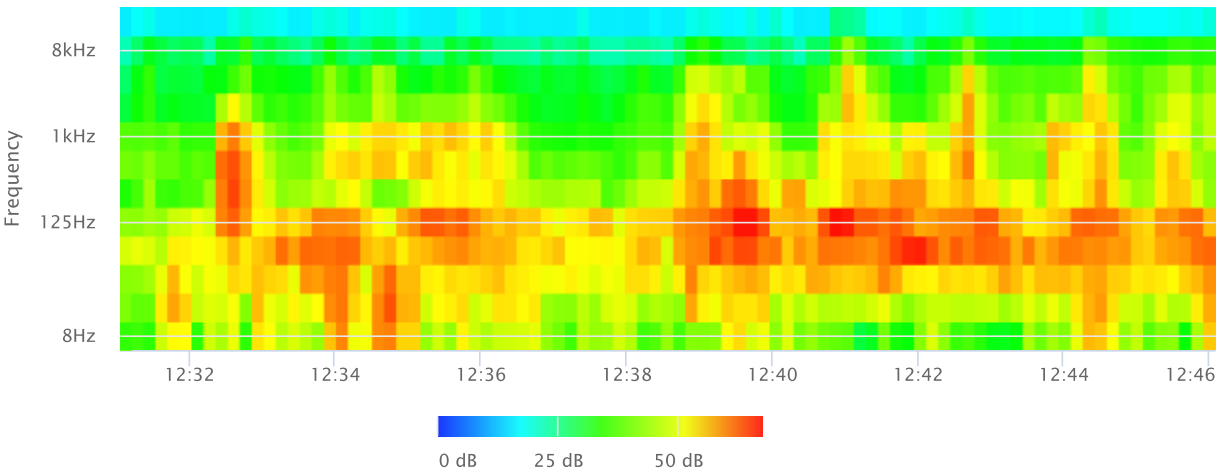
Time History



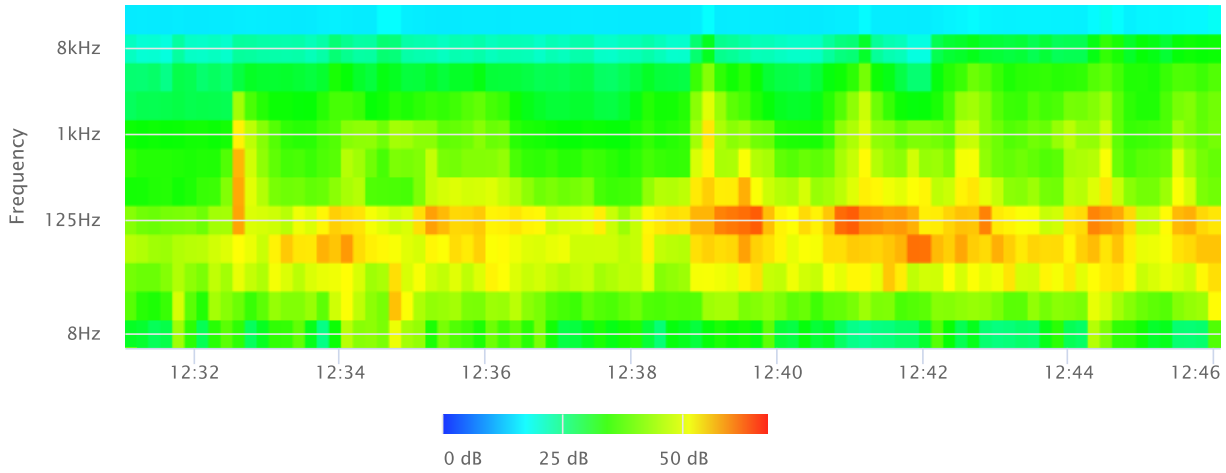
OBA 1/1 Leq



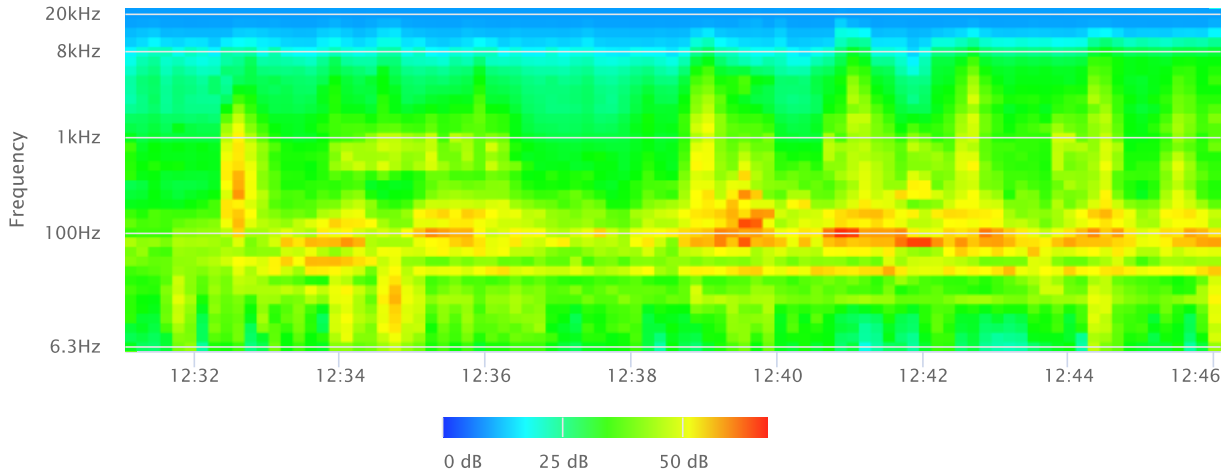
OBA 1/1 Lmax



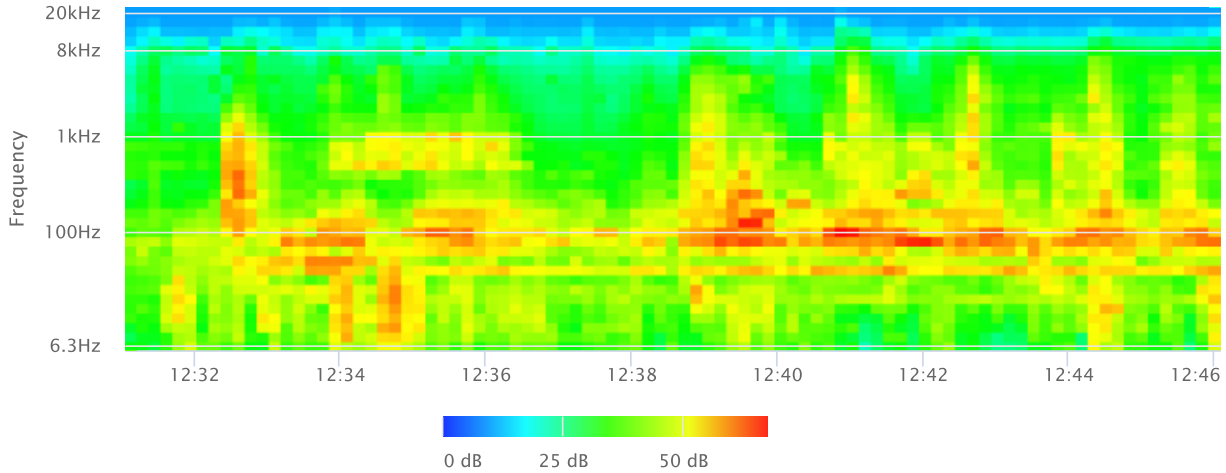
OBA 1/1 Lmin



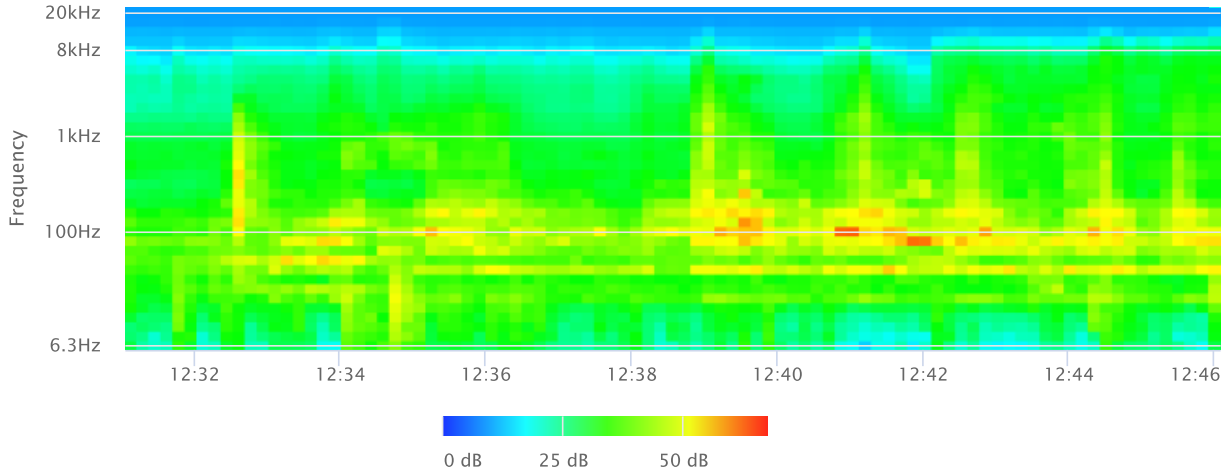
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
12:32
12:34
12:36
12:38
12:40
12:42
12:44
12:46
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM2 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 2336 Briarwood Pl, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just west of frontyard to residence 2336 Briarwood Pl.

Adjacent: Rincon Ave (running NE-SW) ~300' SW of NM2. Residential neighborhood surrounding.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 1:01 PM **End Time:** 1:16 PM **Run Time:**

Leq: 49.5 dB

Lmax 61.7 dB

L2 57.7 dB

L8 54.5 dB

L25 48.1 dB

L50 45.9 dB

Primary Noise Source: Residential ambiance, gardening power tools in operation wihtin neighborhood, lawn mowers, weed wackers, leaf blowers, other power tools.

Secondary Noise Sources: Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead air traffic, choppers& propeller planes. 2 vehicles passed NM2 during measurement.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM2 looking ENE across frontyard of residence 2336 Briarwood Pl, Escondido.

NM2 looking WNW across Briarwood Pl towards residence 2335 Briarwood Pl, Escondido.

Summary	
File Name on Meter	LxT_Data.329.s
File Name on PC	LxT_0003099-20230914 130133-LxT_Data.329.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM2 33°10'1.94"N 117° 4'52.12"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 13:01:33
Stop	2023-09-14 13:16:33
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 13:01:04
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	123.0 dB

Results			
LA_{eq}	49.5		
LAE	79.0		
EA	8.821952	µPa²h	
EA8	282.3025	µPa²h	
EA40	1.411512	mPa²h	
$LA_{peak\ (max)}$	2023-09-14 13:13:02	82.6	dB
LAS_{max}	2023-09-14 13:03:30	61.7	dB
LAS_{min}	2023-09-14 13:04:05	36.0	dB

		Statistics	
LC_{eq}	61.1 dB	**LA2.00**	57.7 dB
LA_{eq}	49.5 dB	**LA8.00**	54.5 dB
LC_{eq} - LA_{eq}	11.6 dB	**LA25.00**	48.1 dB
LAI_{eq}	54.1 dB	**LA50.00**	45.9 dB
LA_{eq}	49.5 dB	**LA66.60**	44.3 dB
LAI_{eq} - LA_{eq}	4.7 dB	**LA90.00**	40.5 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.329.s	Computer's File Name	LxT_0003099-20230914 130133-LxT_Data.329.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM2 33°10'1.94"N 117° 4'52.12"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 13:01:33	Duration	0:15:00.0
End Time	2023-09-14 13:16:33	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	49.5 dB		
LAE	79.0 dB	SEA	--- dB
EA	8.8 µPa²h	LAFTM5	55.5 dB
EA8	282.3 µPa²h		
EA40	1.4 mPa²h		
LA_{peak}	82.6 dB	2023-09-14 13:13:02	
LAS_{max}	61.7 dB	2023-09-14 13:03:30	
LAS_{min}	36.0 dB	2023-09-14 13:04:05	
LA_{eq}	49.5 dB		
LC_{eq}	61.1 dB	LC_{eq} - LA_{eq}	11.6 dB
LAI_{eq}	54.1 dB	LAI_{eq} - LA_{eq}	4.7 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

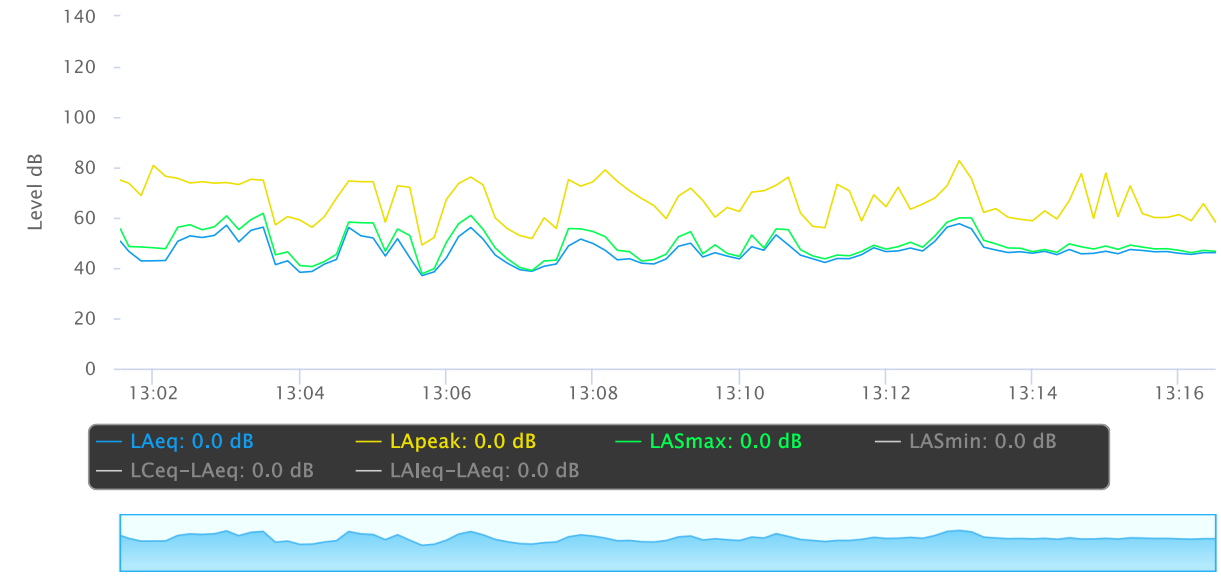
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.5 dB		61.1 dB		--- dB	
$L_{S(max)}$	61.7 dB	2023-09-14 13:03:30	--- dB		--- dB	
$L_{S(min)}$	36.0 dB	2023-09-14 13:04:05	--- dB		--- dB	
$L_{Peak(max)}$	82.6 dB	2023-09-14 13:13:02	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

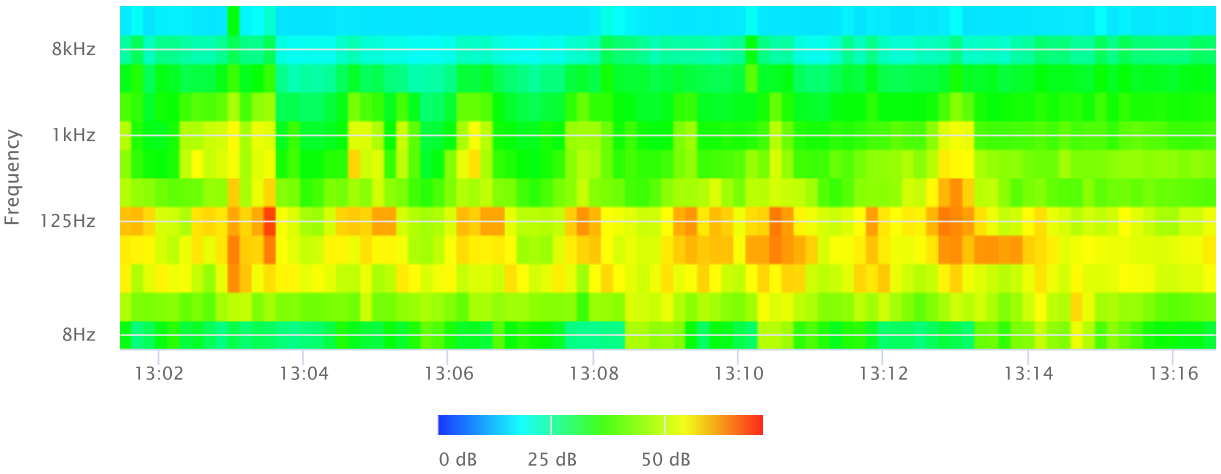
Statistics

LAS 2.0	57.7 dB
LAS 8.0	54.5 dB
LAS 25.0	48.1 dB
LAS 50.0	45.9 dB
LAS 66.6	44.3 dB
LAS 90.0	40.5 dB

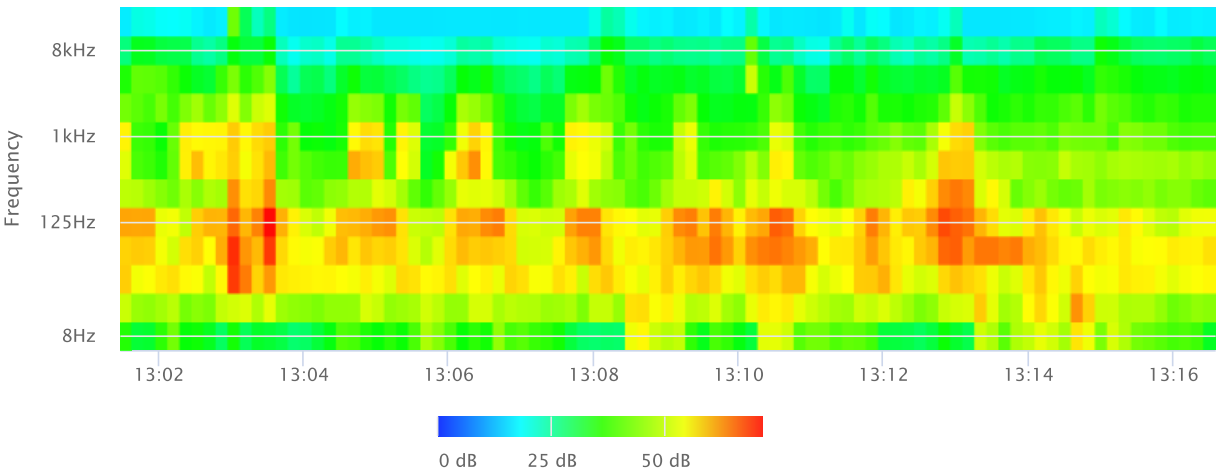
Time History



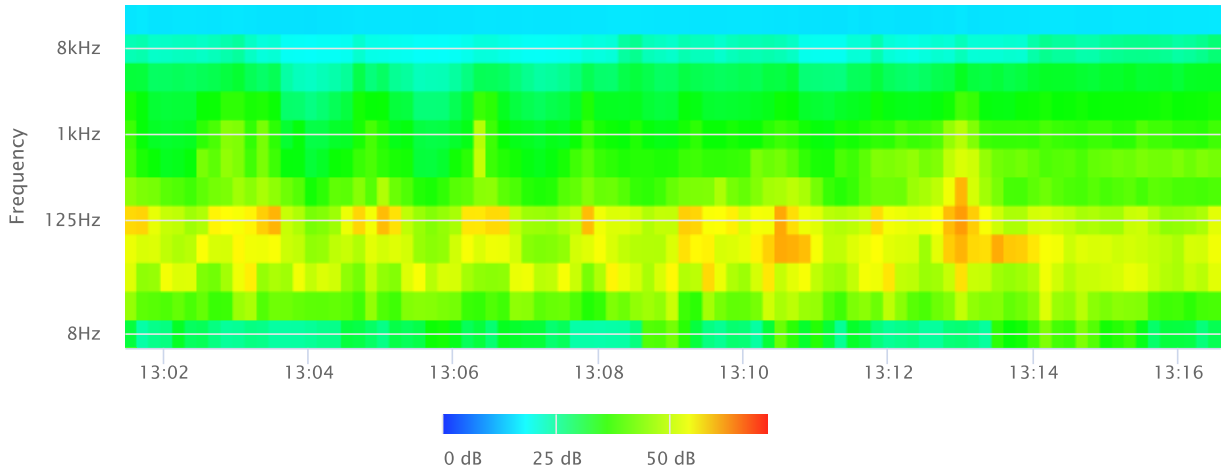
OBA 1/1 Leq



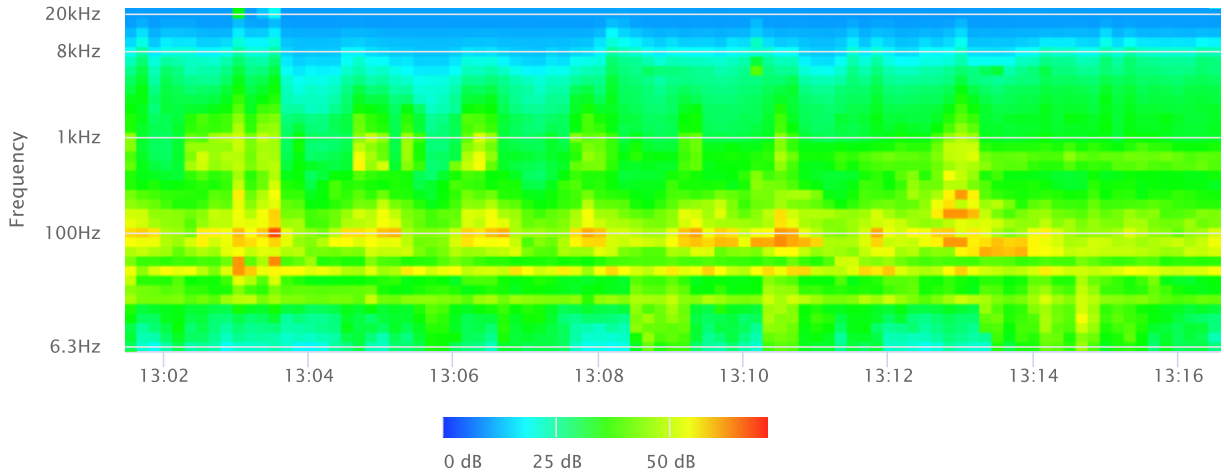
OBA 1/1 Lmax



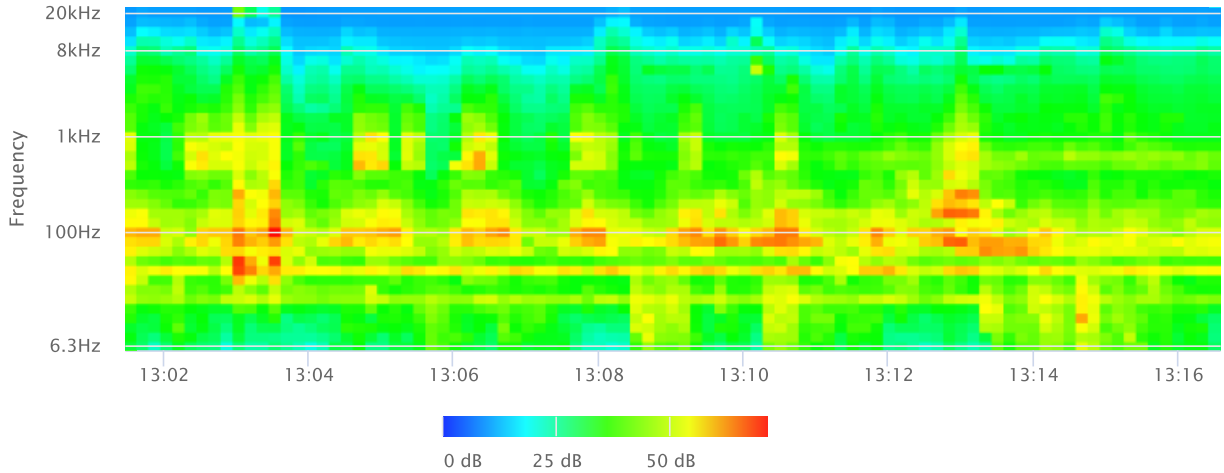
OBA 1/1 Lmin



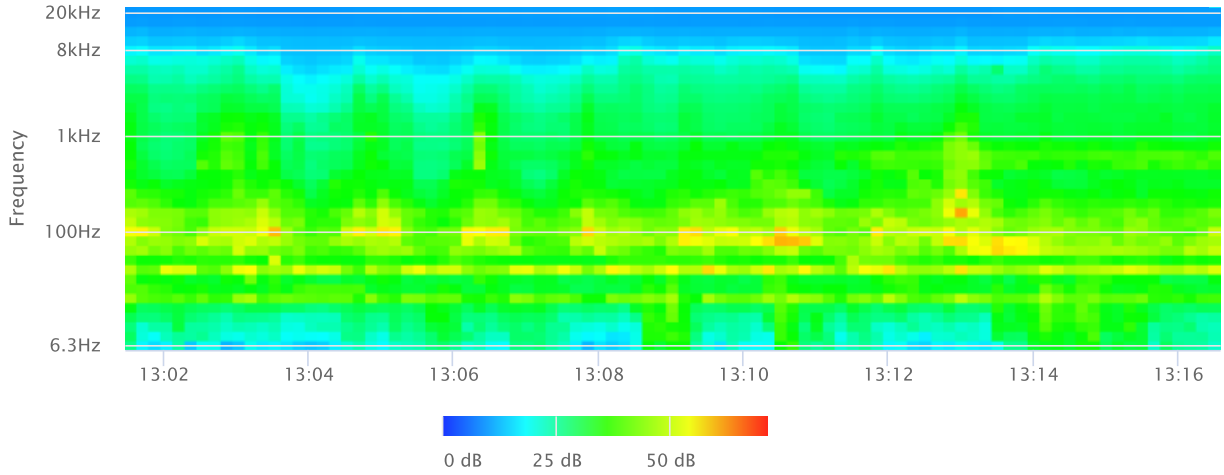
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:02
13:04
13:06
13:08
13:10
13:12
13:14
13:16
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM3 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 1448 Rincon Avenue, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just outside frontyard to residence 1448 Rincon Ave.

Adjacent: Rincon Ave (running E-W) just south of NM3. Residence to the N, steep wooded grade to the S, plant nursery to the NW.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 1:37 PM **End Time:** 1:52 PM **Run Time:**

Leq:	53.1	dB
Lmax	73.7	dB
L2	62.6	dB
L8	52.4	dB
L25	46.8	dB
L50	42.6	dB

Primary Noise Source: Residential ambiance, gardening power tools in operation within neighborhood, lawn mowers, weed wackers, leaf blowers, other power tools.

Secondary Noise Sources: Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead air traffic. 5 vehicles passed NM3 microphone during measurement.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM3 looking NW across driveway & frontyard to residence 1448 Rincon Ave, Escondido (driveway intersects Rincon Ave on the left).

NM3 looking E up Rincon Ave. Driveway to residence 1448 Rincon Ave on the left. NM3 microphone set up behind dark green, trash can in avenue straight ahead.

Summary	
File Name on Meter	LxT_Data.330.s
File Name on PC	LxT_0003099-20230914 133713-LxT_Data.330.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM3 33°10'3.34"N 117° 4'38.37"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 13:37:13
Stop	2023-09-14 13:52:13
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 13:36:46
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	123.0 dB

Results			
L_{Aeq}	53.1		
LAE	82.7		
EA	20.54192 µPa²h		
EA8	657.3416 µPa²h		
EA40	3.286708 mPa²h		
$L_{Apeak\ (max)}$	2023-09-14 13:49:24	92.7 dB	
L_{ASmax}	2023-09-14 13:41:51	73.7 dB	
L_{ASmin}	2023-09-14 13:50:44	35.7 dB	

		Statistics	
L_{Ceq}	61.3 dB	**LA2.00**	62.6 dB
L_{Aeq}	53.1 dB	**LA8.00**	52.4 dB
L_{Ceq} - L_{Aeq}	8.2 dB	**LA25.00**	46.8 dB
L_{AIeq}	55.8 dB	**LA50.00**	42.6 dB
L_{Aeq}	53.1 dB	**LA66.60**	40.9 dB
L_{AIeq} - L_{Aeq}	2.7 dB	**LA90.00**	38.8 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.330.s	Computer's File Name	LxT_0003099-20230914 133713-LxT_Data.330.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM3 33°10'3.34"N 117° 4'38.37"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 13:37:13	Duration	0:15:00.0
End Time	2023-09-14 13:52:13	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	53.1 dB		
LAE	82.7 dB	SEA	--- dB
EA	20.5 µPa²h	LAFTM5	59.1 dB
EA8	657.3 µPa²h		
EA40	3.3 mPa²h		
LA_{peak}	92.7 dB	2023-09-14 13:49:24	
LAS_{max}	73.7 dB	2023-09-14 13:41:51	
LAS_{min}	35.7 dB	2023-09-14 13:50:44	
LA_{eq}	53.1 dB		
LC_{eq}	61.3 dB	LC_{eq} - LA_{eq}	8.2 dB
LAI_{eq}	55.8 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	5	0:00:16.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	53.1 dB		61.3 dB		--- dB	
$L_{S(max)}$	73.7 dB	2023-09-14 13:41:51	--- dB		--- dB	
$L_{S(min)}$	35.7 dB	2023-09-14 13:50:44	--- dB		--- dB	
$L_{Peak(max)}$	92.7 dB	2023-09-14 13:49:24	--- dB		--- dB	

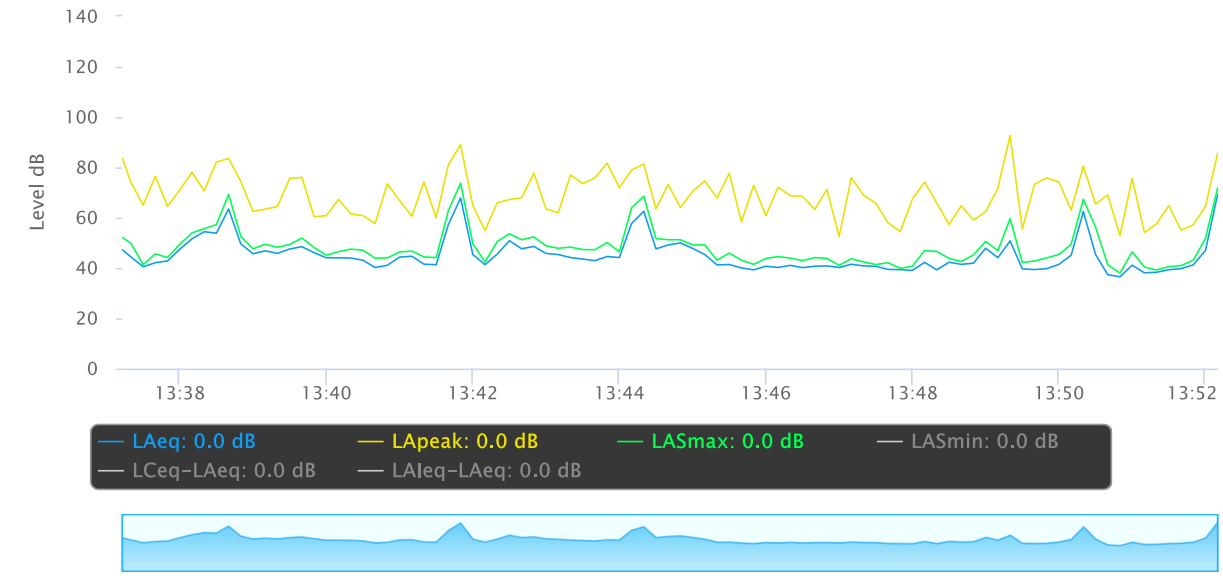
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

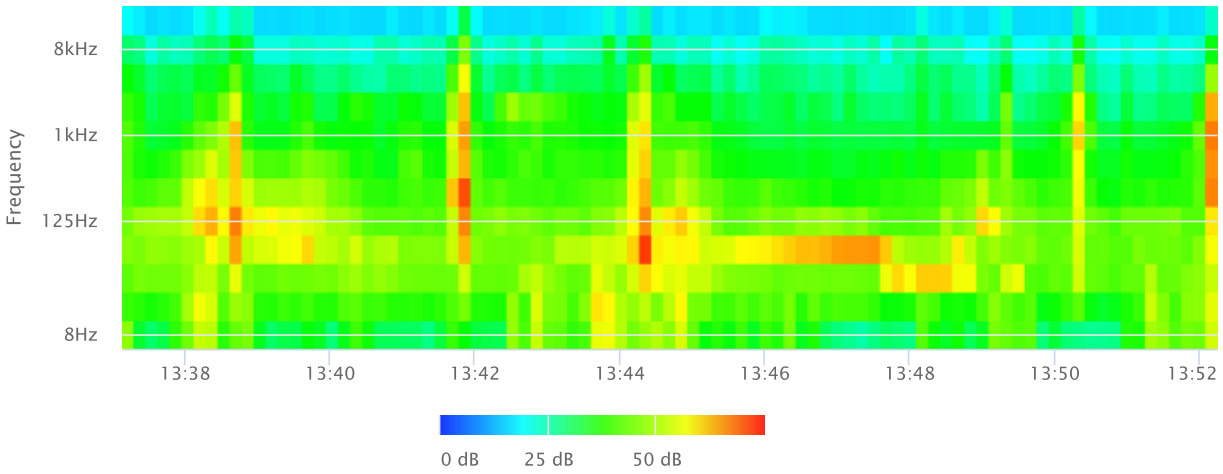
Statistics

LAS 2.0	62.6 dB
LAS 8.0	52.4 dB
LAS 25.0	46.8 dB
LAS 50.0	42.6 dB
LAS 66.6	40.9 dB
LAS 90.0	38.8 dB

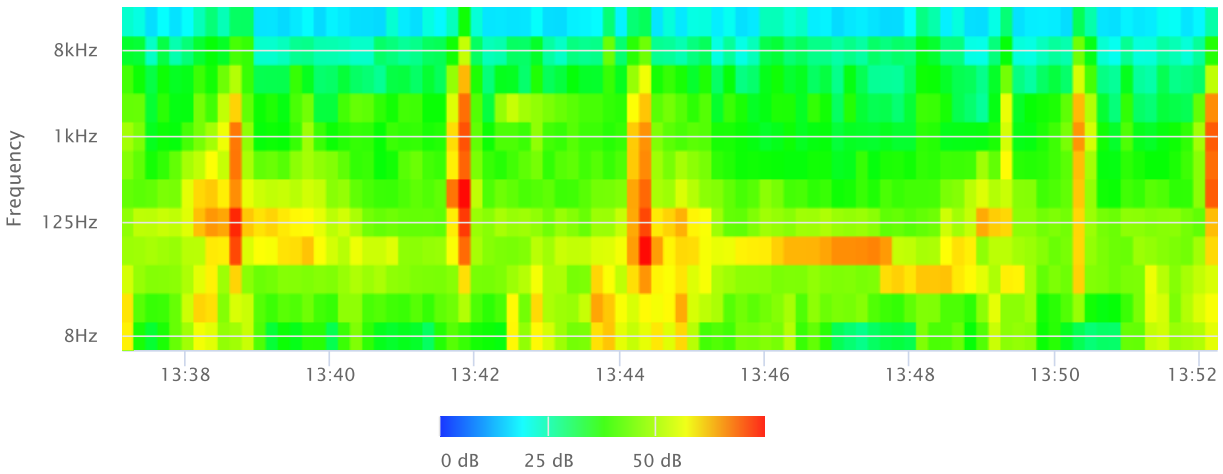
Time History



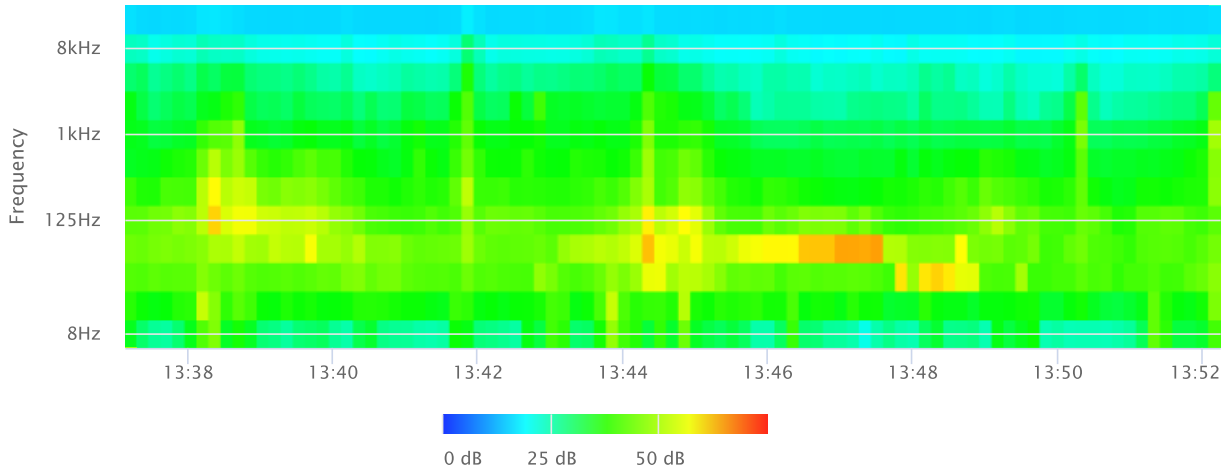
OBA 1/1 Leq



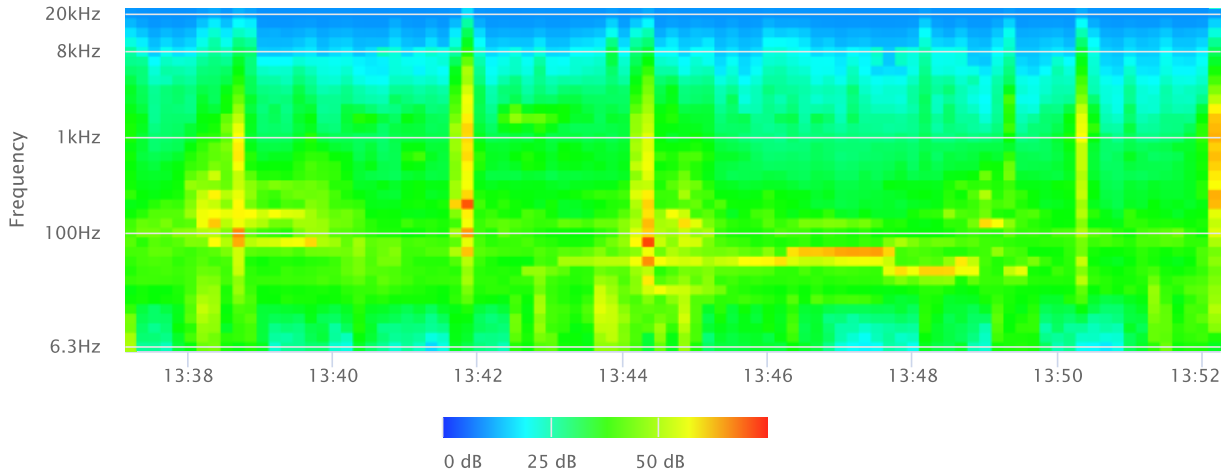
OBA 1/1 Lmax



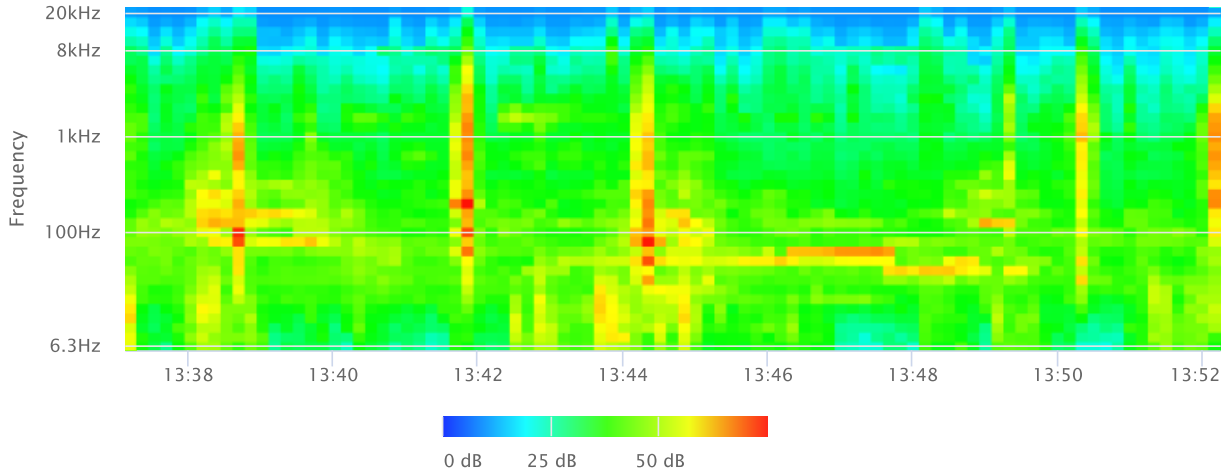
OBA 1/1 Lmin



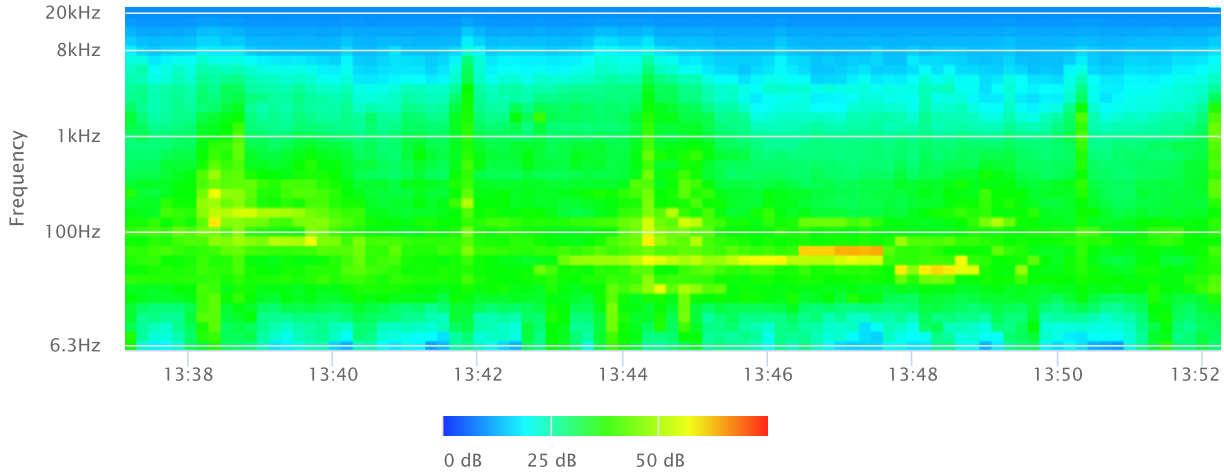
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:38
13:40
13:42
13:44
13:46
13:48
13:50
13:52
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM4 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 1643 Rincon Avenue, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just S of driveway to residence 1653 Rincon Ave.
Adjacent: Access road to Rincon Ave (running N-S) to west with intersection to Rincon Ave (running E-W) ~650' N of NM4. Avocado trees with sparse residnetial uses throughout surrounding area.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 2:09 PM **End Time:** 2:24 PM **Run Time:**

Leq: 44.1 dB **Primary Noise Source:** Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead

Lmax 60.1 dB air traffic.

L2 50.7 dB **Secondary Noise Sources:** Distant 15 Freeway and other traffic ambiance.

L8 46.6 dB

L25 44.0 dB

L50 41.9 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM4 looking N down access road through fruit trees towards Rincon Avenue intersection (~650' N).

NM4 looking WSW across field towards residence 1415 Rincon Avenue, Escondido.

Summary	
File Name on Meter	LxT_Data.331.s
File Name on PC	LxT_0003099-20230914 140917-LxT_Data.331.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM4 33° 9'55.27"N 117° 4'29.54"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 14:09:17
Stop	2023-09-14 14:24:17
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 14:08:55
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	123.0 dB

Results		
LAeq	44.1	
LAE	73.7	
EA	2.583064	µPa²h
EA8	82.65804	µPa²h
EA40	413.2902	µPa²h
LApeak (max)	2023-09-14 14:11:28	85.2 dB
LASmax	2023-09-14 14:20:02	60.1 dB
LASmin	2023-09-14 14:12:13	39.5 dB

		Statistics	
LCeq	62.3 dB	**LA2.00**	50.7 dB
LAeq	44.1 dB	**LA8.00**	46.6 dB
LCeq - LAeq	18.2 dB	**LA25.00**	44.0 dB
LAIeq	49.6 dB	**LA50.00**	41.9 dB
LAeq	44.1 dB	**LA66.60**	41.2 dB
LAIeq - LAeq	5.4 dB	**LA90.00**	40.3 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.331.s	Computer's File Name	LxT_0003099-20230914 140917-LxT_Data.331.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM4 33° 9'55.27"N 117° 4'29.54"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 14:09:17	Duration	0:15:00.0
End Time	2023-09-14 14:24:17	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	44.1 dB		
LAE	73.7 dB	SEA	--- dB
EA	2.6 µPa²h	LAFTM5	50.6 dB
EA8	82.7 µPa²h		
EA40	413.3 µPa²h		
LA_{peak}	85.2 dB	2023-09-14 14:11:28	
LAS_{max}	60.1 dB	2023-09-14 14:20:02	
LAS_{min}	39.5 dB	2023-09-14 14:12:13	
LA_{eq}	44.1 dB		
LC_{eq}	62.3 dB	LC_{eq} - LA_{eq}	18.2 dB
LAI_{eq}	49.6 dB	LAI_{eq} - LA_{eq}	5.4 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

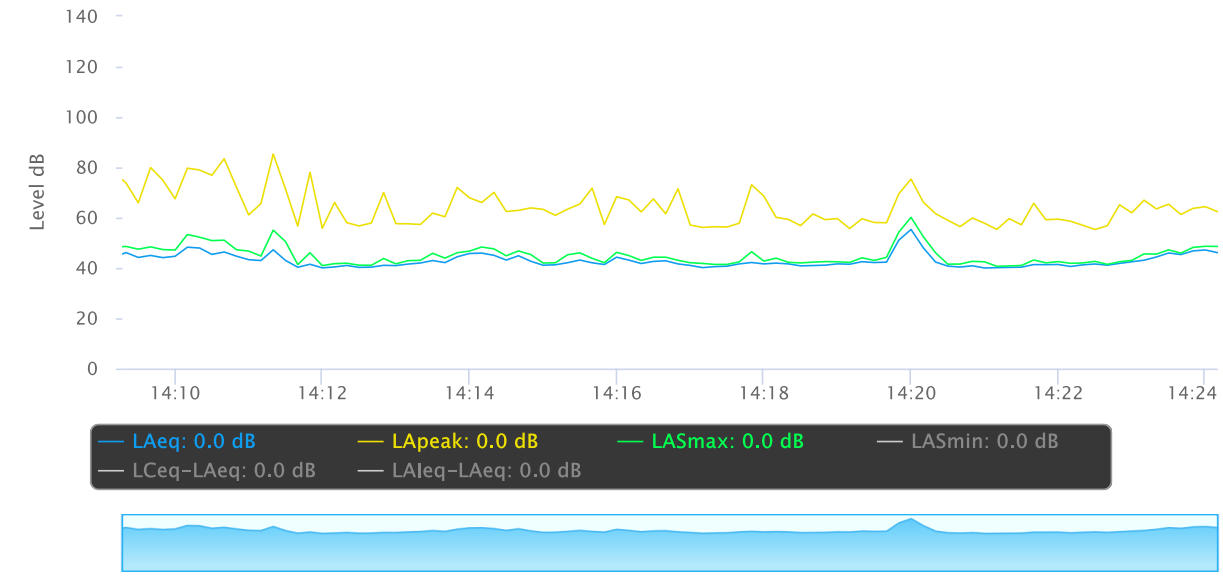
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	44.1 dB		62.3 dB		--- dB	
$L_{S(max)}$	60.1 dB	2023-09-14 14:20:02	--- dB		--- dB	
$L_{S(min)}$	39.5 dB	2023-09-14 14:12:13	--- dB		--- dB	
$L_{Peak(max)}$	85.2 dB	2023-09-14 14:11:28	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

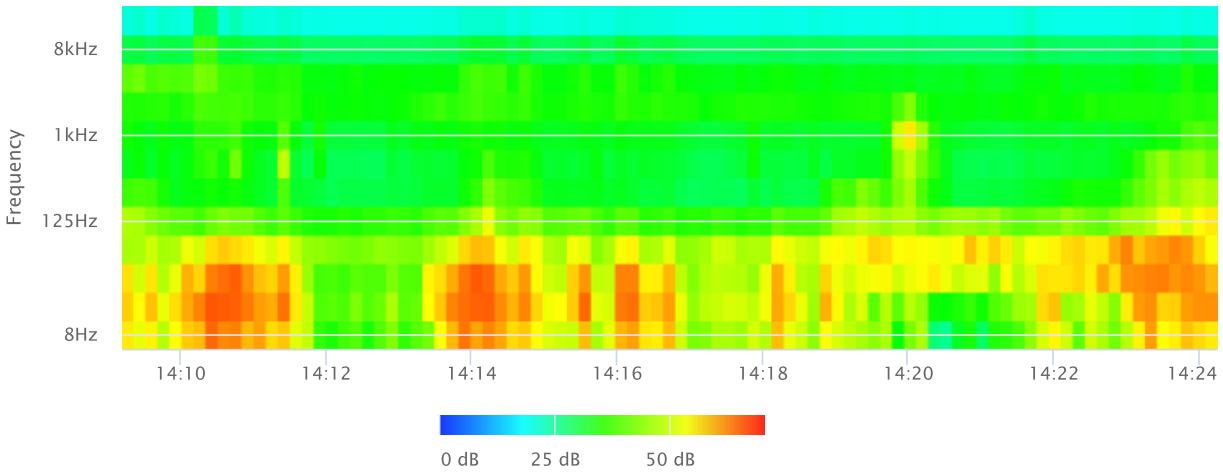
Statistics

LAS 2.0	50.7 dB
LAS 8.0	46.6 dB
LAS 25.0	44.0 dB
LAS 50.0	41.9 dB
LAS 66.6	41.2 dB
LAS 90.0	40.3 dB

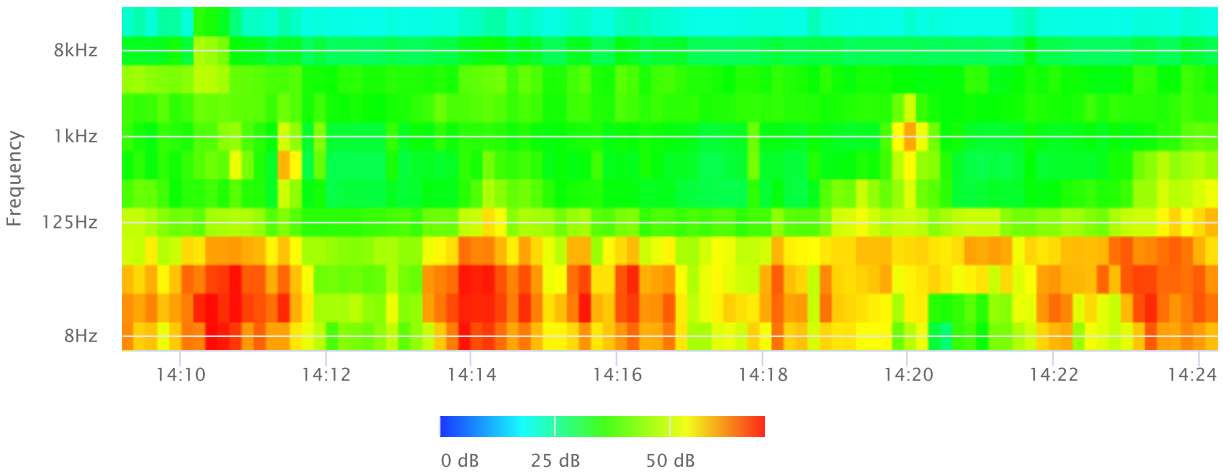
Time History



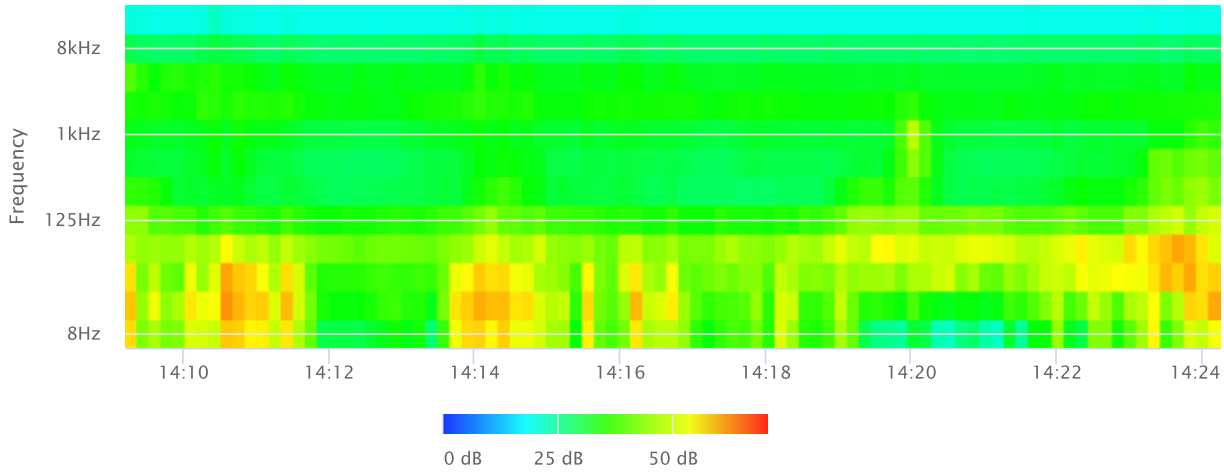
OBA 1/1 Leq



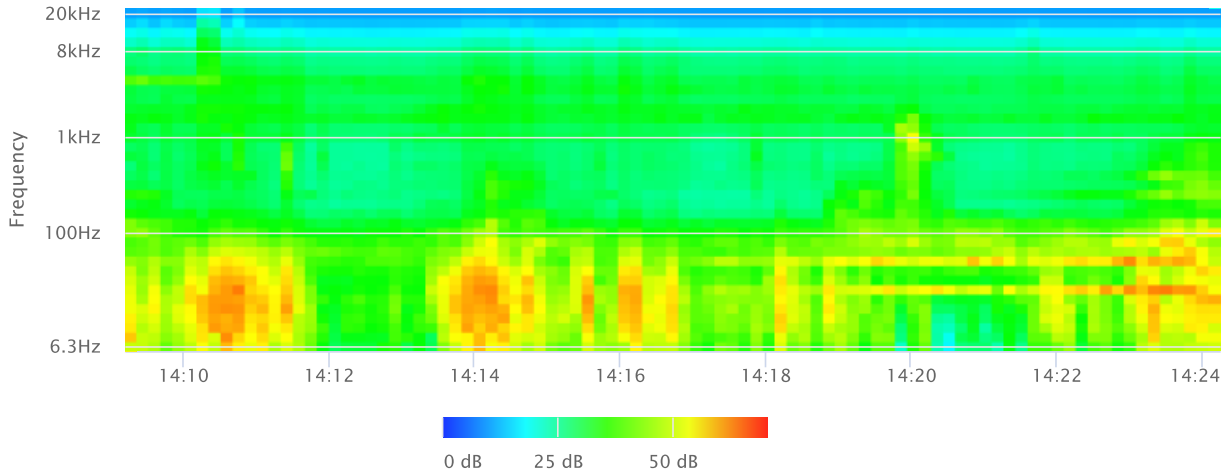
OBA 1/1 Lmax



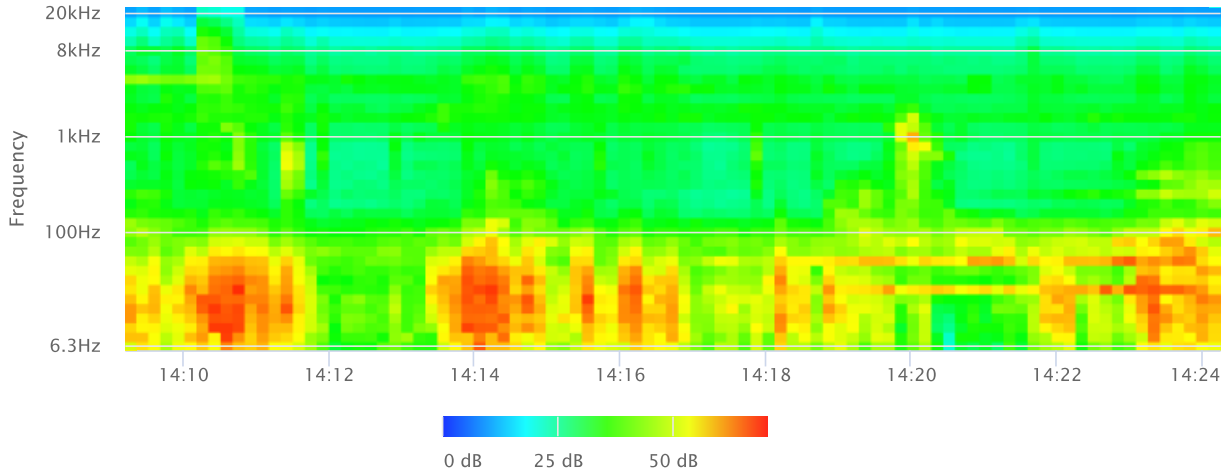
OBA 1/1 Lmin



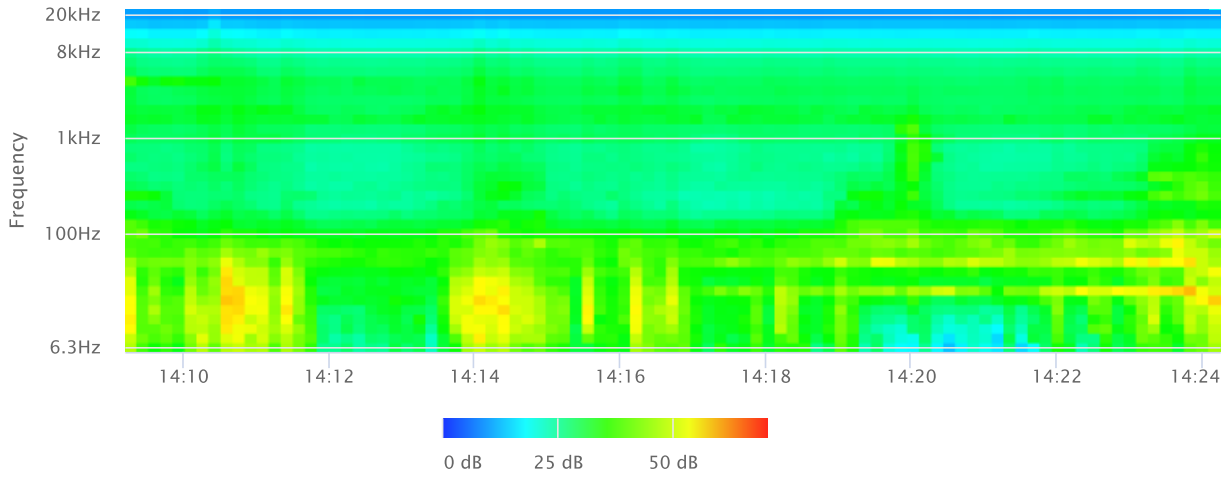
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:10
14:12
14:14
14:16
14:18
14:20
14:22
14:24
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM5 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 1415 Rincon Avenue, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: On dirt access road with parallel irrigation pipeline.

Adjacent: Avocado trees in all directions. Residence 1415 Rincon Ave, Escondido ~200' NE of NM5.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 2:37 PM **End Time:** 2:52 PM **Run Time:**

Leq:	42.9	dB
Lmax	54.7	dB
L2	51.4	dB
L8	46.6	dB
L25	42.7	dB
L50	40.0	dB

Primary Noise Source: Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead air traffic.

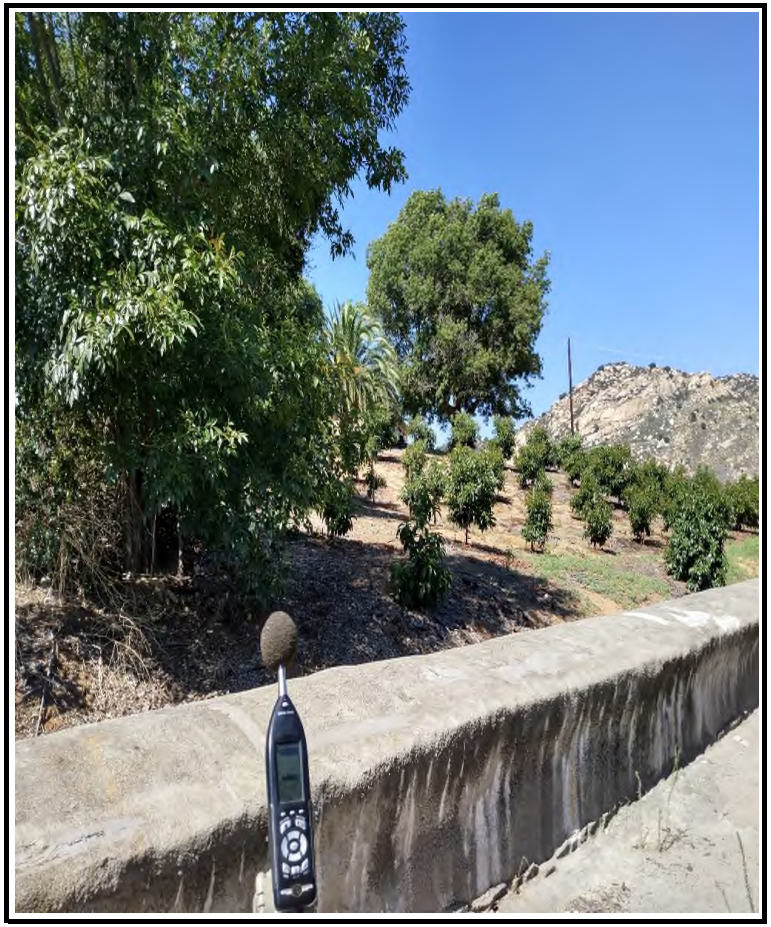
Secondary Noise Sources: Distant 15 Freeway and other traffic ambiance.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM5 looking ENE along dirt access road. Irrigation pipeline running along access road on the left.



NM5 looking NNE across field towards residence 1415 Rincon Ave, Escondido.

Summary	
File Name on Meter	LxT_Data.332.s
File Name on PC	LxT_0003099-20230914 143745-LxT_Data.332.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM5 33° 9'51.69"N 117° 4'34.34"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 14:37:45
Stop	2023-09-14 14:52:45
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 14:37:22
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	123.0 dB

Results			
L_{Aeq}	42.9		
LAE	72.5		
EA	1.95978	µPa²h	
EA8	62.71295	µPa²h	
EA40	313.5647	µPa²h	
$L_{Apeak\ (max)}$	2023-09-14 14:52:12	83.4	dB
L_{ASmax}	2023-09-14 14:42:17	54.7	dB
L_{ASmin}	2023-09-14 14:51:53	35.6	dB

			Statistics	
L_{Ceq}	60.8	dB	**LA2.00**	51.4 dB
L_{Aeq}	42.9	dB	**LA8.00**	46.6 dB
L_{Ceq} - L_{Aeq}	17.9	dB	**LA25.00**	42.7 dB
L_{AIeq}	47.9	dB	**LA50.00**	40.0 dB
L_{Aeq}	42.9	dB	**LA66.60**	38.6 dB
L_{AIeq} - L_{Aeq}	4.9	dB	**LA90.00**	37.0 dB
Overload Count	0			

Measurement Report

Report Summary

Meter's File Name	LxT_Data.332.s	Computer's File Name	LxT_0003099-20230914 143745-LxT_Data.332.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM5 33° 9'51.69"N 117° 4'34.34"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 14:37:45	Duration	0:15:00.0
End Time	2023-09-14 14:52:45	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	42.9 dB		
LAE	72.5 dB	SEA	--- dB
EA	2.0 µPa²h	LAFTM5	49.1 dB
EA8	62.7 µPa²h		
EA40	313.6 µPa²h		
LA_{peak}	83.4 dB	2023-09-14 14:52:12	
LAS_{max}	54.7 dB	2023-09-14 14:42:17	
LAS_{min}	35.6 dB	2023-09-14 14:51:53	
LA_{eq}	42.9 dB		
LC_{eq}	60.8 dB	LC_{eq} - LA_{eq}	17.9 dB
LAI_{eq}	47.9 dB	LAI_{eq} - LA_{eq}	4.9 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	42.9 dB		60.8 dB		--- dB	
$L_{S(max)}$	54.7 dB	2023-09-14 14:42:17	--- dB		--- dB	
$L_{S(min)}$	35.6 dB	2023-09-14 14:51:53	--- dB		--- dB	
$L_{Peak(max)}$	83.4 dB	2023-09-14 14:52:12	--- dB		--- dB	

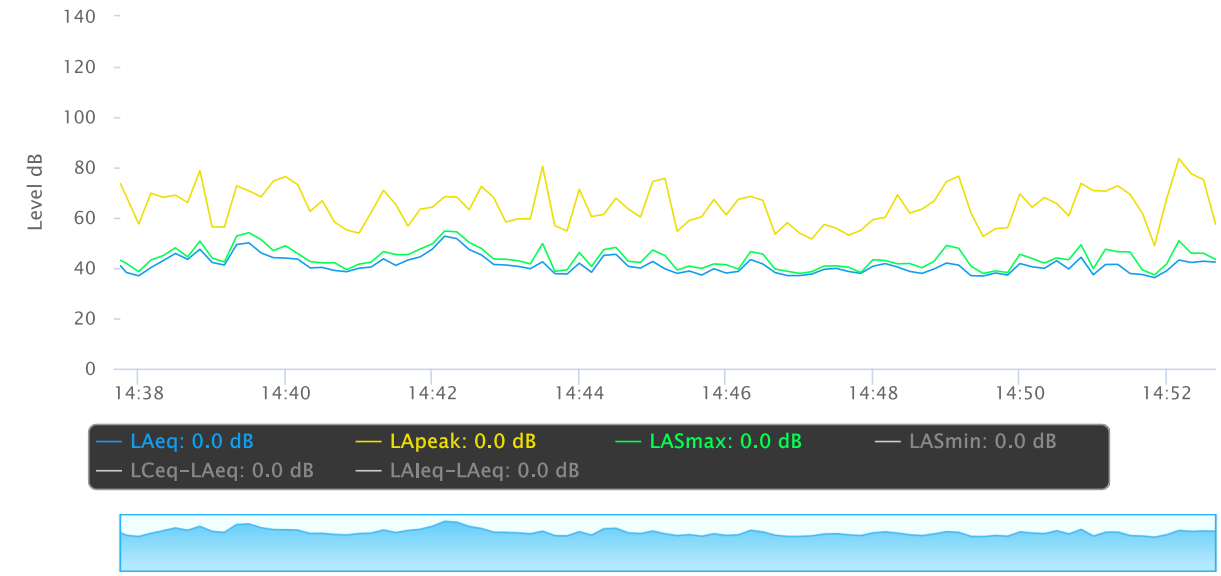
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

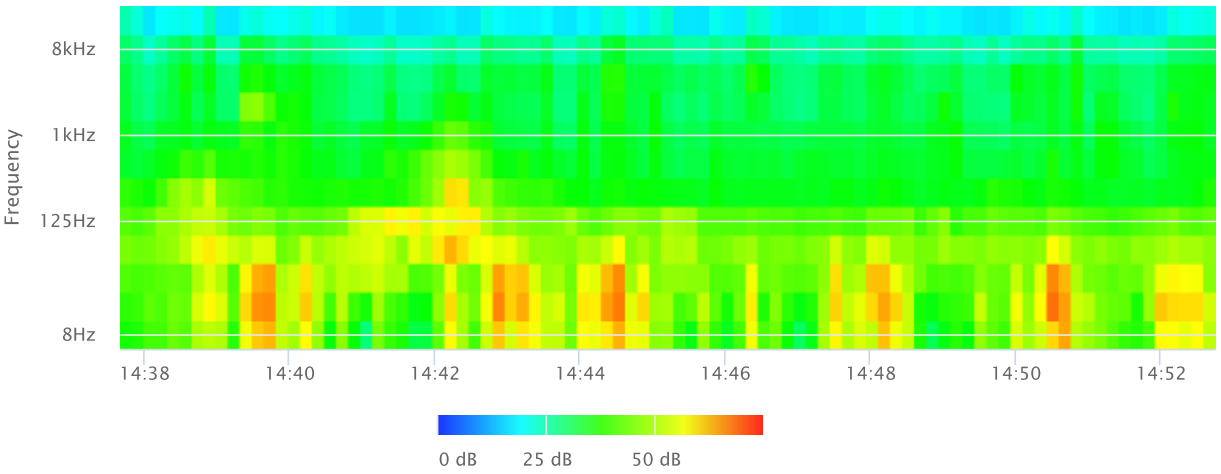
Statistics

LAS 2.0	51.4 dB
LAS 8.0	46.6 dB
LAS 25.0	42.7 dB
LAS 50.0	40.0 dB
LAS 66.6	38.6 dB
LAS 90.0	37.0 dB

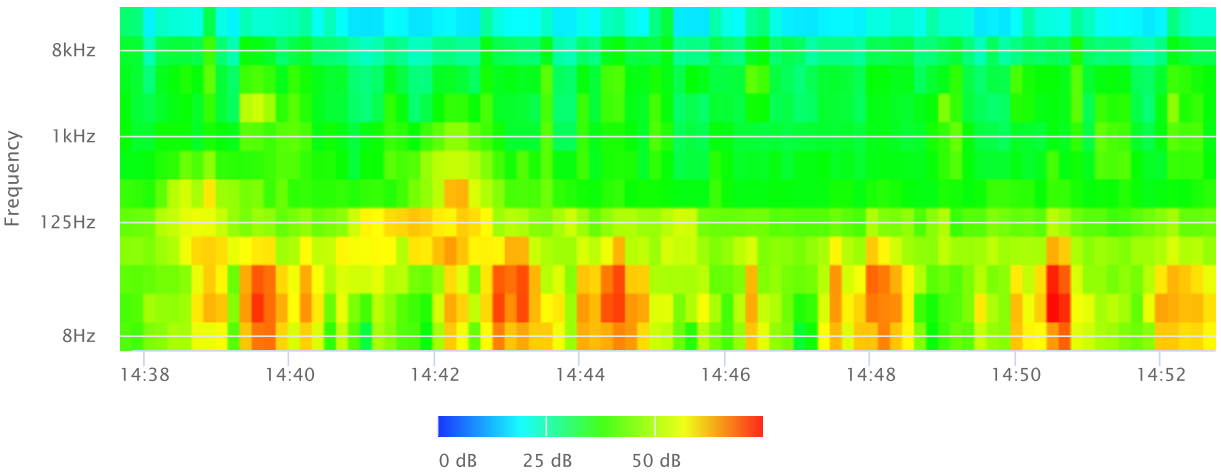
Time History



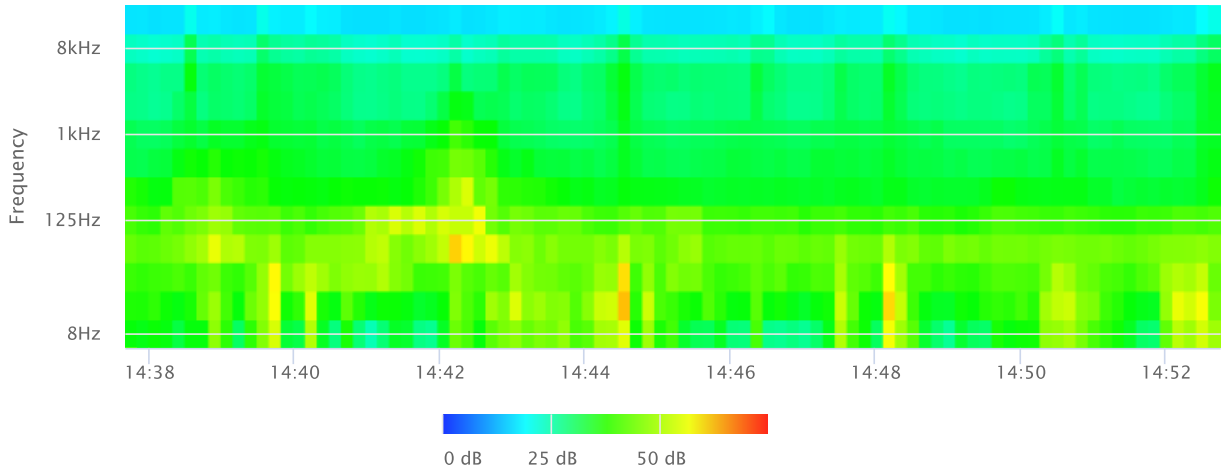
OBA 1/1 Leq



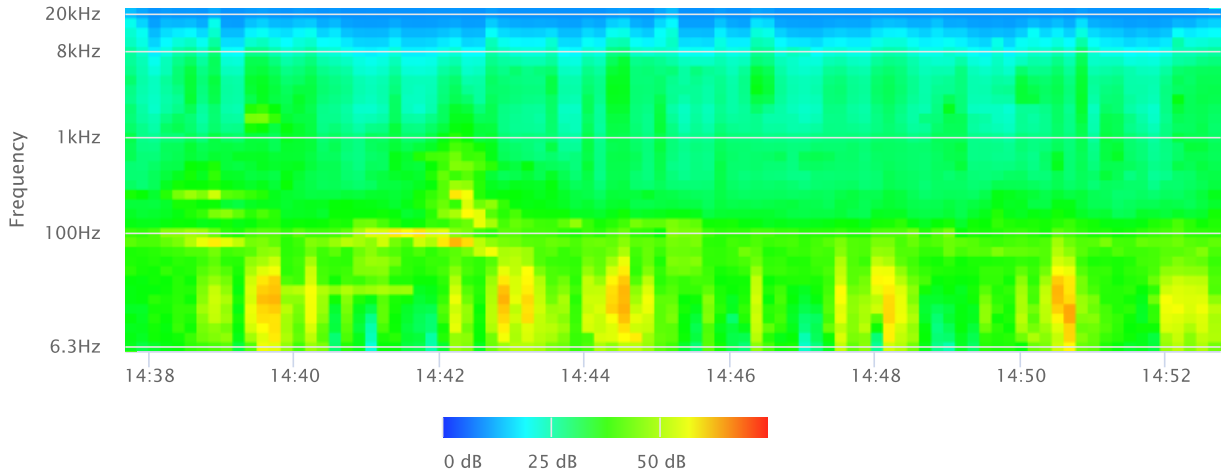
OBA 1/1 Lmax



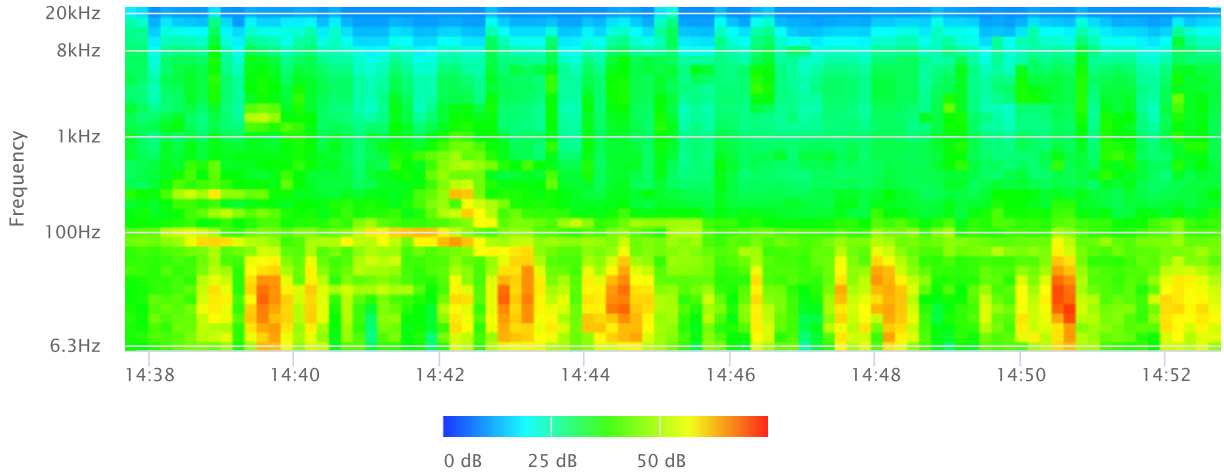
OBA 1/1 Lmin



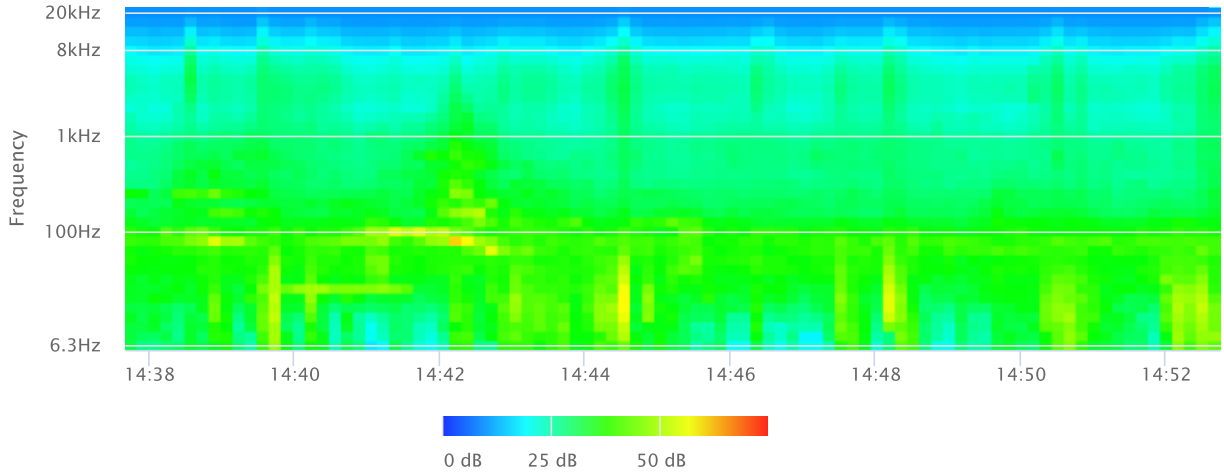
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:38
14:40
14:42
14:44
14:46
14:48
14:50
14:52
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM6 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 1149 Witherby Lane, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: On sidewalk just outside front yard to residence 1149

Witherby Ln. Adjacent: Residential neighborhood surrouding. Witherbly Lane to south with project site area ~320' N of NM6.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 4:06 PM **End Time:** 4:21 PM **Run Time:**

Leq: 48.4 dB

Lmax 64.8 dB

L2 58.5 dB

L8 53.4 dB

L25 45.1 dB

L50 40.4 dB

Primary Noise Source: Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead air traffic.

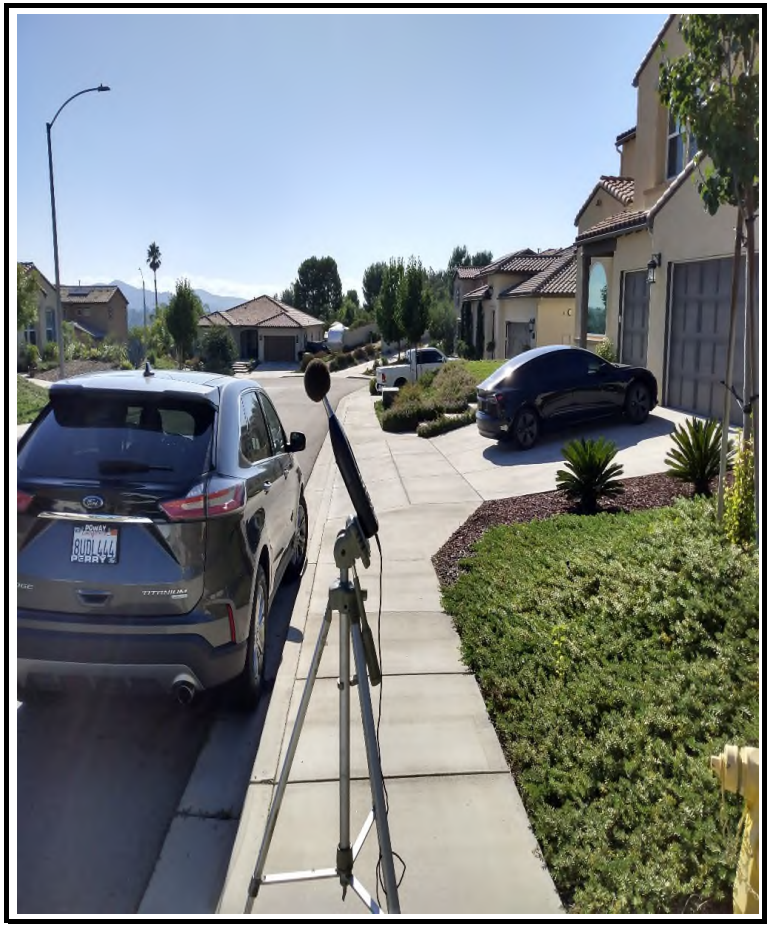
Secondary Noise Sources: Distant 15 Freeway and other traffic ambiance. 4 vehicles passed NM6 microphone traveling along Witherby Lane during 15 minute measurement.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM6 looking NE from sidewalk of Witherby Lane towards frontyard of residence 1149 Witherby Lane, Escondido.



NM6 looking W down Witherby Lane toward where the street turns to the left (~270').

Summary	
File Name on Meter	LxT_Data.334.s
File Name on PC	LxT_0003099-20230914 160624-LxT_Data.334.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM6 33° 9'47.01"N 117° 4'37.64"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 16:06:24
Stop	2023-09-14 16:21:24
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 16:06:01
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	122.9 dB

Results			
LA_{eq}	48.4		
LAE	77.9		
EA	6.888 µPa²h		
EA8	220.422 µPa²h		
EA40	1.102 mPa²h		
$LA_{peak\ (max)}$	2023-09-14 16:17:58	81.8 dB	
LAS_{max}	2023-09-14 16:17:58	64.8 dB	
LAS_{min}	2023-09-14 16:12:08	33.8 dB	
			Statistics
LC_{eq}	63.9 dB		**LA2.00** 58.5 dB
LA_{eq}	48.4 dB		**LA8.00** 53.4 dB
LC_{eq} - LA_{eq}	15.5 dB		**LA25.00** 45.1 dB
LAI_{eq}	52.1 dB		**LA50.00** 40.4 dB
LA_{eq}	48.4 dB		**LA66.60** 38.4 dB
LAI_{eq} - LA_{eq}	3.7 dB		**LA90.00** 35.8 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.334.s	Computer's File Name	LxT_0003099-20230914 160624-LxT_Data.334.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM6 33° 9'47.01"N 117° 4'37.64"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 16:06:24	Duration	0:15:00.0
End Time	2023-09-14 16:21:24	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	48.4 dB		
LAE	77.9 dB	SEA	--- dB
EA	6.9 µPa²h	LAFTM5	54.1 dB
EA8	220.4 µPa²h		
EA40	1.1 mPa²h		
LA_{peak}	81.8 dB	2023-09-14 16:17:58	
LAS_{max}	64.8 dB	2023-09-14 16:17:58	
LAS_{min}	33.8 dB	2023-09-14 16:12:08	
LA_{eq}	48.4 dB		
LC_{eq}	63.9 dB	LC_{eq} - LA_{eq}	15.5 dB
LAI_{eq}	52.1 dB	LAI_{eq} - LA_{eq}	3.7 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	48.4 dB		63.9 dB		--- dB	
$L_{S(max)}$	64.8 dB	2023-09-14 16:17:58	--- dB		--- dB	
$L_{S(min)}$	33.8 dB	2023-09-14 16:12:08	--- dB		--- dB	
$L_{Peak(max)}$	81.8 dB	2023-09-14 16:17:58	--- dB		--- dB	

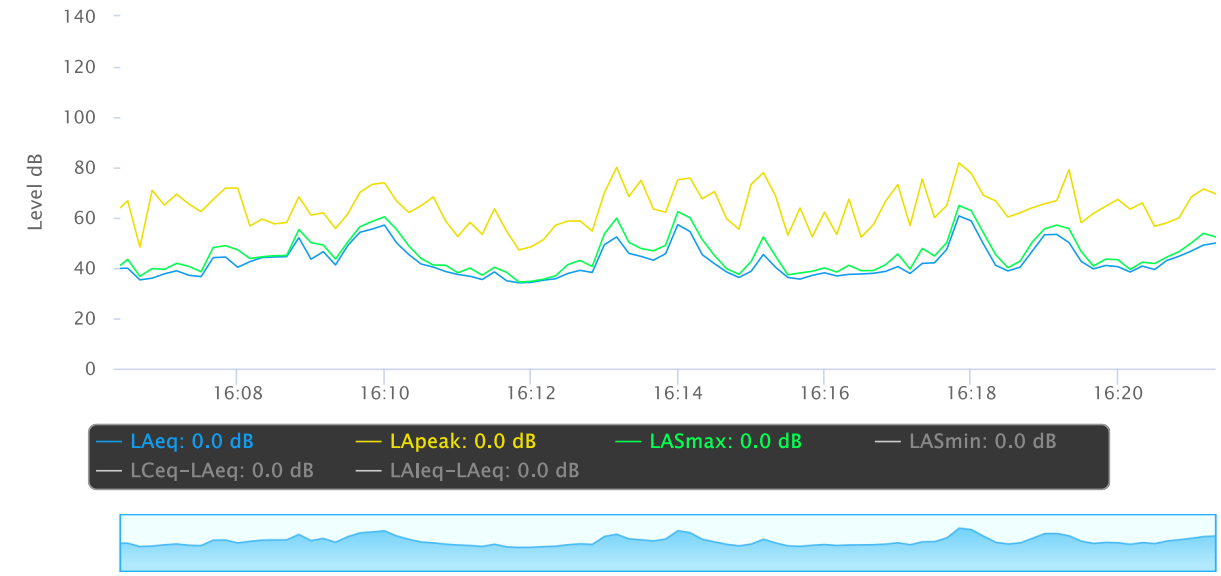
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

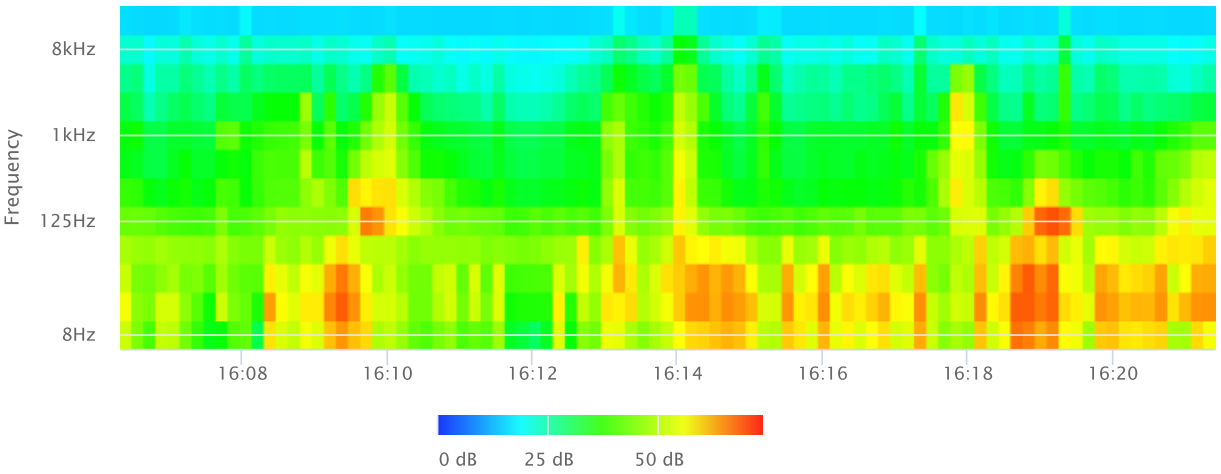
Statistics

LAS 2.0	58.5 dB
LAS 8.0	53.4 dB
LAS 25.0	45.1 dB
LAS 50.0	40.4 dB
LAS 66.6	38.4 dB
LAS 90.0	35.8 dB

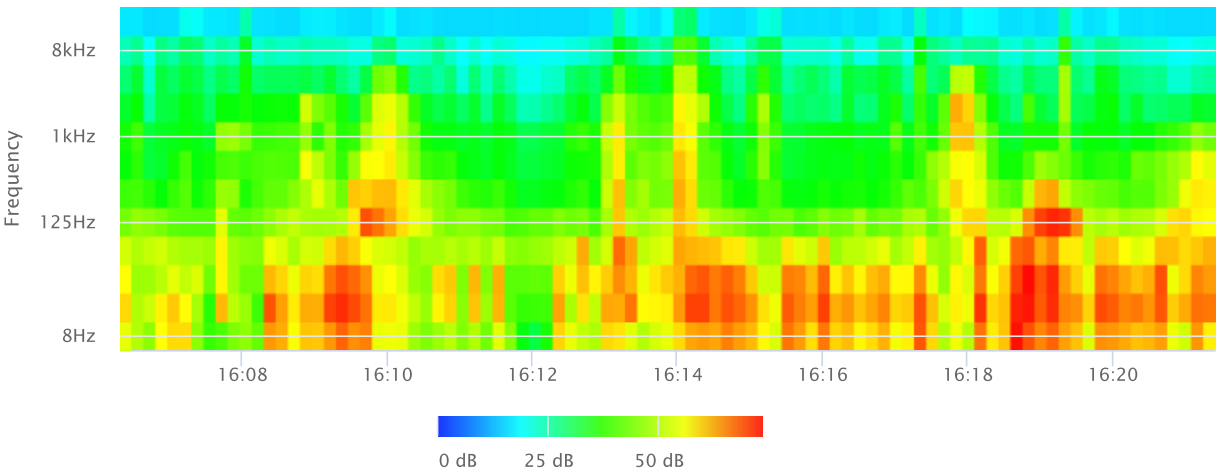
Time History



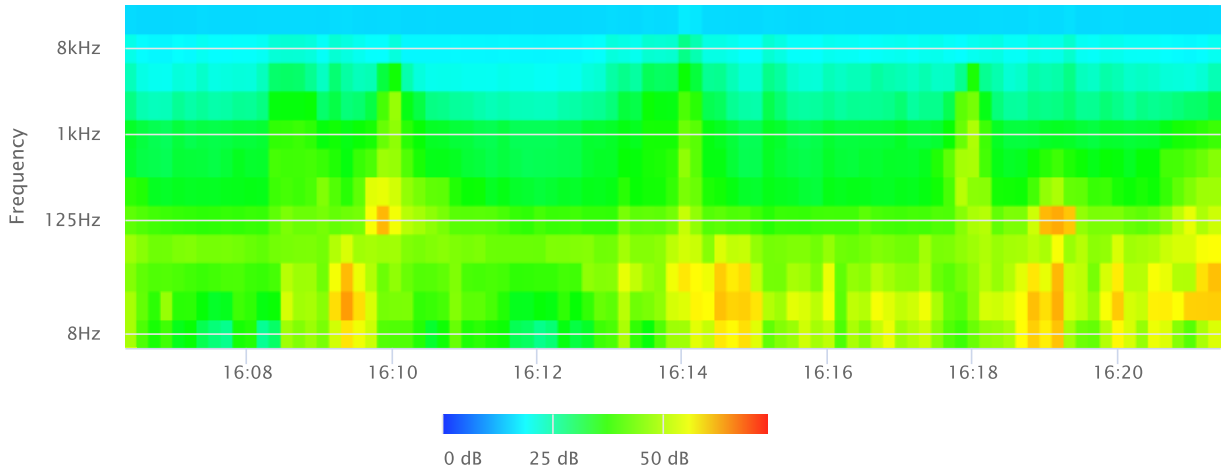
OBA 1/1 Leq



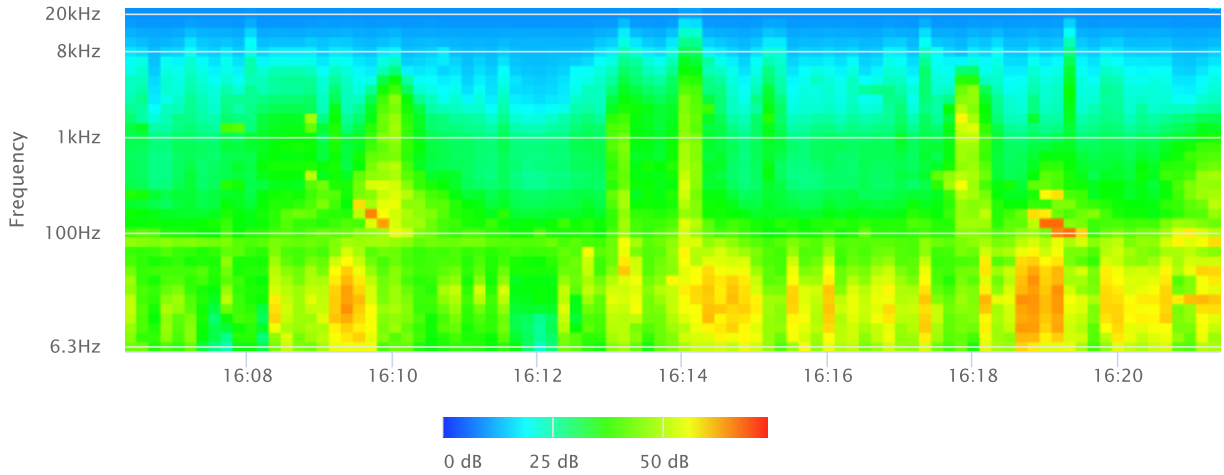
OBA 1/1 Lmax



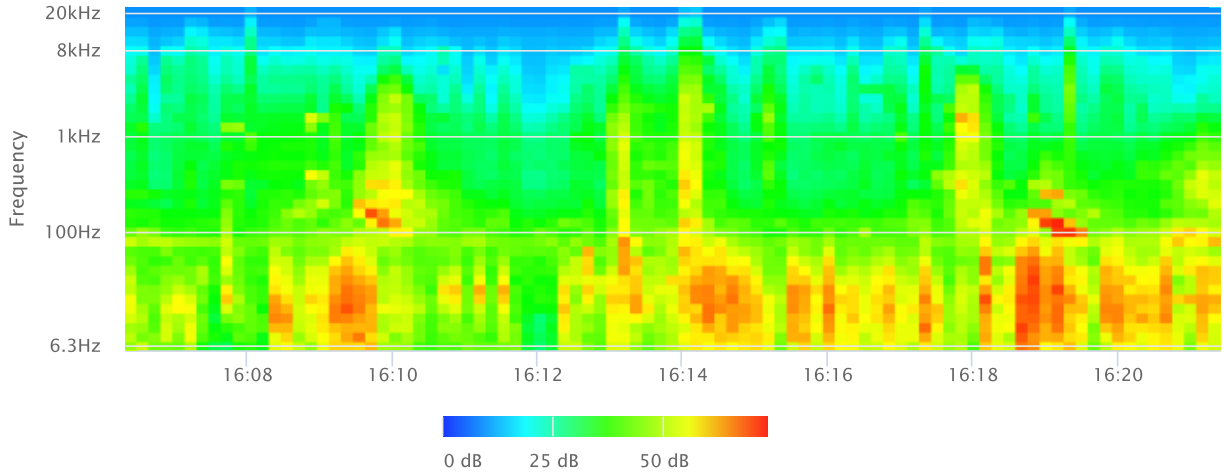
OBA 1/1 Lmin



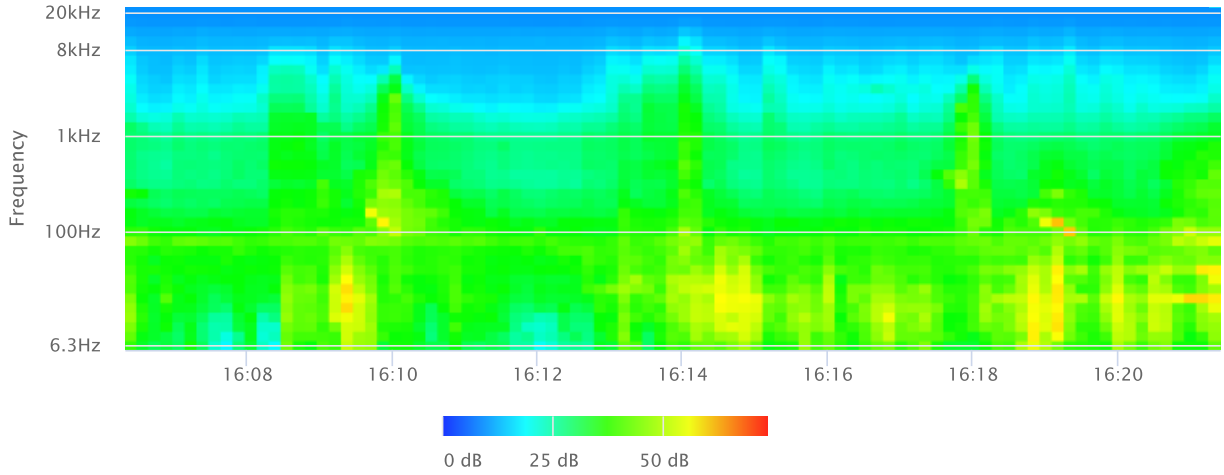
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
16:08
16:10
16:12
16:14
16:16
16:18
16:20
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: ISKCON of Escondido, City of Escondido **Date:** September 14, 2023

Project #: 19648

Noise Measurement #: NM7 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: At bend in Orange Blossom Way, Escondido, CA 92026

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: At bend in road, Orange Blossom Way, Escondido.

Adjacent: Citrus and various other trees in all directions with Orange Blossom Way to south. Project site area ~320' N of NM6.

Weather: Clear skies, sunshine. Sunset 6:59 PM **Settings:** SLOW FAST

Temperature: 70 deg F **Wind:** 8 mph **Humidity:** 64% **Terrain:** Flat

Start Time: 3:10 PM **End Time:** 3:25 PM **Run Time:**

Leq: 42.7 dB

Lmax 53.7 dB

L2 48.4 dB

L8 45.9 dB

L25 43.0 dB

L50 41.3 dB

Primary Noise Source: Leaf rustle from 8mph breeze. Bird song. Distant dogs barking. Some overhead air traffic.

Secondary Noise Sources: Distant 15 Freeway and other traffic ambiance. 1 vehicle passed NM6 micro-phone traveling along Orange Blossom Way during 15 minute measurement.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	9/14/2023		

Noise Measurement
Field Data

PHOTOS:

NM7 looking S across Orange Blossom way towards citrus trees.

NM7 looking SE past bend in Orange Blossom way, towards wood pile.

Summary	
File Name on Meter	LxT_Data.333.s
File Name on PC	LxT_0003099-20230914 151024-LxT_Data.333.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	NM7 33° 9'49.62"N 117° 4'44.56"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)

Measurement	
Start	2023-09-14 15:10:24
Stop	2023-09-14 15:25:24
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-09-14 15:10:01
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	C Weighting
OBA Max Spectrum	At LMax
Overload	123.0 dB

Results			
L_{Aeq}	42.7		
LAE	72.2		
EA	1.840943 µPa²h		
EA8	58.91018 µPa²h		
EA40	294.5509 µPa²h		
$L_{Apeak\ (max)}$	2023-09-14 15:11:41	86.2 dB	
L_{ASmax}	2023-09-14 15:10:28	53.7 dB	
L_{ASmin}	2023-09-14 15:14:56	37.4 dB	

		Statistics	
L_{Ceq}	55.4 dB	**LA2.00**	48.4 dB
L_{Aeq}	42.7 dB	**LA8.00**	45.9 dB
L_{Ceq} - L_{Aeq}	12.7 dB	**LA25.00**	43.0 dB
L_{AIeq}	46.9 dB	**LA50.00**	41.3 dB
L_{Aeq}	42.7 dB	**LA66.60**	40.4 dB
L_{AIeq} - L_{Aeq}	4.3 dB	**LA90.00**	39.1 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.333.s	Computer's File Name	LxT_0003099-20230914 151024-LxT_Data.333.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	NM7 33° 9'49.62"N 117° 4'44.56"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project # 19648 ISKCON of Escondido (City of Escondido)		
Start Time	2023-09-14 15:10:24	Duration	0:15:00.0
End Time	2023-09-14 15:25:24	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	42.7 dB		
LAE	72.2 dB	SEA	--- dB
EA	1.8 µPa²h	LAFTM5	47.7 dB
EA8	58.9 µPa²h		
EA40	294.6 µPa²h		
LA_{peak}	86.2 dB	2023-09-14 15:11:41	
LAS_{max}	53.7 dB	2023-09-14 15:10:28	
LAS_{min}	37.4 dB	2023-09-14 15:14:56	
LA_{eq}	42.7 dB		
LC_{eq}	55.4 dB	LC_{eq} - LA_{eq}	12.7 dB
LAI_{eq}	46.9 dB	LAI_{eq} - LA_{eq}	4.3 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	42.7 dB		55.4 dB		--- dB	
$L_{S(max)}$	53.7 dB	2023-09-14 15:10:28	--- dB		--- dB	
$L_{S(min)}$	37.4 dB	2023-09-14 15:14:56	--- dB		--- dB	
$L_{Peak(max)}$	86.2 dB	2023-09-14 15:11:41	--- dB		--- dB	

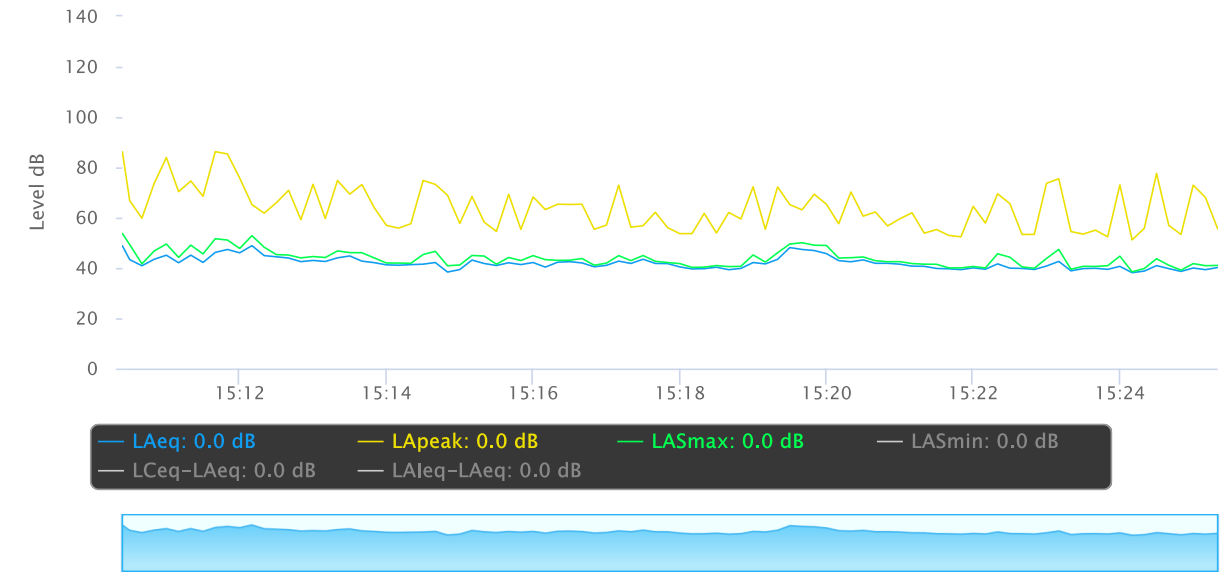
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

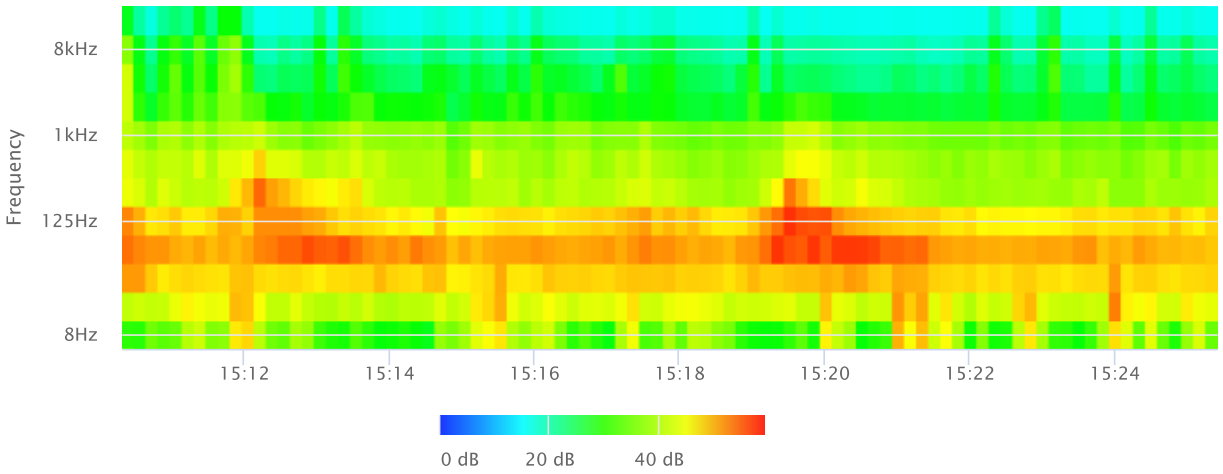
Statistics

LAS 2.0	48.4 dB
LAS 8.0	45.9 dB
LAS 25.0	43.0 dB
LAS 50.0	41.3 dB
LAS 66.6	40.4 dB
LAS 90.0	39.1 dB

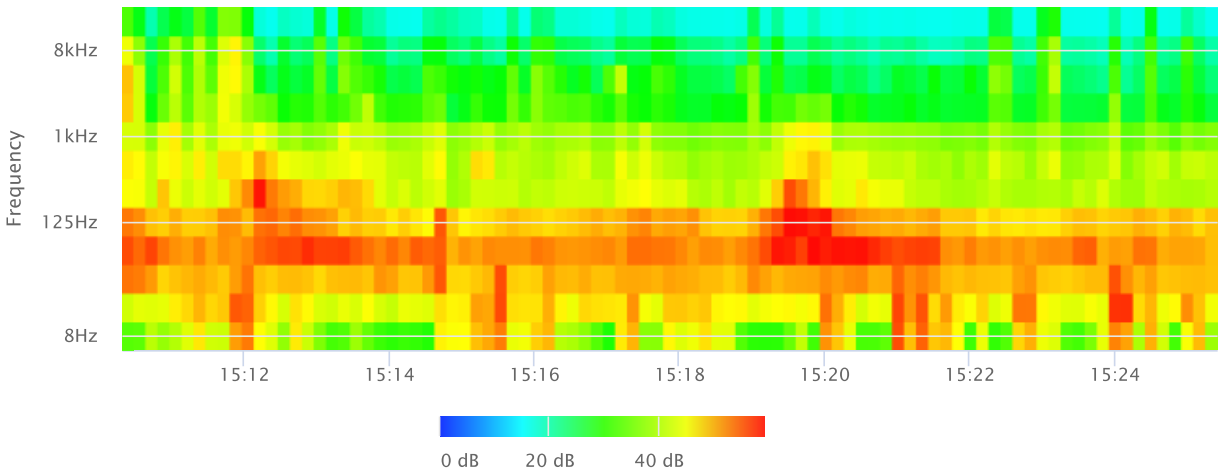
Time History



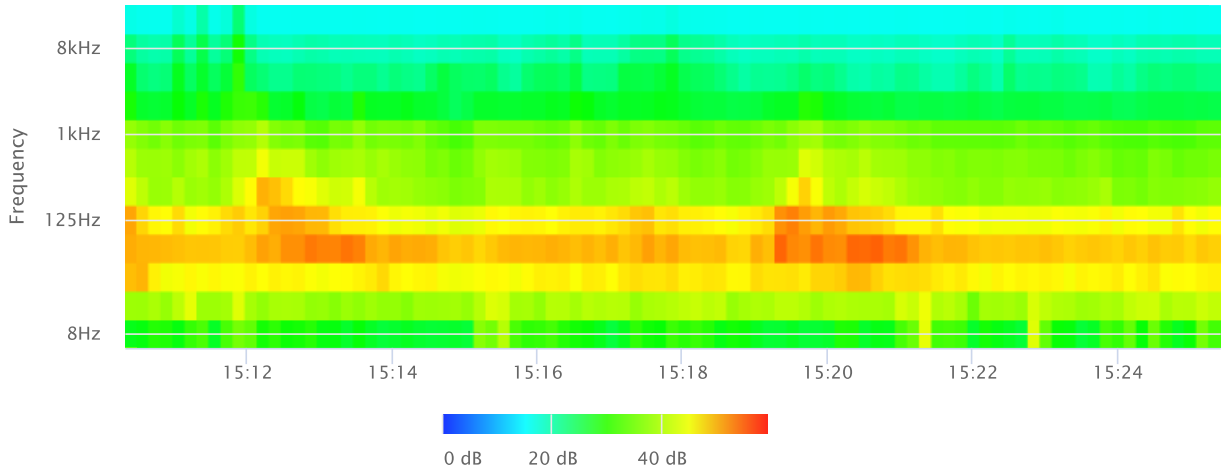
OBA 1/1 Leq



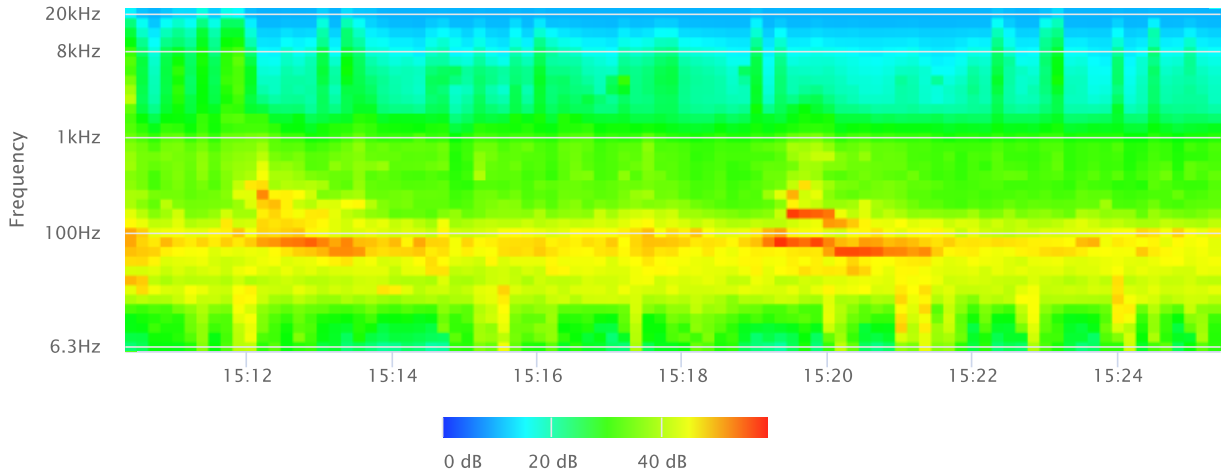
OBA 1/1 Lmax



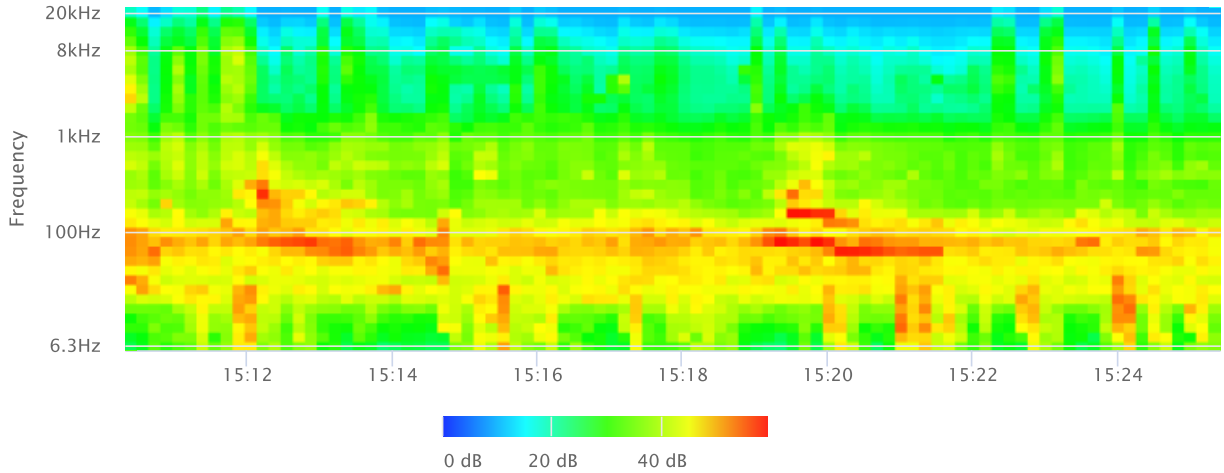
OBA 1/1 Lmin



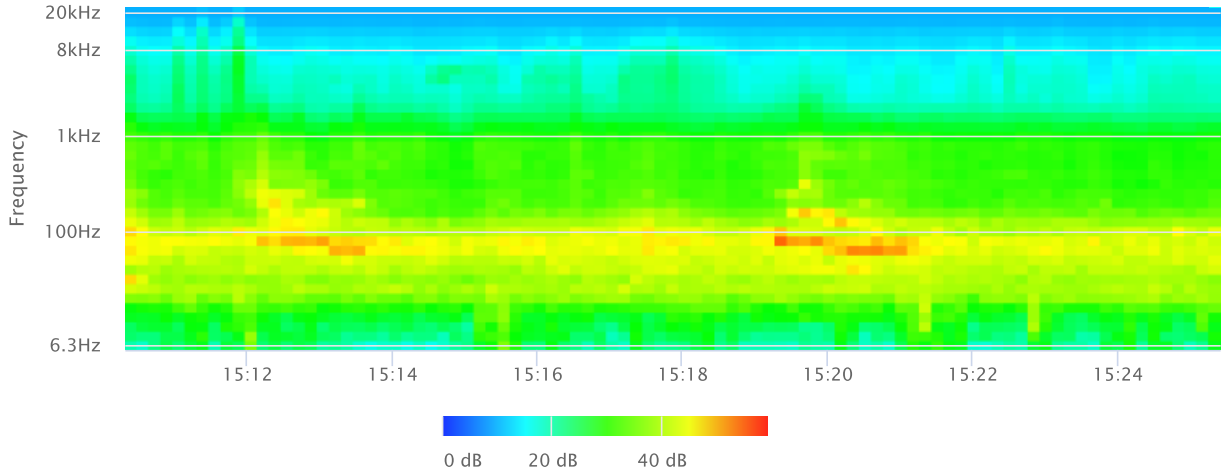
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:12
15:14
15:16
15:18
15:20
15:22
15:24
0 dB
20 dB
40 dB

APPENDIX D

CONSTRUCTION NOISE MODEL WORKSHEETS

Receptor - Residential to West (2281 Creek Hollow Place, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	331	40	0.40	-16.4	-4.0	65.6	61.6
Tractors/Loaders/Backhoes	1	84	331	40	0.40	-16.4	-4.0	67.6	63.6
								Log Sum	65.7
Grading									
Rubber Tired Dozers	1	82	331	40	0.40	-16.4	-4.0	65.6	61.6
Tractors/Loaders/Backhoes	3	84	331	40	1.20	-16.4	0.8	67.6	68.4
Excavators	1	81	331	40	0.40	-16.4	-4.0	64.6	60.6
Graders	1	85	331	40	0.40	-16.4	-4.0	68.6	64.6
								Log Sum	70.9
Building Construction									
Cranes	2	81	331	16	0.32	-16.4	-4.9	64.6	59.6
Forklifts[2]	4	48	331	40	1.60	-16.4	2.0	31.6	33.6
Generator Sets	1	81	331	50	0.50	-16.4	-3.0	64.6	61.6
Welders	2	74	331	40	0.80	-16.4	-1.0	57.6	56.6
Tractors/Loaders/Backhoes	5	84	331	40	2.00	-16.4	3.0	67.6	70.6
								Log Sum	71.5
Paving									
Pavers	2	77	331	50	1.00	-16.4	0.0	60.6	60.6
Paving Equipment	2	77	331	50	1.00	-16.4	0.0	60.6	60.6
Rollers	2	80	331	20	0.40	-16.4	-4.0	63.6	59.6
								Log Sum	65.1
Architectural Coating									
Air Compressors	1	78	331	40	0.40	-16.4	-4.0	61.6	57.6
								Log Sum	57.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

Receptor - Residential to Northwest (2352 Briarwood Place, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	614	40	0.40	-21.8	-4.0	60.2	56.2
Tractors/Loaders/Backhoes	1	84	614	40	0.40	-21.8	-4.0	62.2	58.2
								Log Sum	60.4
Grading									
Rubber Tired Dozers	1	82	614	40	0.40	-21.8	-4.0	60.2	56.2
Tractors/Loaders/Backhoes	3	84	614	40	1.20	-21.8	0.8	62.2	63.0
Excavators	1	81	614	40	0.40	-21.8	-4.0	59.2	55.2
Graders	1	85	614	40	0.40	-21.8	-4.0	63.2	59.2
								Log Sum	65.6
Building Construction									
Cranes	2	81	614	16	0.32	-21.8	-4.9	59.2	54.3
Forklifts[2]	4	48	614	40	1.60	-21.8	2.0	26.2	28.3
Generator Sets	1	81	614	50	0.50	-21.8	-3.0	59.2	56.2
Welders	2	74	614	40	0.80	-21.8	-1.0	52.2	51.2
Tractors/Loaders/Backhoes	5	84	614	40	2.00	-21.8	3.0	62.2	65.2
								Log Sum	66.2
Paving									
Pavers	2	77	614	50	1.00	-21.8	0.0	55.2	55.2
Paving Equipment	2	77	614	50	1.00	-21.8	0.0	55.2	55.2
Rollers	2	80	614	20	0.40	-21.8	-4.0	58.2	54.2
								Log Sum	59.7
Architectural Coating									
Air Compressors	1	78	614	40	0.40	-21.8	-4.0	56.2	52.2
								Log Sum	52.2

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

Receptor - Agricultural/Commercial to North (1430 Rincon Avenue, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	299	40	0.40	-15.5	-4.0	66.5	62.5
Tractors/Loaders/Backhoes	1	84	299	40	0.40	-15.5	-4.0	68.5	64.5
								Log Sum	66.6
Grading									
Rubber Tired Dozers	1	82	299	40	0.40	-15.5	-4.0	66.5	62.5
Tractors/Loaders/Backhoes	3	84	299	40	1.20	-15.5	0.8	68.5	69.3
Excavators	1	81	299	40	0.40	-15.5	-4.0	65.5	61.5
Graders	1	85	299	40	0.40	-15.5	-4.0	69.5	65.5
								Log Sum	71.8
Building Construction									
Cranes	2	81	299	16	0.32	-15.5	-4.9	65.5	60.5
Forklifts[2]	4	48	299	40	1.60	-15.5	2.0	32.5	34.5
Generator Sets	1	81	299	50	0.50	-15.5	-3.0	65.5	62.5
Welders	2	74	299	40	0.80	-15.5	-1.0	58.5	57.5
Tractors/Loaders/Backhoes	5	84	299	40	2.00	-15.5	3.0	68.5	71.5
								Log Sum	72.4
Paving									
Pavers	2	77	299	50	1.00	-15.5	0.0	61.5	61.5
Paving Equipment	2	77	299	50	1.00	-15.5	0.0	61.5	61.5
Rollers	2	80	299	20	0.40	-15.5	-4.0	64.5	60.5
								Log Sum	65.9
Architectural Coating									
Air Compressors	1	78	299	40	0.40	-15.5	-4.0	62.5	58.5
								Log Sum	58.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

Receptor - Residential to Northeast (1448 Rincon Avenue, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	527	40	0.40	-20.5	-4.0	61.5	57.6
Tractors/Loaders/Backhoes	1	84	527	40	0.40	-20.5	-4.0	63.5	59.6
								Log Sum	61.7
Grading									
Rubber Tired Dozers	1	82	527	40	0.40	-20.5	-4.0	61.5	57.6
Tractors/Loaders/Backhoes	3	84	527	40	1.20	-20.5	0.8	63.5	64.3
Excavators	1	81	527	40	0.40	-20.5	-4.0	60.5	56.6
Graders	1	85	527	40	0.40	-20.5	-4.0	64.5	60.6
								Log Sum	66.9
Building Construction									
Cranes	2	81	527	16	0.32	-20.5	-4.9	60.5	55.6
Forklifts[2]	4	48	527	40	1.60	-20.5	2.0	27.5	29.6
Generator Sets	1	81	527	50	0.50	-20.5	-3.0	60.5	57.5
Welders	2	74	527	40	0.80	-20.5	-1.0	53.5	52.6
Tractors/Loaders/Backhoes	5	84	527	40	2.00	-20.5	3.0	63.5	66.6
								Log Sum	67.5
Paving									
Pavers	2	77	527	50	1.00	-20.5	0.0	56.5	56.5
Paving Equipment	2	77	527	50	1.00	-20.5	0.0	56.5	56.5
Rollers	2	80	527	20	0.40	-20.5	-4.0	59.5	55.6
								Log Sum	61.0
Architectural Coating									
Air Compressors	1	78	527	40	0.40	-20.5	-4.0	57.5	53.6
								Log Sum	53.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

Receptor - Residential/Agricultural to East/Southeast (1643 Rincon Avenue, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	820	40	0.40	-24.3	-4.0	57.7	53.7
Tractors/Loaders/Backhoes	1	84	820	40	0.40	-24.3	-4.0	59.7	55.7
								Log Sum	57.8
Grading									
Rubber Tired Dozers	1	82	820	40	0.40	-24.3	-4.0	57.7	53.7
Tractors/Loaders/Backhoes	3	84	820	40	1.20	-24.3	0.8	59.7	60.5
Excavators	1	81	820	40	0.40	-24.3	-4.0	56.7	52.7
Graders	1	85	820	40	0.40	-24.3	-4.0	60.7	56.7
								Log Sum	63.0
Building Construction									
Cranes	2	81	820	16	0.32	-24.3	-4.9	56.7	51.8
Forklifts[2]	4	48	820	40	1.60	-24.3	2.0	23.7	25.7
Generator Sets	1	81	820	50	0.50	-24.3	-3.0	56.7	53.7
Welders	2	74	820	40	0.80	-24.3	-1.0	49.7	48.7
Tractors/Loaders/Backhoes	5	84	820	40	2.00	-24.3	3.0	59.7	62.7
								Log Sum	63.7
Paving									
Pavers	2	77	820	50	1.00	-24.3	0.0	52.7	52.7
Paving Equipment	2	77	820	50	1.00	-24.3	0.0	52.7	52.7
Rollers	2	80	820	20	0.40	-24.3	-4.0	55.7	51.7
								Log Sum	57.2
Architectural Coating									
Air Compressors	1	78	820	40	0.40	-24.3	-4.0	53.7	49.7
								Log Sum	49.7

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

Receptor - Residential to South (1165 Witherby Lane, Escondido)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	1156	40	0.40	-27.3	-4.0	54.7	50.7
Tractors/Loaders/Backhoes	1	84	1156	40	0.40	-27.3	-4.0	56.7	52.7
								Log Sum	54.9
Grading									
Rubber Tired Dozers	1	82	1156	40	0.40	-27.3	-4.0	54.7	50.7
Tractors/Loaders/Backhoes	3	84	1156	40	1.20	-27.3	0.8	56.7	57.5
Excavators	1	81	1156	40	0.40	-27.3	-4.0	53.7	49.7
Graders	1	85	1156	40	0.40	-27.3	-4.0	57.7	53.7
								Log Sum	60.1
Building Construction									
Cranes	2	81	1156	16	0.32	-27.3	-4.9	53.7	48.8
Forklifts[2]	4	48	1156	40	1.60	-27.3	2.0	20.7	22.8
Generator Sets	1	81	1156	50	0.50	-27.3	-3.0	53.7	50.7
Welders	2	74	1156	40	0.80	-27.3	-1.0	46.7	45.8
Tractors/Loaders/Backhoes	5	84	1156	40	2.00	-27.3	3.0	56.7	59.7
								Log Sum	60.7
Paving									
Pavers	2	77	1156	50	1.00	-27.3	0.0	49.7	49.7
Paving Equipment	2	77	1156	50	1.00	-27.3	0.0	49.7	49.7
Rollers	2	80	1156	20	0.40	-27.3	-4.0	52.7	48.7
								Log Sum	54.2
Architectural Coating									
Air Compressors	1	78	1156	40	0.40	-27.3	-4.0	50.7	46.7
								Log Sum	46.7

Notes:

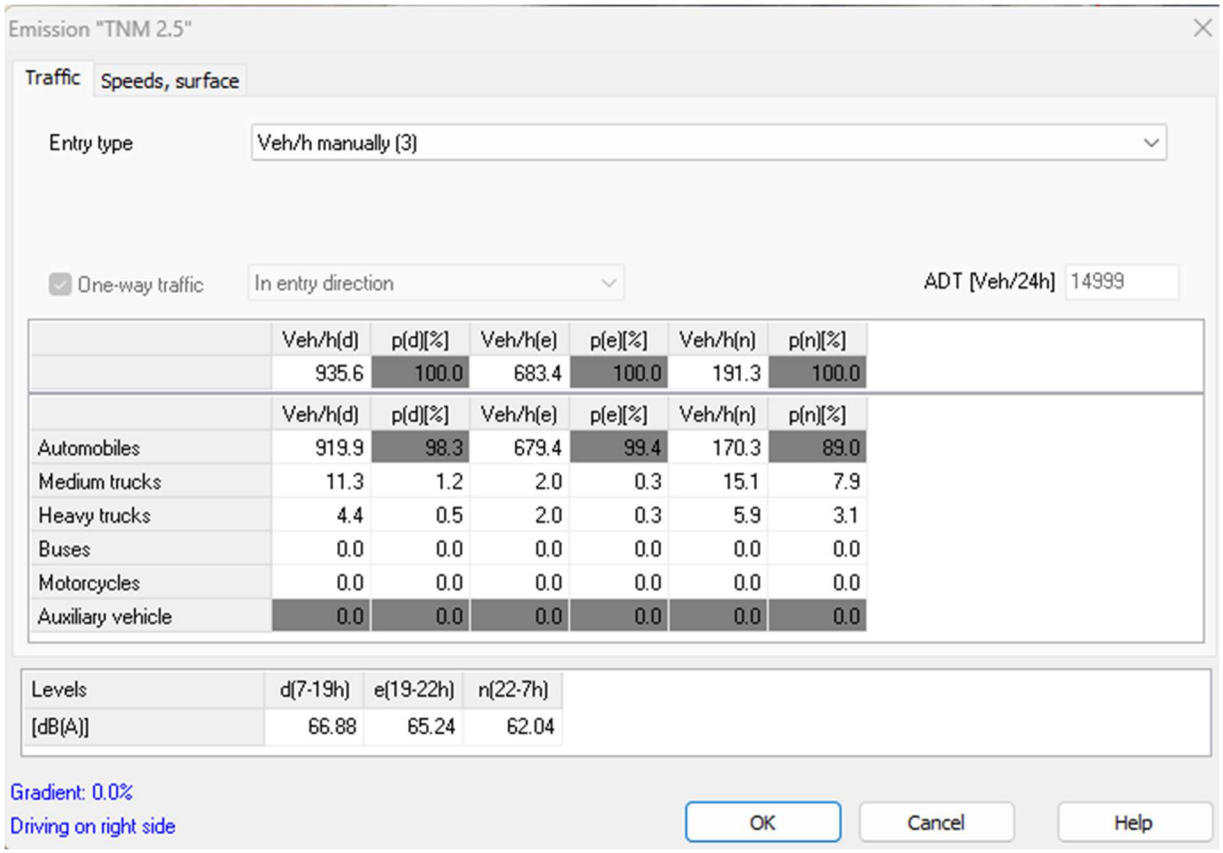
(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the distrubed area of the project site to nearest sensitive use (property line).

APPENDIX E

SOUNDPLAN WORKSHEETS



Emission "TNM 2.5"

Traffic | Speeds, surface

Entry type: Veh/h manually (3)

One-way traffic: In entry direction

ADT [Veh/24h]: 14999

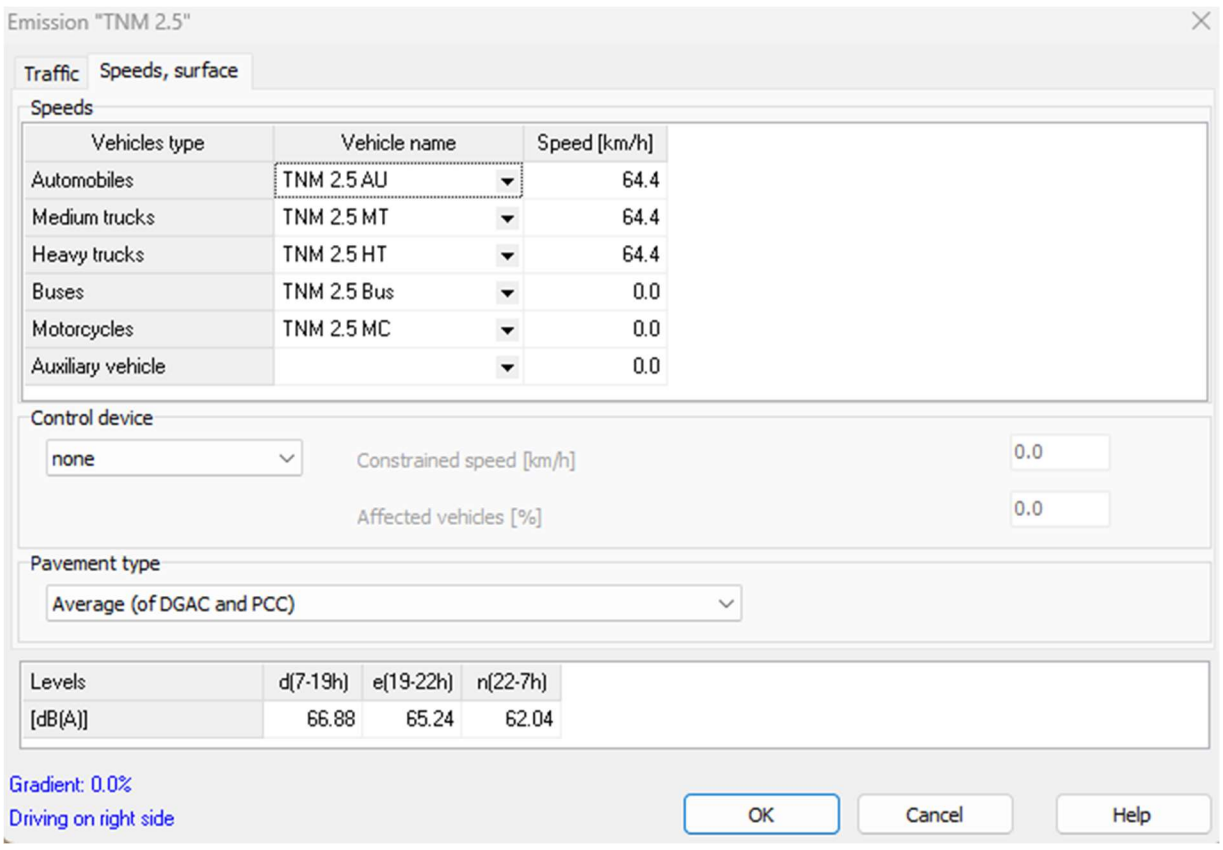
	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
	935.6	100.0	683.4	100.0	191.3	100.0
	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
Automobiles	919.9	98.3	679.4	99.4	170.3	89.0
Medium trucks	11.3	1.2	2.0	0.3	15.1	7.9
Heavy trucks	4.4	0.5	2.0	0.3	5.9	3.1
Buses	0.0	0.0	0.0	0.0	0.0	0.0
Motorcycles	0.0	0.0	0.0	0.0	0.0	0.0
Auxiliary vehicle	0.0	0.0	0.0	0.0	0.0	0.0

Levels	d(7-19h)	e(19-22h)	n(22-7h)
[dB(A)]	66.88	65.24	62.04

Gradient: 0.0%

Driving on right side

OK | Cancel | Help



Emission "TNM 2.5"

Traffic | Speeds, surface

Speeds

Vehicles type	Vehicle name	Speed [km/h]
Automobiles	TNM 2.5 AU	64.4
Medium trucks	TNM 2.5 MT	64.4
Heavy trucks	TNM 2.5 HT	64.4
Buses	TNM 2.5 Bus	0.0
Motorcycles	TNM 2.5 MC	0.0
Auxiliary vehicle		0.0

Control device

none

Constrained speed [km/h]: 0.0

Affected vehicles [%]: 0.0

Pavement type

Average (of DGAC and PCC)

Levels	d(7-19h)	e(19-22h)	n(22-7h)
[dB(A)]	66.88	65.24	62.04

Gradient: 0.0%

Driving on right side

OK | Cancel | Help

Receiver list

No.	Receiver name	Building side	Floor	Limit				Level				Conflict			
				Day	Evenin	Night	Lden	Day	Evenin	Night	Lden	Day	Evenin	Night	Lden
				dB(A)				dB(A)				dB			
1	2	-	EG	-	-	-	-	64.7	63.0	60.1	67.8	-	-	-	-
2		-	EG	-	-	-	-	60.2	58.5	55.9	63.5	-	-	-	-
3	3	-	EG	-	-	-	-	59.5	57.8	54.8	62.6	-	-	-	-

Noise emissions of industry sources

Source name	Reference	Level		Frequency spectrum [dB(A)]										Corrections		
				31	63	125	250	500	1	2	4	8	16	Cwall	CI	CT
			dB(A)	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
2	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
3	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
4	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
5	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
6	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
7	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
8	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-
9	Lw/unit	Day	78.7	42.5	46.5	59.5	64.5	58.5	69.5	71.5	70.5	72.5	72.5	-	-	-

Noise emissions of parking lot traffic

Name	Parking lot type	Size	Movements per hour			Road surface	Separated method	Lw,ref
			Day	Evening	Night			dB(A)
P1	Visitors and staff	14 Parking bays	0.200	0.000	0.000	Asphaltic driving lanes	no	76.2
P2	Visitors and staff	18 Parking bays	0.200	0.000	0.000	Asphaltic driving lanes	no	77.9
P3	Visitors and staff	18 Parking bays	0.200	0.000	0.000	Asphaltic driving lanes	no	77.9
P4	Visitors and staff	23 Parking bays	0.200	0.000	0.000	Asphaltic driving lanes	no	79.5

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	29.7	-
2	2	-	EG	-	25.1	-
3	3	-	EG	-	32.0	-
4	4	-	EG	-	-0.2	-
5	5	-	EG	-	22.4	-
6	6	-	EG	-	11.3	-
7	7	-	EG	-	17.7	-

APPENDIX F

FHWA TRAFFIC NOISE MODEL WORKSHEETS

Existing Traffic Noise

1	:Id	
North Broadway	:Road	
North of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6900
Speed	40
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	423.17	5.17	2.01	312.73	0.92	0.92	78.33	6.90	2.68
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.94	0.81	-3.29	18.63	-6.70	-6.68	12.61	2.06	-2.04
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.30	54.13	54.88	62.99	46.62	51.48	56.98	55.38	56.13
	DAY LEQ	65.13		EVENING LEQ	63.38		NIGHT LEQ	60.98	

F	CNEL	68.57	
	DAY LEQ	65.13	

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

1	:Id	
North Broadway	:Road	
North of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6909
Speed	40
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	423.73	5.18	2.02	313.14	0.92	0.92	78.43	6.91	2.69
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.94	0.82	-3.28	18.63	-6.69	-6.68	12.62	2.07	-2.03
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.31	54.14	54.88	63.00	46.63	51.49	56.98	55.39	56.13
	DAY LEQ	65.14		EVENING LEQ	63.39		NIGHT LEQ	60.99	

CNEL	68.57
DAY LEQ	65.14

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

2	:Id	
North Broadway	:Road	
South of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4200
Speed	40
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	257.58	3.15	1.23	190.36	0.56	0.56	47.68	4.20	1.63
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.78	-1.34	-5.44	16.47	-8.85	-8.84	10.46	-0.09	-4.20
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.15	51.98	52.72	60.84	44.47	49.32	54.82	53.22	53.97
	DAY LEQ	62.98		EVENING LEQ	61.22		NIGHT LEQ	58.83	

CNEL	**66.41**
DAY LEQ	62.98

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

2	:Id	
North Broadway	:Road	
South of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4245
Speed	40
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	260.34	3.18	1.24	192.40	0.56	0.57	48.19	4.24	1.65
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.83	-1.30	-5.40	16.52	-8.81	-8.79	10.50	-0.05	-4.15
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.19	52.02	52.77	60.88	44.51	49.37	54.87	53.27	54.02
	DAY LEQ	63.02		EVENING LEQ	61.27		NIGHT LEQ	58.87	

CNEL	66.46
DAY LEQ	63.02

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

3	:Id	
North Ash Street	:Road	
South of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	3900
Speed	35
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	239.19	2.92	1.14	176.76	0.52	0.52	44.27	3.90	1.52
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	18.04	-1.09	-5.19	16.73	-8.59	-8.58	10.72	0.16	-3.94
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.16	50.75	51.87	58.84	43.24	48.47	52.83	52.00	53.11
	DAY LEQ	61.17		EVENING LEQ	59.33		NIGHT LEQ	57.44	

CNEL	64.88
DAY LEQ	61.17

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

3	:Id	
North Ash Street	:Road	
South of Rincon Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	3909
Speed	35
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	239.74	2.93	1.14	177.17	0.52	0.52	44.38	3.91	1.52
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	18.05	-1.08	-5.18	16.74	-8.58	-8.57	10.73	0.17	-3.93
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.17	50.76	51.88	58.85	43.25	48.48	52.84	52.01	53.12
	DAY LEQ	61.18		EVENING LEQ	59.34		NIGHT LEQ	57.45	

CNEL	64.89
DAY LEQ	61.18

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

4	:Id
Conway Drive	:Road
South of Rincon Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1200
Speed	35
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	73.60	0.90	0.35	54.39	0.16	0.16	13.62	1.20	0.47
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	12.92	-6.20	-10.31	11.61	-13.71	-13.70	5.60	-4.95	-9.06
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	55.04	45.63	46.75	53.72	38.12	43.35	47.71	46.88	48.00
	DAY LEQ	56.05		EVENING LEQ	54.21		NIGHT LEQ	52.33	

CNEL	59.76
DAY LEQ	56.05

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

4	:Id
Conway Drive	:Road
South of Rincon Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1209
Speed	35
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	74.15	0.91	0.35	54.80	0.16	0.16	13.73	1.21	0.47
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	12.95	-6.17	-10.27	11.64	-13.68	-13.67	5.63	-4.92	-9.02
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	55.07	45.66	46.78	53.76	38.15	43.38	47.74	46.91	48.03
	DAY LEQ	56.08		EVENING LEQ	54.25		NIGHT LEQ	52.36	

CNEL	59.79
DAY LEQ	56.08

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

5	:Id	
Rincon Avenue	:Road	
West of North Broadway	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	8400
Speed	40
Distance	40
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	515.17	6.30	2.45	380.72	1.12	1.12	95.36	8.40	3.27
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	20.79	1.67	-2.43	19.48	-5.84	-5.83	13.47	2.92	-1.19
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.05	53.88	54.62	62.74	46.37	51.23	56.73	55.13	55.87
	DAY LEQ	64.88		EVENING LEQ	63.13		NIGHT LEQ	60.73	

CNEL	68.32
DAY LEQ	64.88

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

5	:Id	ADT	8499
Rincon Avenue	:Road	Speed	40
West of North Broadway	:Segment	Distance	40
		Left Angle	-90
		Right Angle	90

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	521.24	6.37	2.48	385.20	1.13	1.13	96.48	8.50	3.31
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	20.84	1.72	-2.38	19.53	-5.79	-5.78	13.52	2.97	-1.13
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.10	53.93	54.67	62.79	46.42	51.28	56.78	55.18	55.92
	DAY LEQ	64.93		EVENING LEQ	63.18		NIGHT LEQ	60.78	

CNEL	68.37	Day hour	93.00
DAY LEQ	64.93	Absorptive?	no
		Use hour?	no
		GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

6	:Id
Rincon Avenue	:Road
North Broadway to North Ash Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6300
Speed	40
Distance	40
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	386.38	4.72	1.84	285.54	0.84	0.84	71.52	6.30	2.45
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.54	0.42	-3.68	18.23	-7.09	-7.08	12.22	1.67	-2.43
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.80	52.63	53.37	61.49	45.12	49.98	55.48	53.88	54.62
	DAY LEQ	63.63		EVENING LEQ	61.88		NIGHT LEQ	59.48	

CNEL	67.07
DAY LEQ	63.63

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

6	:Id
Rincon Avenue	:Road
North Broadway to North Ash Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6461
Speed	40
Distance	40
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	396.25	4.85	1.88	292.83	0.86	0.86	73.35	6.46	2.51
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.65	0.53	-3.57	18.34	-6.98	-6.97	12.33	1.78	-2.32
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.91	52.74	53.48	61.60	45.23	50.09	55.59	53.99	54.73
	DAY LEQ	63.74		EVENING LEQ	61.99		NIGHT LEQ	59.59	

CNEL	67.18
DAY LEQ	63.74

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

7	:Id
Rincon Avenue	:Road
North Ash Street to Conway Drive	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5000
Speed	40
Distance	40
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	306.65	3.75	1.46	226.62	0.67	0.67	56.76	5.00	1.94
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	18.54	-0.59	-4.69	17.23	-8.10	-8.08	11.21	0.66	-3.44
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.80	51.63	52.37	60.49	44.12	48.97	54.47	52.87	53.62
	DAY LEQ	62.63		EVENING LEQ	60.87		NIGHT LEQ	58.48	

CNEL	66.06
DAY LEQ	62.63

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

7	:Id
Rincon Avenue	:Road
North Ash Street to Conway Drive	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5313
Speed	40
Distance	40
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	325.84	3.98	1.55	240.80	0.71	0.71	60.32	5.31	2.07
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	18.80	-0.32	-4.42	17.49	-7.83	-7.82	11.48	0.93	-3.17
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.06	51.89	52.63	60.75	44.38	49.24	54.74	53.14	53.88
	DAY LEQ	62.89		EVENING LEQ	61.14		NIGHT LEQ	58.74	

CNEL	66.33
DAY LEQ	62.89

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

8	:Id
Rincon Avenue	:Road
East of Conway Drive	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	3000
Speed	40
Distance	31
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	183.99	2.25	0.88	135.97	0.40	0.40	34.06	3.00	1.17
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	16.32	-2.80	-6.91	15.01	-10.31	-10.30	9.00	-1.56	-5.66
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.69	50.51	51.26	59.37	43.01	47.86	53.36	51.76	52.51
	DAY LEQ	61.52		EVENING LEQ	59.76		NIGHT LEQ	57.36	

CNEL	64.95
DAY LEQ	61.52

Day hour	96.00
Absorptive?	no
Use hour?	no
GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

8	:Id	Vehicle Distribution (Light Truck Mix)				ADT	3078
Rincon Avenue	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	40
East of Conway Drive	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	31
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	188.77	2.31	0.90	139.51	0.41	0.41	34.94	3.08	1.20
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	16.43	-2.69	-6.79	15.12	-10.20	-10.19	9.11	-1.44	-5.55
Distance	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.80	50.63	51.37	59.49	43.12	47.97	53.47	51.87	52.62
	DAY LEQ	61.63		EVENING LEQ	59.87		NIGHT LEQ	57.48	

CNEL	65.06	Day hour	96.00
DAY LEQ	61.63	Absorptive?	no
		Use hour?	no
		GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

APPENDIX G

GROUNDBORNE VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:	2292 Creek Hollow Place, Escondido, CA		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	21.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.273	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido		Date: 9/29/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:	2292 Creek Hollow Place, Escondido, CA		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	21.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.116	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to Northwest		
Address:	2332 Briarwood Place, Escondido, CA		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	249.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.007	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to Northwest		
Address:	2332 Briarwood Place, Escondido, CA		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	249.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.003	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido		Date: 9/29/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to North		
Address:	1501 Rincon Avenue, Escondido, CA		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	80.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.037	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to North		
Address:	1501 Rincon Avenue, Escondido, CA		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	80.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.016	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido		Date: 9/29/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to Northeast		
Address:	1448 Rincon Avenue, Escondido, CA		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	70.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.045	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to Northeast		
Address:	1448 Rincon Avenue, Escondido, CA		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	70.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.019	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to Souh		
Address:	Krishna Farm, 1365 Rincon Avenue, Escondido, CA (located within southern portion of project site)		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	75.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.040	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19648 ISKCON of Escondido	Date:	9/29/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to Souh		
Address:	Krishna Farm, 1365 Rincon Avenue, Escondido, CA (located within southern portion of project site)		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	75.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.017	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido		Date: 9/29/23
Source:	Vibratory Roller		
Scenario:	BMPs		
Location:	Threshold for Damage		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	26.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.198	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19648 ISKCON of Escondido		Date: 9/29/23
Source:	Large Bulldozer		
Scenario:	BMPs		
Location:	Threshold for Damage		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.191	IN/SEC	OUTPUT IN BLUE

Construction Annoyance Vibration Calculations

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018).

Eq. 7-3: $Lvdistance = Lvref - 30\log(D/25)$

Lvdistance = the rms velocity level adjsuted for distance, VdB
Lvref = the source reference vibration level at 25 feet, VdB
D = distance from the equipment to th receiver, ft.

Large Bulldozer:

Residential to West: Lvdistance = 87 - 30 log (21/25) = 89.27 VdB
Residential to Northwest: Lvdistance = 87 - 30 log (249/25) = 57.05 VdB
Residential to Northeast: Lvdistance = 87 - 30 log (70/25) = 73.56 VdB
Residential to South: Lvdistance = 87 - 30 log (75/25) = 72.68 VdB

Under Threshold Mitigation Distance: 87 - 30 log (80/25) = 71.85 VdB

Vibratory Roller:

Residential to West: Lvdistance = 94 - 30 log (21/25) = 96.27 VdB
Residential to Northwest: Lvdistance = 94 - 30 log (249/25) = 64.05 VdB
Residential to Northeast: Lvdistance = 94 - 30 log (70/25) = 80.59 VdB
Residential to South: Lvdistance = 94 - 30 log (75/25) = 79.69 VdB

Under Threshold Mitigation Distance: 94 - 30 log (136/25) = 71.93 VdB

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APPENDIX I

Traffic Scoping Agreement

Scoping Agreement for Transportation Studies

PART 1

General Project Information and Description

Project Information

Project Name: ISKCON Escondido
Project Location: 1315 & 1356 Rincon Avenue Escondido CA 92026

Project Description

Land Uses and Intensities: RE-20 4.2 acre residential (0.42 du/ac) 20.3 acre for temple
Gross and Developable Acreage: 24.5 acres
Building Square Footage or Number of Dwelling Units: 10 homes, 7,034 sf Temple & 1 dorm
Vehicle Parking Spaces: 72 for temple and 2 garage per single family residence
Bicycle Parking Spaces: 4 short term and 4 long term for the temple
Motorcycle Spaces: 4 for the temple
Electric Vehicle Spaces: 4 for the temple

Project Applicant:

Name: ISKCON of Escondido, Inc.
Address: 10707 El Caballo Ave
Telephone and Email: 858-344-0892

Consultant

Firm: LOS Engineering, Inc.
Project Manager: Justin Rasas, P.E.
Address: 11622 El Camino Real STE 100 San Diego CA 92130
Telephone and Email: 619-890-1253 justin@losengineering.com

Project Trip Generation

Source: SANDAG	**Pass-by Trips:** 0
Total Daily Trips*: 197 (calcs on page 6)	**Diverted Trips:** 0
Internal Capture Rate: 0	**Trip Credit:** 0
Alternative Modes: None	**Net New Daily Trips:** 197

*If truck traffic accounts for 25% or more of project trips, then a Passenger Car Equivalent (PCE) factor of 2.5 should be applied to all truck trips.

General Plan Consistency

Is this project consistent with the General Plan? ▣ **Yes** ☐ **No**

Site Plan

Attach 11x17 copies of the project location/vicinity map and site plan containing the following:
• Driveway locations and access type
• Pedestrian access, bicycle access, and on-site pedestrian circulation
• Location and distance to nearest existing transit stop (measure as walking distance to project entrance or middle of parcel)
• Location of planned or proposed pedestrian or bicycle improvements within ¼ mile of the project identified in the General Plan Mobility and Infrastructure Element or the Bicycle Master Plan

CEQA Transportation Analysis Screening

Project Type Screening Criteria for CEQA Vehicle Miles Travelled (VMT) Analysis

1) Select the Land Uses that apply to your project 2) Answer the questions for each Land Use that applies to your project *(if "Yes" in any land use category below then that land use (or a portion of the land use) is screened from CEQA VMT Analysis; If a project is screened out, a technical memorandum is still required to document the screening process)*	Screened Out Yes	Not Screened Out No
☑ **1. Small Residential and Employment Projects:**		
a. Does the project result in 200 daily trips or less?	☑	☐
☐ **2. Project is Located in a Transit-Accessible Area:**		
a. Is the project located within a half-mile walking distance of an existing major transit stop or an existing stop along a high-quality transit corridor?	☐	☑
b. Additional project features:		
i. Does the project have a Floor Area Ratio ≥ 0.75?	☐	☑
ii. Does project include the least amount of parking required for residents, customers, or employees (i.e. not more than required)?	☑	☐
iii. Is the project consistent with SANDAG's most recent Sustainable Communities Strategy or the City of Escondido General Plan?	☑	☐
iv. Does the project replace affordable residential units with a greater number of moderate- or high-income residential units?	☐	☑
v. Does the project have basic walking and biking access to transit (e.g., sidewalks connecting to transit stops)?	☐	☑
☐ **3. Project is in a VMT-Efficient Area:**		
a. Is the project in a VMT/Capita or VMT/Employee Efficient Area per SANDAG screening maps?	☐	☑
☐ **4. Locally-Serving Retail Project:**		
a. Is the project less than 50,000 square feet and expected to draw at least 75% of customers from the local area?	☐	☑
☐ **5. Locally Serving Public Facility:**		
a. Is the project a locally serving public facility?	☐	☑
☐ **6. Redevelopment Project:**		
a. Does the project result in a net decrease in total Project VMT than the existing use?	☐	☑

Non-CEQA Local Mobility Analysis

Local Mobility Analysis (LMA) Requirement

1) Select the Street Classifications for each street in the study area 2) Answer the questions for each Street Classification that applies to your project	Yes	No
☐ **1. Prime Arterial:**		
a. Does the project add 900 ADT or more to any segment classified as 8-lane Prime Arterial?	☐	☒
b. Does the project add 800 ADT or more to any segment classified as 6-lane Prime Arterial?	☐	☒
☐ **2. Major Road:**		
a. Does the project add 700 ADT or more to any segment classified as 6-lane Major Road?	☐	☒
b. Does the project add 500 ADT or more to any segment classified as 4-lane Major Road?	☐	☒
☒ **3. Collector:**		
a. Does the project add 500 ADT or more to any segment classified as 4-lane Collector without parking?	☐	☒
b. Does the project add 250 ADT or more to any segment classified as 4-lane Collector with parking?	☐	☒
☒ **4. Local Collector and other:**		
a. Does the project add 200 ADT or more to any segment classified as 2-lane Local Collector or any other classifications?	☐	☒

Certain types of projects which generate less than 500 ADT may be considered by the City staff for an LMA waiver only where the affected segments and intersections operate at LOS C or better.
Please briefly explain why your project might be eligible for an LMA waiver.

The project applicant is requesting an LMA waiver based on the following:
1) The project trip generation at 173 weekday ADT is less than the 500 ADT threshold requirement for a LMA,
2) The project will add less than 200 weekday ADT to any surrounding roadway,
3) The project will add less than 20 weekday peak hour to any surrounding intersection approach leg, and
4) The nearest major intersection of Rincon Ave at Conway Dr is calculated to operate at LOS A (AM and PM peak hours).

PART 2

Trip Distribution and Trip Assignment

☐ **Select Zone (Model Series_____)**	Projects that generate greater than 2,400 daily trips
☒ **Manual Estimation**	Projects that generate less than 2,400 daily trips

Provide an exhibit detailing the project's trip distribution and trip assignment.
Provide a table with the project's daily trip assignment for each street segment in the study area.

Study Intersections and Roadway Segments (NOTE: Subject to change based of staff review)

1.	Rincon Ave at Conway Dr	6.	
2.	No other locations, waiver requested	7.	
3.		8.	
4.		9.	
5.		10.	

Attach a separate page if the number of study locations exceeds 10.

Other Jurisdictions

Is this project located within one mile of another Local Jurisdiction? ☒ Yes ☐ No

If yes, name of Jurisdiction: County of San Diego

Specific Issues to be addressed within the Study

(in addition to requirements described in the Guidelines – to be filled out by City Staff)

1. None, waiver requested
2.
3.
4.
5.

Recommended by:

Justin Rasas, P.E.	7/13/23
Consultant's Representative	Date
Scoping Agreement Submitted on	7/13/23
	Date
Scoping Agreement Re-submitted on	8/16/23, 9/20/23, 12/13/24
	Date

Approved Scoping Agreement:

City of Escondido Transportation Specialist	Date

ISKCON Trip Generation, Distribution, Assignment, and LOS Calculations
LOS Engineering, Inc.

PROJECT DESCRIPTION

The project applicant proposes to construct 10 single family homes and the ISKCON Temple. The Temple includes a separate Hall (6,221 sf), a stand-alone restroom building (813 sf), and a separate four-bedroom single family residence for up to 4 monks. The 10 residential homes and Temple will not have a pedestrian connection. Pedestrians can use public streets and ROW to walk to the Temple. A site plan is included in **Attachment A**.

A Temple is a place of worship similar to a Church in that there are activities 7 days a week (i.e. a Temple has Ariotis and a Church has Mass every day during the week; however, they are lightly attended). The largest attendance occurs on Sundays for both a Temple and a Church. Both places of worship host special events. For example, a Temple will celebrate Festival of Colors while a Church will celebrate Christmas and Easter, both of which typically have the highest attendance but do not reflect average daily use. Weddings and other lesser special events will occur throughout the year, but not at a high frequency.

ANALYSIS THRESHOLDS

The City of Escondido *Transportation Impact Analysis Guidelines* (4/21/21) define the significant thresholds to determine if a Vehicle Miles Traveled (VMT) and/or Local Mobility Analysis (LMA) is required.

> For VMT: Project generating 200 or fewer net new daily vehicle trips may be presumed to have a less-than-significant [VMT] impact absent substantial evidence to the contrary.
>
> For LMA: Projects generation 500 or fewer ADTs may be considered by the City staff for an LMA waiver only where the affected segments and intersections operate at LOS C or better.

TRIP GENERATION

A project trip generation is typically calculated for weekday operations. However, this project is unique where the Temple does not generate significant daily traffic on a weekday nor during weekday commuter AM and PM peak periods. Rather, the Temple generates the peak amount of traffic only on Sundays, which represents just one day of the week. To represent the project's average daily traffic over the course of a week, an average ADT from seven days is applied.

The trip generation is calculated using SANDAG and ITE 11th Edition trip rates (**Attachment B**). The Temple includes a separate Hall (6,221 sf) and a stand-alone restroom building (813 sf) for a total of 7,034 sf. Adjacent to the temple is a separate four-bedroom single family residence for up to 4 monks. For trip generation purposes, the Temple is considered as the combination of the 6,221 sf Hall and 813 sf restroom for a total of 7,034 sf while the separate four-bedroom Temple monk residence is analyzed as one (1) single family residence. Therefore, the total project has 11 single family residences for trip generation purposes. The SANDAG church trip rate for the Sunday use at 36 ADT/1,000 sf was applied while the rate of 9 ADT/1,000 sf was used for the remaining 6 days of the week. SANDAG does not have weekend trip generation rates for residential uses; therefore, ITE 11th Edition weekend residential rates were applied. The trip generation by days and the ADT over 7-days is shown in **Table 1**.

Table 1: Trip Generation

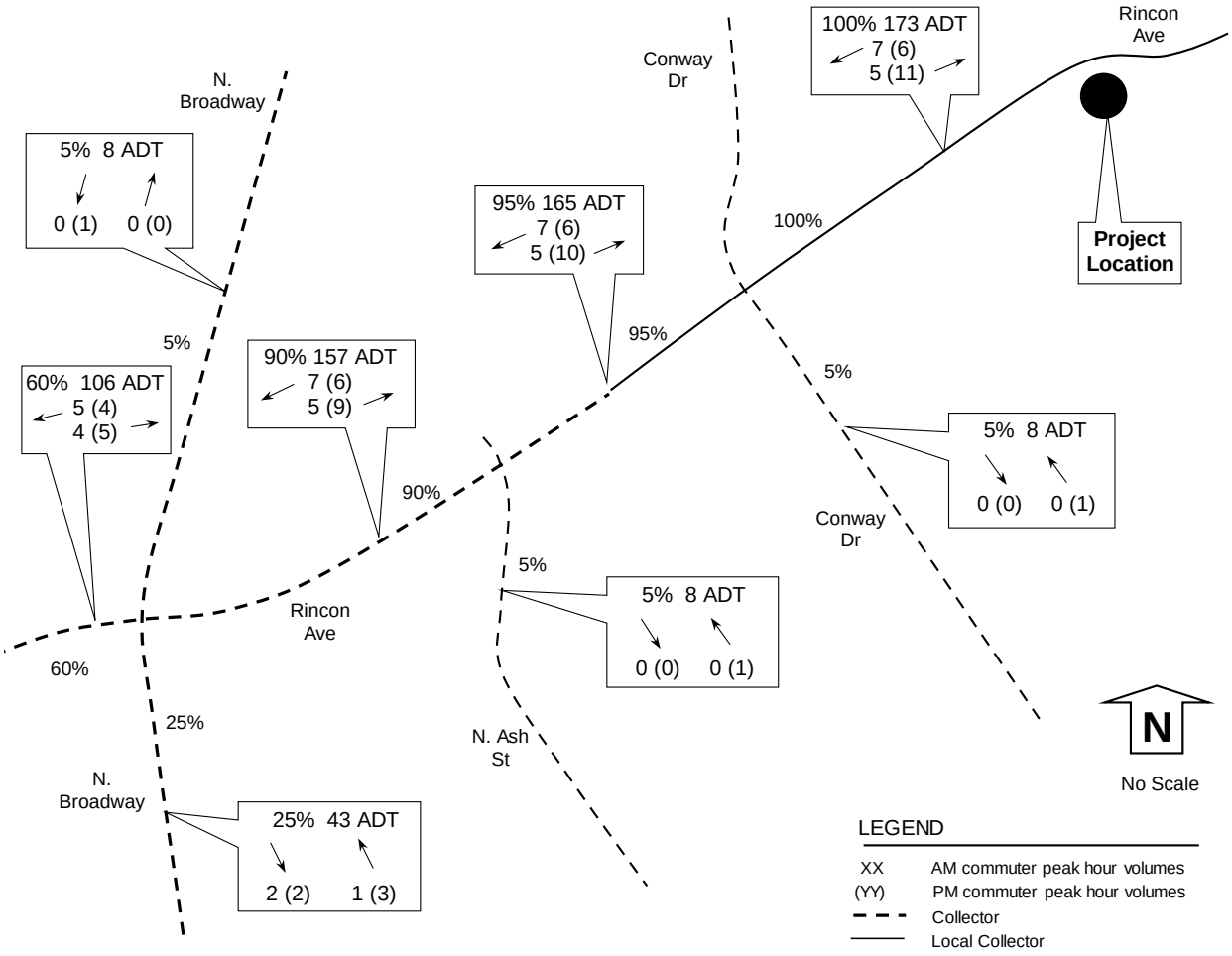
Proposed									AM Pk Hr					PM Pk Hr	
Land Use	Rate		Size & Units		ADT	%	Split		IN	OUT	%	Split		IN	OUT
Weekday															
Residential - Single Family	10	/DU	11	DU	*110*	8%	0.3	0.7	*3*	*6*	10%	0.7	0.3	*8*	*3*
Place of Worship	9	/KSF	7,034	SF	*63*	5%	0.6	0.4	*2*	*1*	8%	0.5	0.5	*3*	*3*
			Weekday Volumes:		*173*				*5*	*7*				*11*	*6*
Saturday															
Residential - Single Family (1)	9.48	/DU	11	DU	*104*				NA	NA				NA	NA
Place of Worship	9	/KSF	7,034	SF	*63*				NA	NA				NA	NA
			Saturday Volumes:		*167*				*NA*	*NA*				*NA*	*NA*
Sunday															
Residential - Single Family (1)	8.48	/DU	11	DU	*93*				NA	NA				NA	NA
Place of Worship (Sunday)	36	/KSF	7,034	SF	*253*				NA	NA				NA	NA
			Sunday Volumes:		*346*				*NA*	*NA*				*NA*	*NA*
					Total 7-Day ADT: 1,381										
					Average ADT (7-day total divided by 7):				**197**						

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. (1) ITE trip rates. DU - Dwelling Unit. MF-Multi-Family. SF - Square Feet; ADT-Average Daily Traffic; Split-percent inbound and outbound.

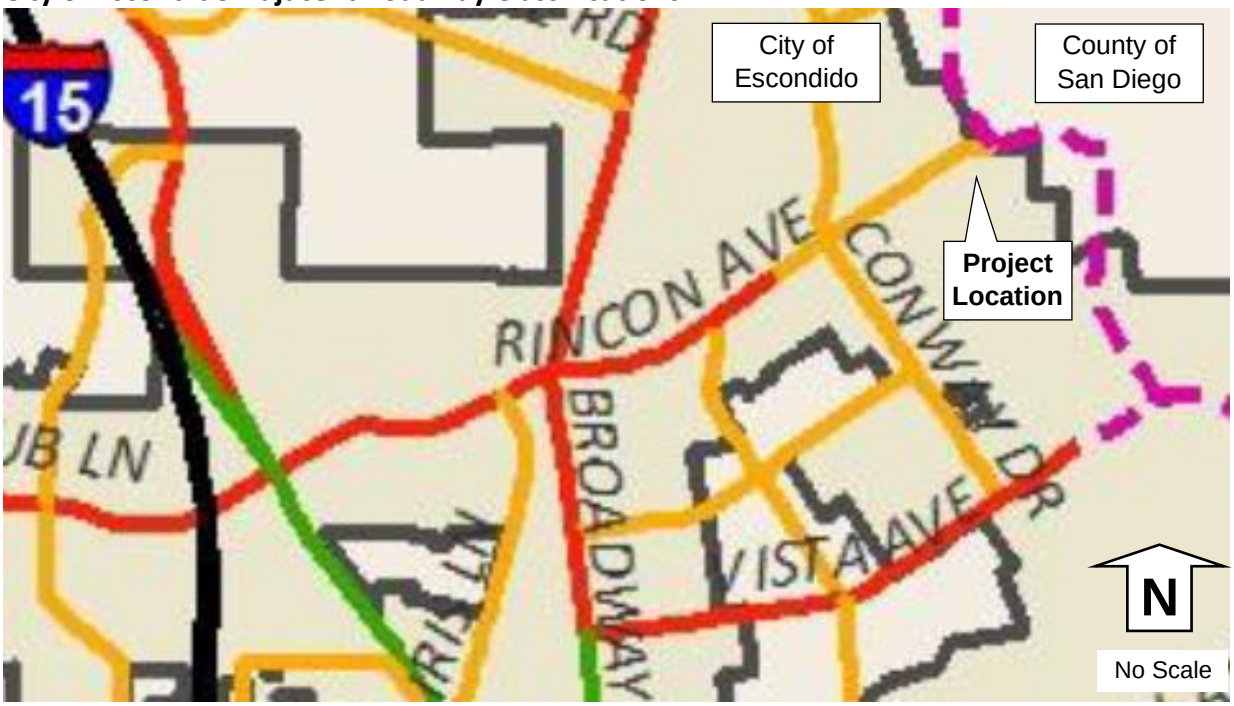
As shown above, the combined seven-day trip generation is 1,381 ADT, which averages out to **197 ADT per day** (1,381 ADT divided by 7 days). The project with 197 ADT is below the city's 200 ADT screening VMT threshold; therefore, further VMT analysis is not recommended.

To determine if a Local Mobility Analysis is required, the weekday trip generation of 173 ADT with 12 AM peak hour trips (5 inbound and 7 outbound) and 17 PM peak hour trips (11 inbound and 6 outbound) were assigned to the roadways near the project site as shown in **Figure 1**.

Figure 1: Weekday Project Trip Distribution and Assignment



City of Escondido Adjacent Roadway Classifications



Source: Escondido General Plan

Intersection Level of Service Operations

The City of Escondido *Transportation Impact Analysis Guidelines*, April 21, 2021 states on page 27 that "Certain types of projects that generate fewer than 500 ADTs may be considered by the City staff for an LMA waiver only where the affected segments and intersections operate at LOS C or better."

The adjacent intersection of Rincon Ave at Conway Dr is calculated to operate at LOS A in the AM and PM peak hour as shown in **Table 1**. With intersection volumes and LOS worksheets included in **Attachment C**.

Table 1: Existing Intersection Level of Service

Intersection and (Analysis)[1]	Movement	Study Period	Existing Delay[2]	Existing LOS[3]
1) Rincon Ave at	All	AM	7.7	A
Conway Dr (S)	All	PM	8.5	A

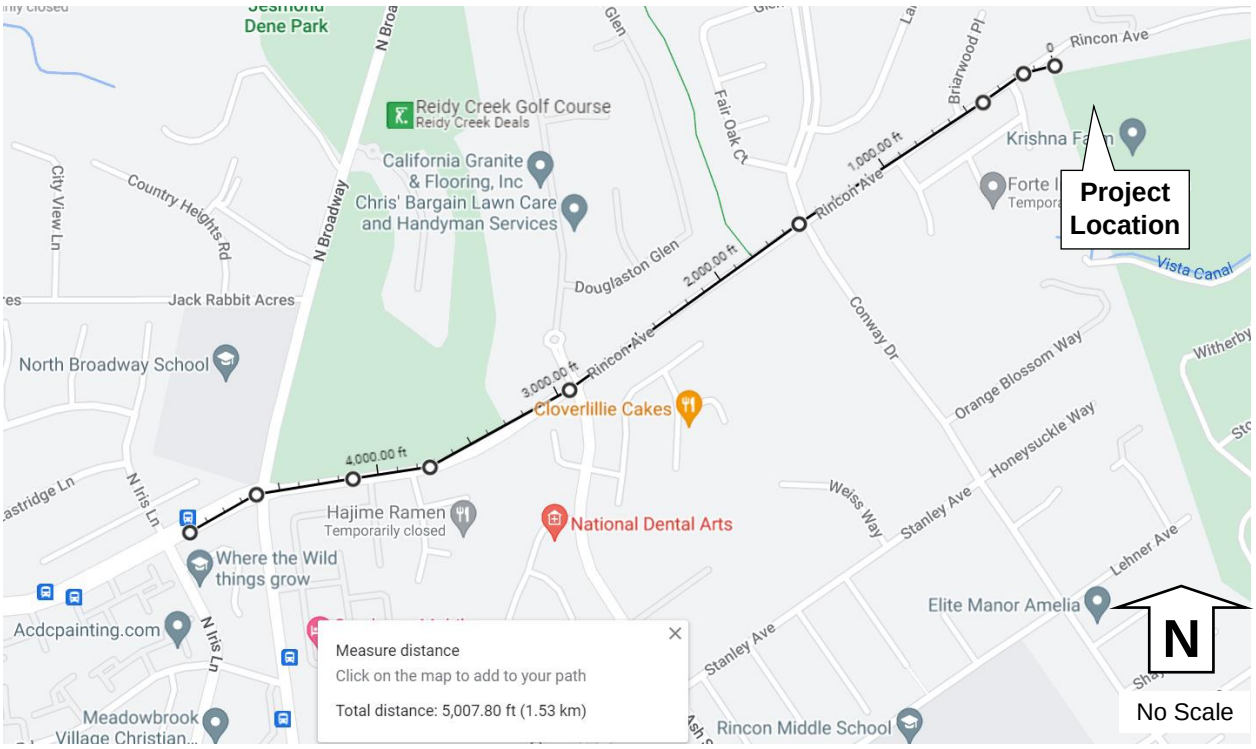
Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.

The project applicant is requesting an LMA waiver based on the following:

1) The project weekday trip generation at 173 ADT is less than the 500 ADT threshold requirement for a LMA,
2) The project will add less than 200 weekday ADT to any surrounding roadway,
3) The project will add less than 20 weekday peak hour trips to any surrounding intersection approach leg (10 is the highest approach volume), and
4) The nearest major intersection of Rincon Ave at Conway Dr is calculated to operate at LOS A (AM and PM peak hours).

Transit Proximity

The project site is located approximately 5,000 feet from the nearest transit stop for bus route 359 as shown below.



Source: Googlemaps

Location of planned/proposed pedestrian/bicycle improvements with ¼ mile of project

As shown below, there are no planned or proposed bicycle improvements within ¼ mile of the project as shown in the City's General Plan.

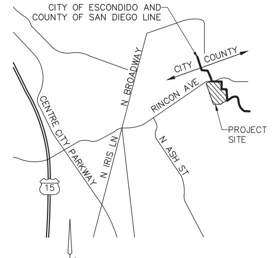
Existing and Planned Bike Lanes/Routes

Source: Escondido General Plan

Attachments

ATTACHMENT A

Site Plan



VICINITY MAP
NO SCALE

LEGAL DESCRIPTION

PARCELS A AND B OF CITY OF ESCONDIDO ADJUSTMENT PLAT NO. SUB14–0004, AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. SUB14–0017, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 7, 2014 AS DOCUMENT NO. 2014–0487232 OF OFFICIAL RECORDS

SHEET LIST

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	STREET SECTIONS AND DETAILS
3	PROJECT BOUNDARY AND EASEMENTS
4	RESIDENTIAL SITE
5	TEMPLE SITE
6	ACCESS AND UTILITIES TO EX HOME (NOT A PART)
7–9	UTILITY AND STORM DRAIN PLANS
10	SITE SECTIONS
12–13	DMA AND BMP PLAN AND DETAILS
14–16	LANDSCAPE CONCEPT PLAN
17	TEMPLE FLOOR PLAN
18	TEMPLE ROOF PLAN
19–21	TEMPLE ELEVATIONS
22	TEMPLE PERSPECTIVES AND COLORS

OWNER / APPLICANT DEVELOPER:

ISKCON OF ESCONDIDO, INC.
ATTN: DHIRU TANTOD
10707 EL CABALLO AVENUE
SAN DIEGO, CA, 52127
(858) 344–0892

I (WE) HEREBY CERTIFY THAT I (WE) AM (ARE) THE RECORD OWNER OF THE PROPERTY SHOWN ON THE TENTATIVE SUBDIVISION MAP AND THAT SAID MAP SHOWS ALL MY (OUR) CONTIGUOUS OWNERSHIP IN WHICH I (WE) HAVE ANY DEED OR TRUST INTEREST. I (WE) UNDERSTAND THAT MY (OUR) PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS–OF–WAY.

(SIGNTURE)

SITE ADDRESS:

1315 & 1356 RINCON AVENUE ESCONDIDO, CA 92026

ASSESSOR'S PARCEL NO.:

224–100–84, 224–100–85

ZONING:

EXISTING: RE–20
PROPOSED: RE–20

SCOPE OF WORK:

PROPOSED SUBDIVISION OF EXISTING PARCELS INTO ELEVEN (11) PARCELS WITH TEN (10) LOTS FOR SINGLE FAMILY DWELLINGS WITH DRIVEWAY ACCESS, AN ACCESS ROAD AND CUL–DE–SAC. AND ONE (1) LOT FOR THE PROPOSED NEW DEVELOPMENT INCLUDING THE CONSTRUCTION OF A RELIGIOUS TEMPLE, HALL WITH LIVING AREA, PATIO, DETACHED RESTROOMS, PARKING LOT, AND DRIVEWAY.

GRADING QUANTITIES

CUT	30,000 CY	MAX CUT = 17.4'
FILL	30,000 CY	MAX FILL = 25.1'
NET	BALANCE	

TOPO SOURCE

TOPOGRAPHIC CONTOURS PROVIDED BY REC CONSULTANTS DATED 6–16–2022

SEWER NOTE

ALL LOTS ARE TO BE ON THE PROPOSED SANITARY SEWER SYSTEM THAT SHALL CONNECT TO THE EXISTING PUBLIC SEWER MAIN.

PROJECT AREA CALCULATIONS:

	RESIDENTIAL	TEMPLE
EXISTING PARCEL AREA:	182,961 SF	886,148 SF
PROPOSED PARCEL AREA:	182,968 SF	886,141 SF
EXISTING PERVIOUS AREA:	182,961 SF	863,888 SF
EXISTING IMPERVIOUS AREA:	N/A	22,260 SF
PROPOSED PERVIOUS AREA:	143,600 SF	796,007 SF
PROPOSED IMPERVIOUS AREA:	39,368 SF	90,134 SF
PROPOSED BUILDING AREA:	N/A	11,777 SF
ASSEMBLY AREA:	N/A	6,221 SF
MONKS QUARTERS:	N/A	4,733 SF
BATHROOM AREA:	N/A	816 SF
BUILDING CONSTRUCTION TYPE:	N/A	TYPE V (TEMPLE)

PARKING INFORMATION (RESIDENTIAL):

REQUIRED: 2 CAR GARAGE OR CARPORT REQUIRED FOR EACH UNIT PER SINGLE FAMILY RESIDENCE
PROPOSED: 10 LOTS X 2 SPACES = 20 SPACES

PARKING INFORMATION (TEMPLE):

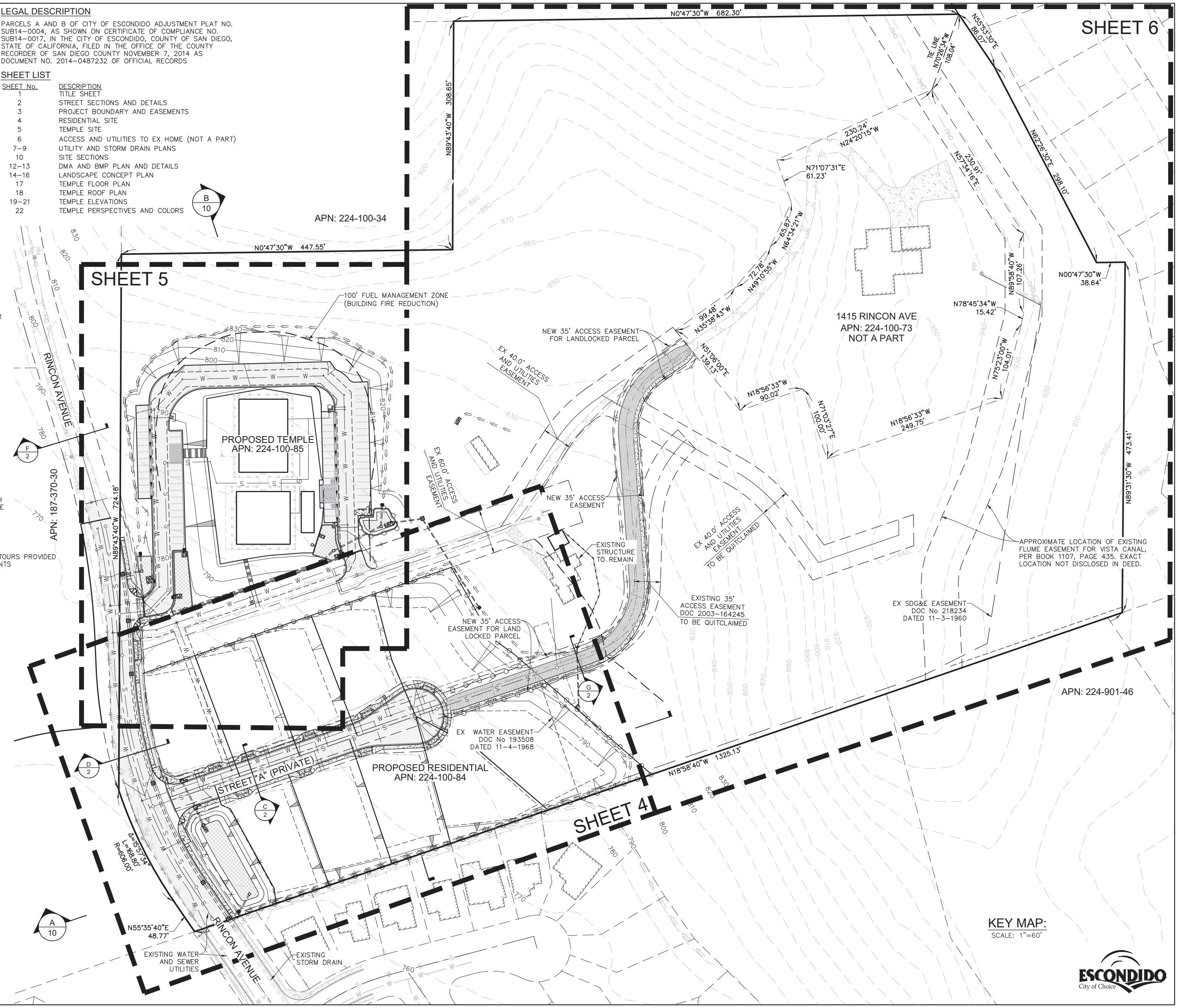
PROPOSED: 55 REQUIRED PARKING SPACES
PROPOSED 69 STANDARD PARKING SPACES
PROPOSED 2 ADA PARKING SPACES

FOR EXISTING IMPROVEMENTS, UTILITIES, AND ALIGNMENT STATIONING, SEE CITY OF ESCONDIDO DWG. NO. P–1755, P–1865

REGISTERED PROFESSIONAL ENGINEER JONATHAN RAAB RYDEEN RCE – 64811 CIVIL STATE OF CALIFORNIA

ENGINEER
JONATHAN RAAB RYDEEN

60 30 0 60 120 180
SCALE: 1" = 60'



ESCONDIDO
City of Choice

REVISIONS

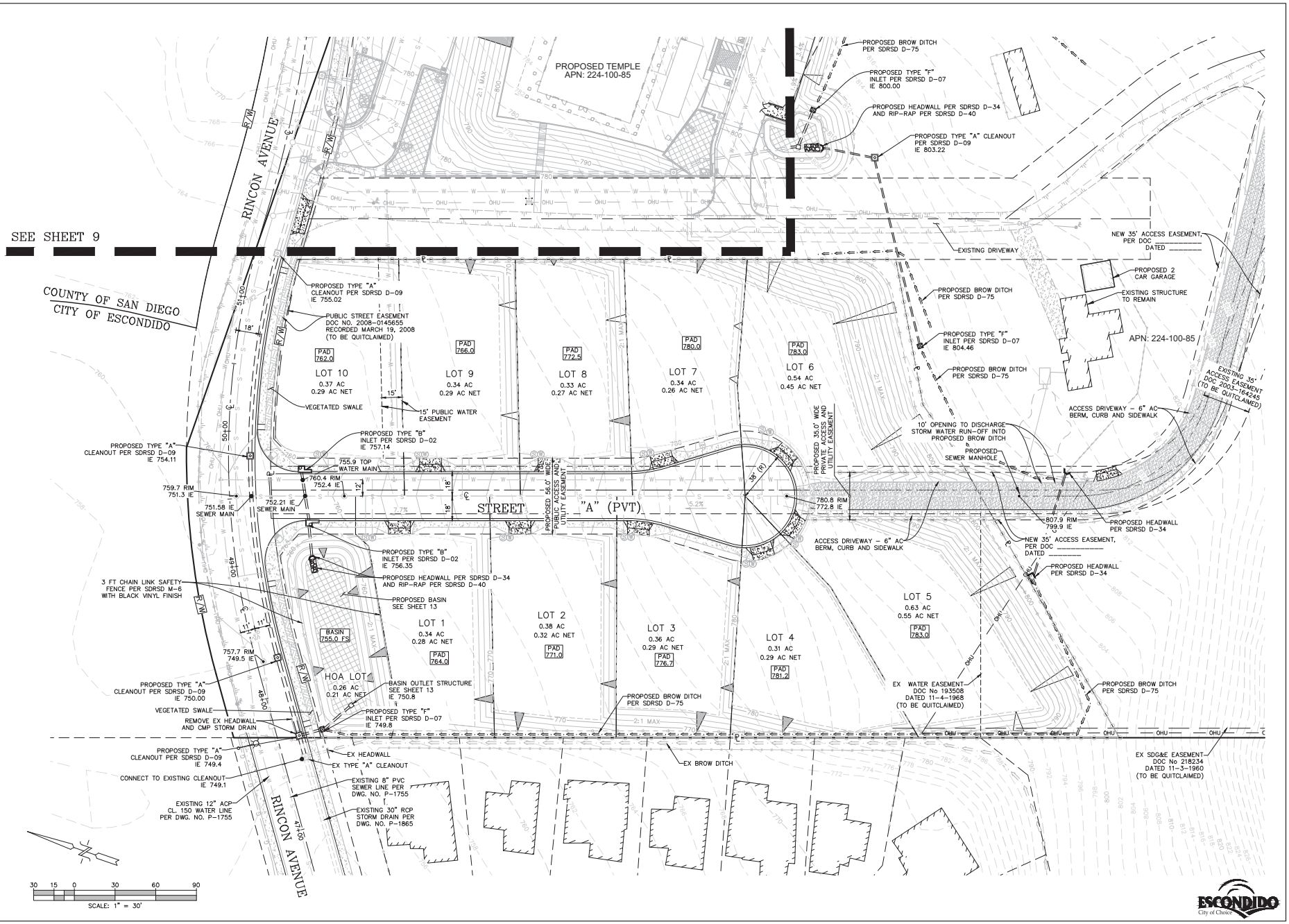
NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering • Environmental Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232–9200 (619)232–9210 Fax

DATE: 8–30–2024
SCALE: 1" = 60'
DRAWN: JMW
CHECKED: J.R.R.

SHEET TITLE: TM - SITE PLAN ~ TITLE SHEET
PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO,INC
1365 RINCON AVE – ESCONDIDO, CA 92026

SHEET 1
OF 22 SHEETS



REVISIONS

NO.	DESCRIPTION	DATE	APP'D

Civil Engineering • Environmental Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
RBF Consultants, Inc.

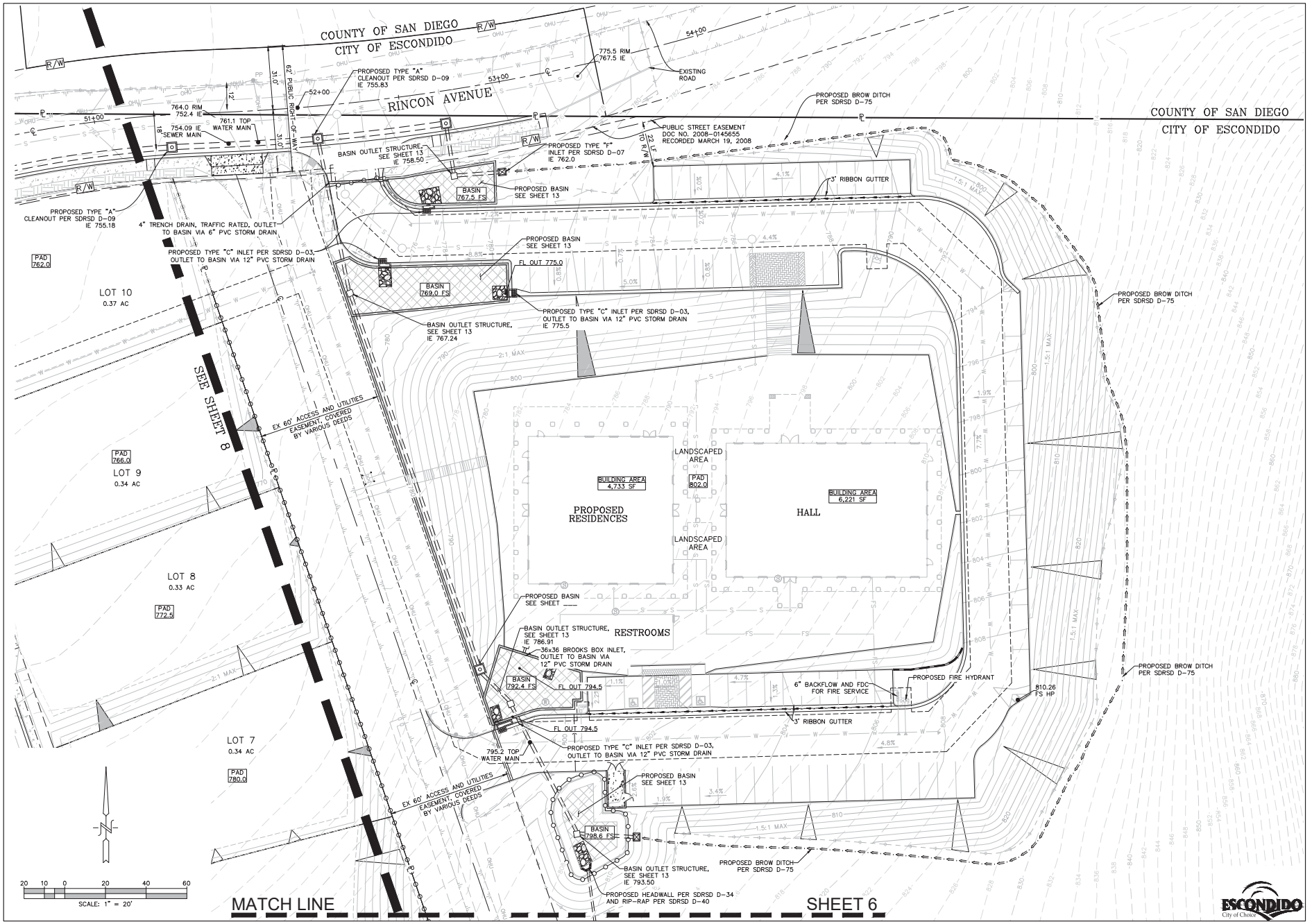
DATE: 8-30-2024
SCALE: 1" = 30'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: RESIDENTIAL ~ STORM DRAINS

PROJECT: KRISHNA PROPERTY
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 8 OF 22 SHEETS

SAVE_DATE: 8/30/2024 ~ PLOT_DATE: 8/30/2024 ~ FILE_NAME: P:\Acad\18529 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg



REVISIONS

NO.	DESCRIPTION	DATE	APP'D

Civil Engineering • Environmental
Land Surveying
2970 Fifth Avenue, Suite 340
San Diego, CA 92103
(619)232-9200 (619)232-9210 Fax
RBF Consultants, Inc.

DATE: 8-30-2024
SCALE: 1" = 20'
DRAWN: JMW
CHECKED: JRR

SHEET TITLE: TEMPLE ~ STORM DRAINS

PROJECT
KRISHNA PROPERTY
ISKCON OF ESCONDIDO, INC
1365 RINCON AVE ~ ESCONDIDO, CA 92026

SHEET 9 OF 22 SHEETS

SAVE DATE: 8/30/2024 ~ PLOT DATE: 8/30/2024 ~ FILE NAME: P:\Acad\17529 Iskcon Temple ~ Residential\Civil\Site Plan\TM ~ Site Plan.dwg

ATTACHMENT B

SANDAG and ITE 11th Edition Trip Rates

(NOT SO)

BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES FOR THE SAN DIEGO REGION

APRIL 2002

SANDAG
401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a ***guide*** of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. ***Always check with local jurisdictions for their preferred or applicable rates.***

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY][P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.		Between 3:00-6:30 P.M.		TRIP LENGTH (Miles)[L]
AGRICULTURE (Open Space)	[80:18:2]	2/acre**					10.8
AIRPORT	[78:20:2]						12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft.* **	5%	(6:4)	6%	(5:5)	
General Aviation		6/acre, 2/flight, 6/based aircraft* **	9%	(7:3)	15%	(5:5)	
Heliports		100/acre**					
AUTOMOBILE[S]							
Car Wash							
Automatic		900/site, 600/acre**	4%	(5:5)	9%	(5:5)	
Self-serve		100/wash stall**	4%	(5:5)	8%	(5:5)	
Gasoline	[21:51:28]						2.8
with/Food Mart		160/vehicle fueling space**	7%	(5:5)	8%	(5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8%	(5:5)	9%	(5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7%	(5:5)	9%	(5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall* **	5%	(7:3)	8%	(4:6)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall*	8%	(7:3)	11%	(4:6)	
Auto Parts Sales		60/1000 sq. ft. **	4%		10%		
Quick Lube		40/service stall**	7%	(6:4)	10%	(5:5)	
Tire Store		25/1000 sq. ft., 30/service stall**	7%	(6:4)	11%	(5:5)	
CEMETERY		5/acre*					
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5%	(6:4)	8%	(5:5)	5.1
COMMERCIAL/RETAIL[S]							
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3 + major stores)		35/1000 sq. ft.,[C] 400/acre*	4%	(7:3)	10%	(5:5)	
Regional Shopping Center (40-80acres, 400,000-800,000 sq. ft., w/usually 2 + major stores)	[54:35:11]	50/1000 sq. ft.,[C] 500/acre*	4%	(7:3)	9%	(5:5)	5.2
Community Shopping Center (15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)	[47:31:22]	80/1000 sq. ft., 700/acre* **	4%	(6:4)	10%	(5:5)	3.6
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre* **	4%	(6:4)	10%	(5:5)	
Commercial Shops	[45:40:15]						
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3%	(6:4)	9%	(5:5)	4.3
Electronics Superstore		50/1000 sq. ft**			10%	(5:5)	
Factory Outlet		40/1000 sq. ft.**	3%	(7:3)	9%	(5:5)	
Supermarket		150/1000 sq. ft., 2000/acre* **	4%	(7:3)	10%	(5:5)	
Drugstore		90/1000 sq. ft.**	4%	(6:4)	10%	(5:5)	
Convenience Market (15-16 hours)		500/1000 sq. ft.**	8%	(5:5)	8%	(5:5)	
Convenience Market (24 hours)		700/1000 sq. ft.**	9%	(5:5)	7%	(5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	6%	(5:5)	7%	(5:5)	
Discount Club		60/1000 sq. ft., 600/acre* **	1%	(7:3)	9%	(5.5)	
Discount Store		60/1000 sq. ft., 600/acre**	3%	(6:4)	8%	(5:5)	
Furniture Store		6/1000 sq. ft., 100/acre**	4%	(7:3)	9%	(5:5)	
Lumber Store		30/1000 sq. ft., 150/acre**	7%	(6:4)	9%	(5:5)	
Home Improvement Superstore		40/1000 sq. ft.**	5%	(6:4)	8%	(5:5)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre**	2%	(6:4)	9%	(5:5)	
Garden Nursery		40/1000 sq. ft., 90/acre**	3%	(6:4)	10%	(5:5)	
Mixed Use: Commercial (w/supermarket)/Residential		110/1000 sq. ft., 2000/acre* (commercial only) 5/dwelling unit, 200/acre* (residential only)	3% 9%	(6:4) (3:7)	9% 13%	(5:5) (6:4)	
EDUCATION							
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10%	(8:2)	9%	(3:7)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12%	(8:2)	9%	(6:4)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20%	(7:3)	10%	(4:6)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre**	30%	(6:4)	9%	(4:6)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32%	(6:4)	9%	(4:6)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17%	(5:5)	18%	(5:5)	3.7
FINANCIAL[S]	[35:42:23]						3.4
Bank (Walk-In only)		150/1000 sq. ft., 1000/acre* **	4%	(7:3)	8%	(4:6)	
with Drive-Through		200/1000 sq. ft., 1500/acre*	5%	(6:4)	10%	(5:5)	
Drive-Through only		250 (125 one-way)/lane*	3%	(5:5)	13%	(5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2%		9%		
Drive-Through only		100 (50 one-way)/lane**	4%		15%		
HOSPITAL	[73:25:2]						8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8%	(7:3)	10%	(4:6)	
Convalescent/Nursing		3/bed**	7%	(6:4)	7%	(4:6)	
INDUSTRIAL							
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12%	(8:2)	12%	(2:8)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11%	(9:1)	12%	(2:8)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14%	(8:2)	15%	(3:7)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19%	(9:1)	20%	(2:8)	
Warehousing		5/1000 sq. ft., 60/acre**	13%	(7:3)	15%	(4:6)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6%	(5:5)	9%	(5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16%	(9:1)	14%	(1:9)	
Landfill & Recycling Center		6/acre	11%	(5:5)	10%	(4:6)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.
ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY][P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.		Between 3:00-6:30 P.M.		TRIP LENGTH (Miles)[L]
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2%	(7:3)	10%	(5:5)	3.9
LODGING	[58:38:4]						7.6
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	6%	(6:4)	8%	(6:4)	
Motel		9/occupied room, 200/acre*	8%	(4:6)	9%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	5%	(6:4)	7%	(4:6)	
Business Hotel		7/occupied room**	8%	(4:6)	9%	(6:4)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	10%	(2:8)	11.2
OFFICE							
Standard Commercial Office (less than 100,000 sq. ft.)	[77:19:4]	20/1000 sq. ft.,[O] 300/acre*	14%	(9:1)	13%	(2:8)	8.8
Large (High-Rise) Commercial Office (more than 100,000 sq. ft., 6 + stories)	[82:15:3]	17/1000 sq. ft.,[O] 600/acre*	13%	(9:1)	14%	(2:8)	10.0
Office Park (400,000 + sq. ft.)		12/1000 sq.ft., 200/acre* **	13%	(9:1)	13%	(2:8)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	15%	(2:8)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	16%	(1:9)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9%	(9:1)	12%	(3:7)	6.0
Post Office							
Central/Walk-In Only		90/1000 sq. ft.**	5%		7%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	6%	(6:4)	9%	(5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7%	(5:5)	10%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	12%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	6%	(6:4)	10%	(4:6)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	6%	(8:2)	11%	(3:7)	6.4
PARKS	[66:28:6]		4%		8%		5.4
City (developed w/meeting rooms and sports facilities)		50/acre*	13%	(5:5)	9%	(5:5)	
Regional (developed)		20/acre*					
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **					
State (average 1000 acres)		1/acre, 10/picnic site**					
Amusement (Theme)		80/acre, 130/acre (summer only)**			6%	(6:4)	
San Diego Zoo		115/acre*					
Sea World		80/acre*					
RECREATION							
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*					6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*					
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane **	7%	(7:3)	11%	(4:6)	
Campground		4/campsite**	4%		8%		
Golf Course		7/acre, 40/hole, 700/course* **	7%	(8:2)	9%	(3:7)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	9%	(5:5)	
Marinas		4/berth, 20/acre* **	3%	(3:7)	7%	(6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		6%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	9%	(6:4)	
Tennis Courts		16/acre, 30/court**	5%		11%	(5:5)	
Sports Facilities							
Outdoor Stadium		50/acre, 0.2/seat*					
Indoor Arena		30/acre, 0.1/seat*					
Racetrack		40/acre, 0.6 seat*					
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	1/3%		8%	(6:4)	6.1
RESIDENTIAL	[86:11:3]						7.9
Estate, Urban or Rural (average 1-2 DU/acre)		12/dwelling unit *[R]	8%	(3:7)	10%	(7:3)	
Single Family Detached (average 3-6 DU/acre)		10/dwelling unit *[R]	8%	(3:7)	10%	(7:3)	
Condominium (or any multi-family 6-20 DU/acre)		8/dwelling unit *[R]	8%	(2:8)	10%	(7:3)	
Apartment (or any multi-family units more than 20 DU/acre)		6/dwelling unit *[R]	8%	(2:8)	9%	(7:3)	
Military Housing (off-base, multi-family)							
(less than 6 DU/acre)		8/dwelling unit	7%	(3:7)	9%	(6:4)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	9%	(6:4)	
Mobile Home							
Family		5/dwelling unit, 40/acre*	8%	(3:7)	11%	(6:4)	
Adults Only		3/dwelling unit, 20/acre*	9%	(3:7)	10%	(6:4)	
Retirement Community		4/dwelling unit**	5%	(4:6)	7%	(6:4)	
Congregate Care Facility		2.5/dwelling unit**	4%	(6:4)	8%	(5:5)	
RESTAURANT[S]	[51:37:12]						4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	1%	(6:4)	8%	(7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8%	(5:5)	8%	(6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7%	(5:5)	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.**	5%	(6:4)	7%	(5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	3%	(3:7)	
TRANSPORTATION							
Bus Depot		25/1000 sq. ft.**					
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9%	(4:6)	8%	(5:5)	
Waterport/Marine Terminal		170/berth, 12/acre**					
Transit Station (Light Rail w/parking)		300/acre, $2^{1/2}$/parking space (4/occupied)**	14%	(7:3)	15%	(3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	15%	(3:7)	

* Primary source: *San Diego Traffic Generators.*

* Other sources: *ITE Trip Generation Report [6th Edition]*, Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

[P] Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG *Analysis of Trip Diversion*, revised November, 1990):
PRIMARY - one trip directly between origin and primary destination.
DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.
PASS-BY - undiverted or diverted < 1 mile.

[L] Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

[C] Fitted curve equation: $Ln(T) = 0.502\ Ln(x) + 6.945$
[O] Fitted curve equation: $Ln(T) = 0.756\ Ln(x) + 3.950$
T = total trips, x = 1,000 sq. ft.

[R] Fitted curve equation: $t = -2.169\ Ln(d) + 12.85$ t = trips/DU, d = density (DU/acre), DU = dwelling unit

[S] Suggested PASS-BY [undiverted or diverted < 1 mile] percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and Other sources**):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community " "	30%
Neighborhood " "	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

[T] Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

Single-Family Detached Housing
(210)

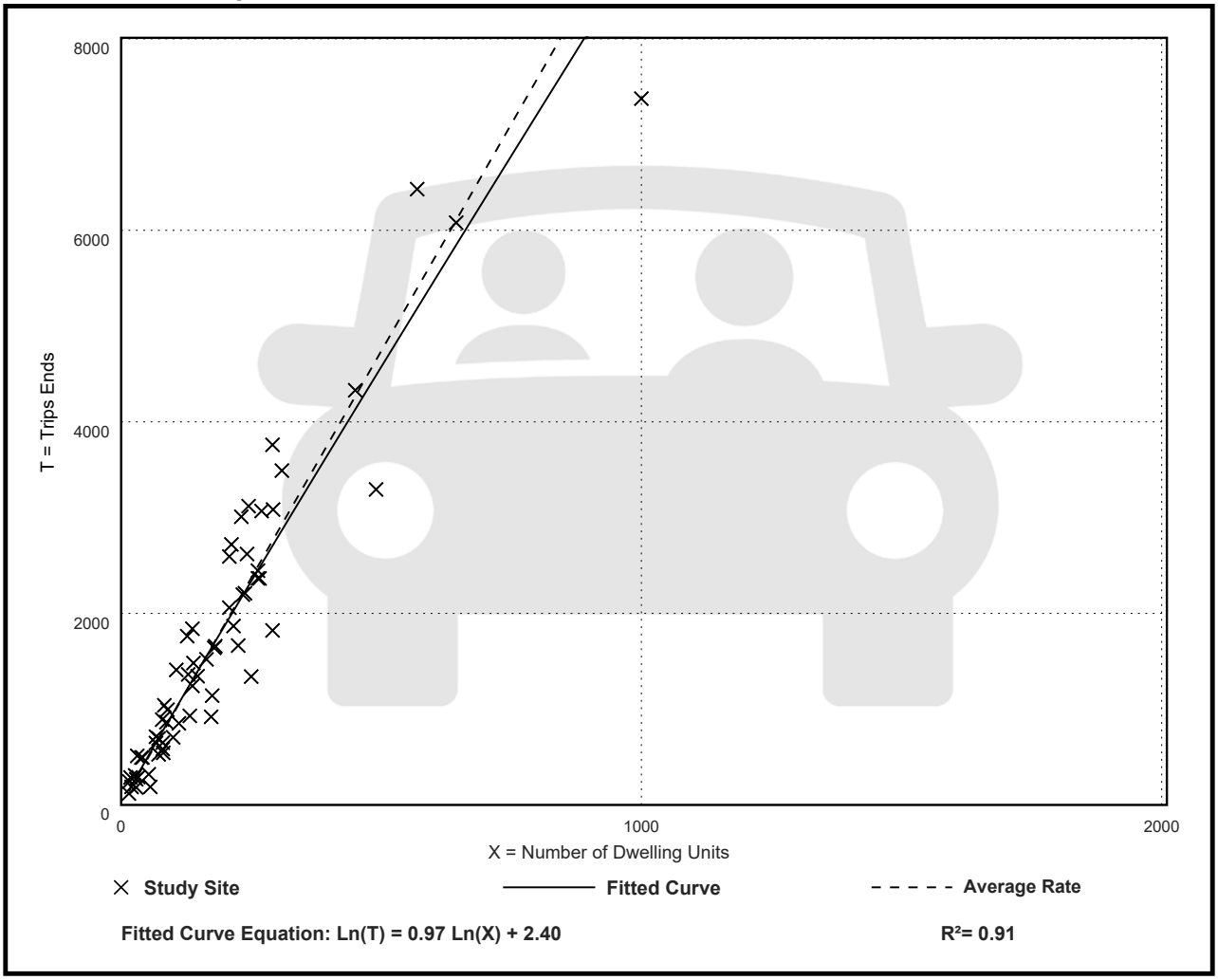
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 63
Avg. Num. of Dwelling Units: 179
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.48	3.36 - 16.52	2.26

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.97 Ln(X) + 2.40

R^2= 0.91

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Saturday

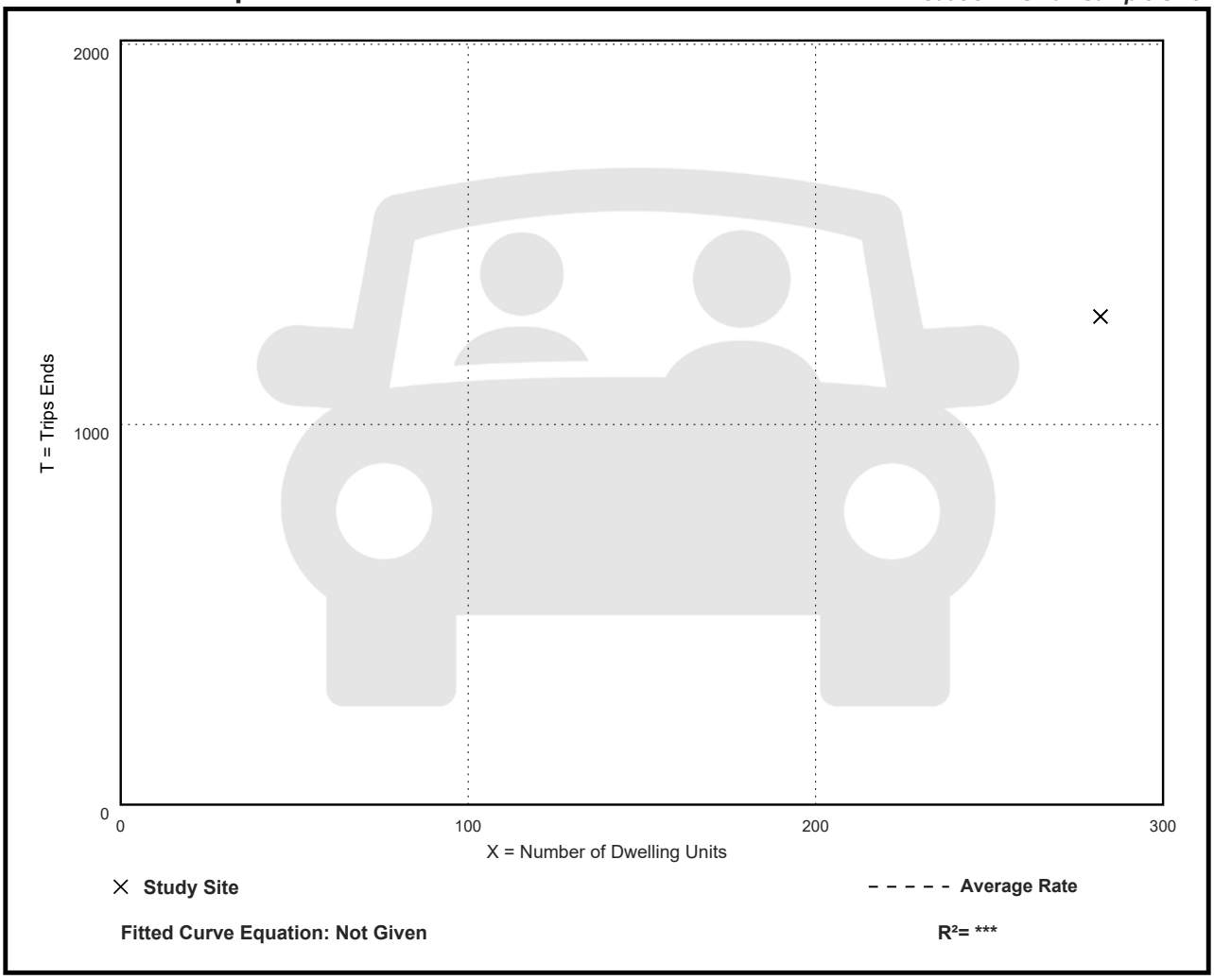
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.55	4.55 - 4.55	***

Data Plot and Equation

Caution – Small Sample Size



Single-Family Detached Housing
(210)

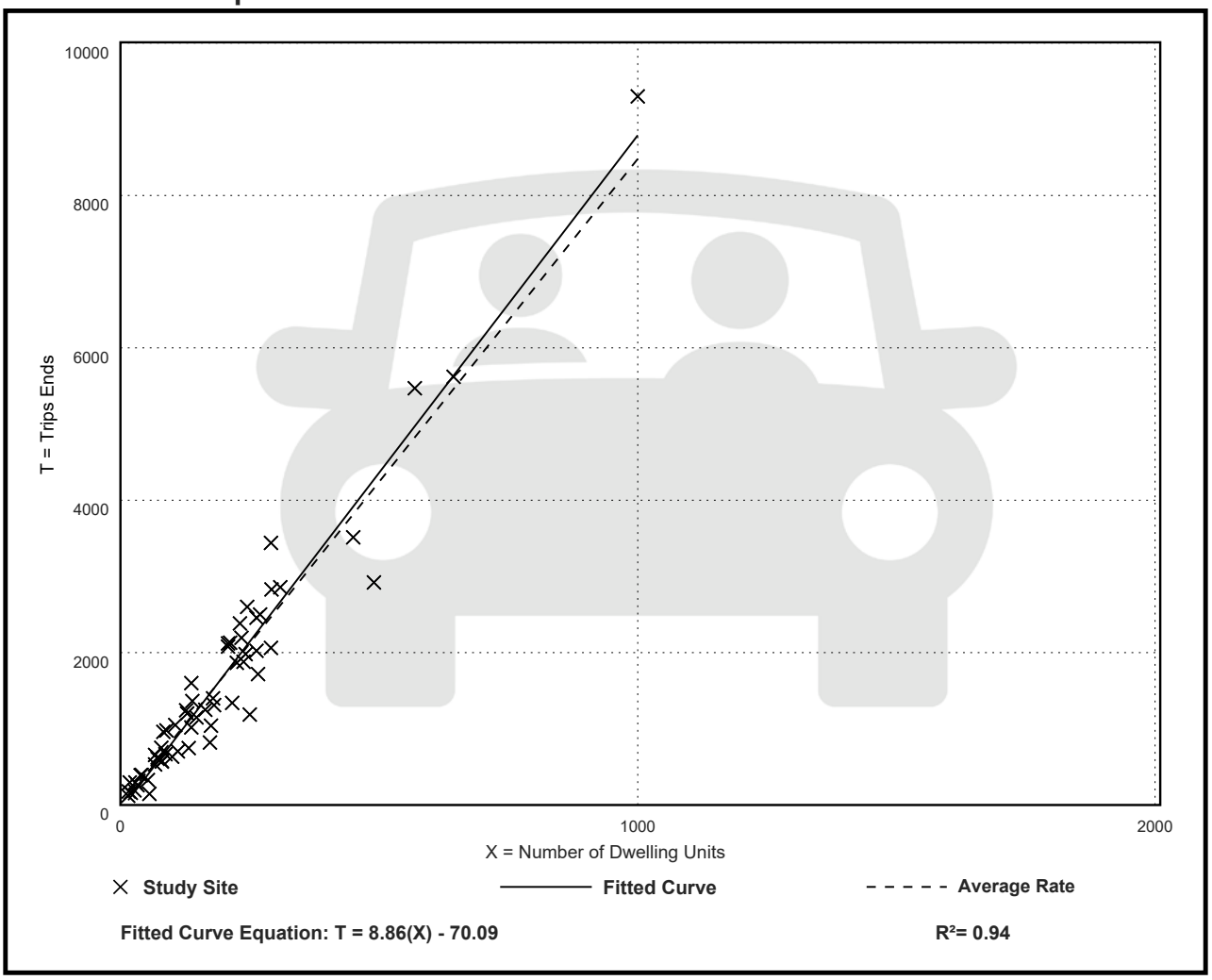
Vehicle Trip Ends vs: Dwelling Units
On a: Sunday

Setting/Location: General Urban/Suburban
Number of Studies: 60
Avg. Num. of Dwelling Units: 186
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
8.48	2.61 - 16.44	1.74

Data Plot and Equation



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Sunday

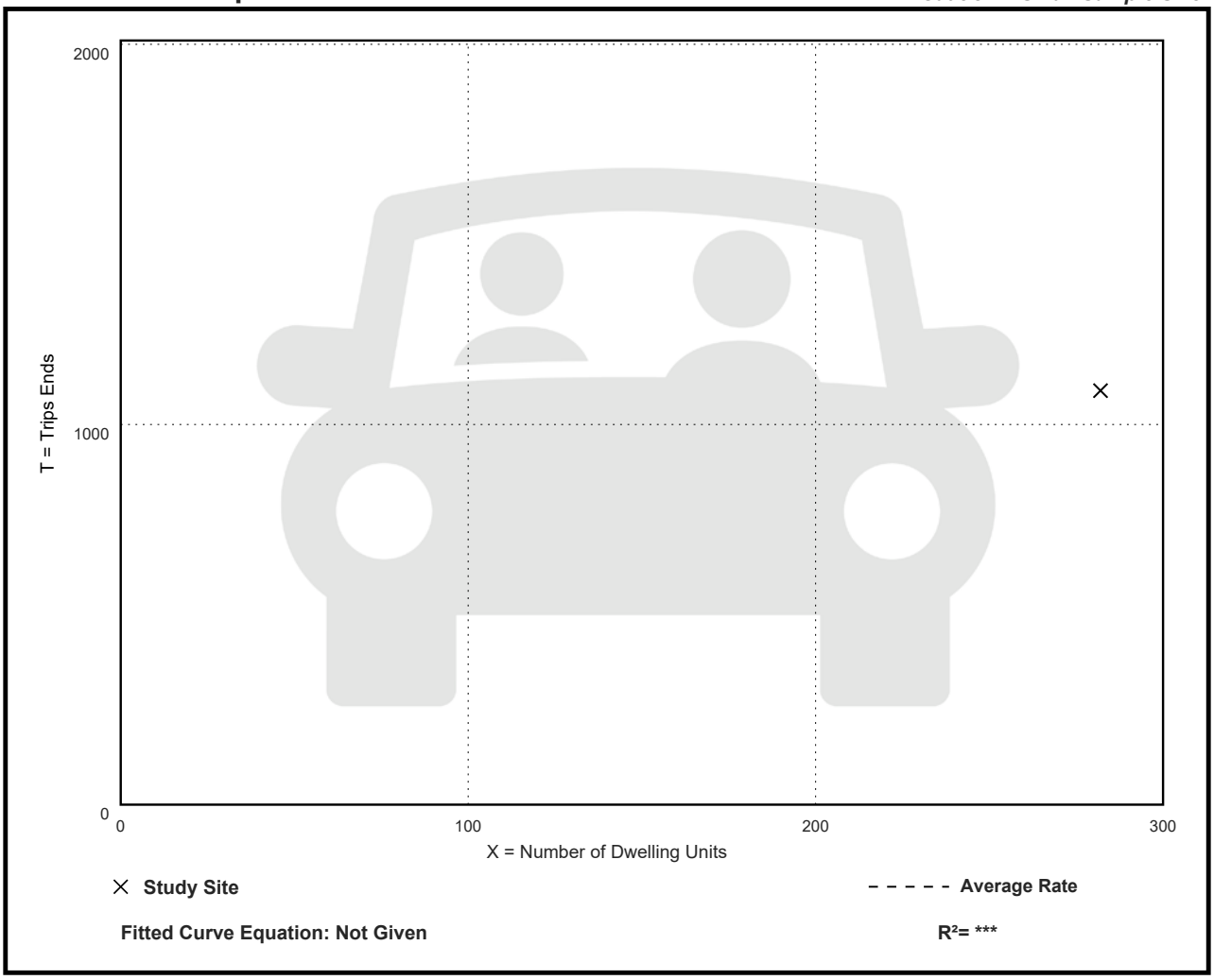
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.86	3.86 - 3.86	***

Data Plot and Equation

Caution – Small Sample Size



ATTACHMENT C

Intersection Count Data and LOS Worksheets

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Escondido
N/S: Conway Drive
E/W: Rincon Avenue

Date: 6/8/2023
Day: THURSDAY
Project # 143-23613

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:45 AM to 8:45 AM**

Vehicle Counts

	Conway Drive Northbound			Conway Drive Southbound			Rincon Avenue Eastbound			Rincon Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	7	4	1	0	5	24	9	1	3	0	9	0	63
7:15 AM	12	2	0	0	3	31	7	3	3	0	12	0	73
7:30 AM	4	4	1	1	3	26	9	3	3	0	11	0	65
7:45 AM	12	2	0	0	1	30	6	3	4	0	8	0	66
8:00 AM	9	2	1	1	5	25	4	5	1	1	7	2	63
8:15 AM	7	5	0	1	5	19	15	6	5	0	11	0	74
8:30 AM	11	0	0	0	6	24	12	3	4	1	7	0	68
8:45 AM	3	0	0	0	4	21	10	5	7	0	10	0	60
TOTAL VOLUMES:	65	19	3	3	32	200	72	29	30	2	75	2	532

AM Peak Hr Begins at: 745 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	39	9	1	2	17	98	37	17	14	2	33	2	271

PEAK HR FACTOR:	0.875	0.944	0.654	0.841	0.916

Bicycle Counts

	Conway Drive Northbound			Conway Drive Southbound			Rincon Avenue Eastbound			Rincon Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	2	1	0	0	0	0	0	3

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	2	0	0	0	0	0	0	2

Pedestrian Counts

	Conway Drive North Leg	Conway Drive South Leg	Rincon Avenue East Leg	Rincon Avenue West Leg	TOTAL
7:00 AM	2	0	0	0	2
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	3	0	0	0	3
8:00 AM	1	0	0	0	1
8:15 AM	2	0	0	0	2
8:30 AM	2	0	0	0	2
8:45 AM	1	1	1	1	4
TOTAL VOLUMES:	12	1	1	1	15

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	8	0	0	0	8

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Escondido
N/S: Conway Drive
E/W: Rincon Avenue

Date: 6/8/2023
Day: THURSDAY
Project # 143-23613

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **5:00 PM to 6:00 PM**

Vehicle Counts

	Conway Drive Northbound			Conway Drive Southbound			Rincon Avenue Eastbound			Rincon Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	5	6	1	0	1	18	26	10	12	2	2	1	84
4:15 PM	4	6	2	0	3	12	29	8	9	0	8	0	81
4:30 PM	9	5	0	0	3	16	28	8	11	3	8	0	91
4:45 PM	6	2	1	0	1	13	25	11	8	0	3	0	70
5:00 PM	6	3	1	0	2	15	30	10	5	0	4	0	76
5:15 PM	1	3	0	1	4	15	27	16	7	0	4	0	78
5:30 PM	14	4	2	0	4	13	36	9	10	0	6	1	99
5:45 PM	7	4	2	0	6	11	31	10	14	0	12	0	97
TOTAL VOLUMES:	52	33	9	1	24	113	232	82	76	5	47	2	676

PM Peak Hr Begins at: 500 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	28	14	5	1	16	54	124	45	36	0	26	1	350

PEAK HR FACTOR:	0.588	0.888	0.932	0.563	0.884

Bicycle Counts

	Conway Drive Northbound			Conway Drive Southbound			Rincon Avenue Eastbound			Rincon Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	4	2	0	0	0	0	0	7

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	1	2	1	0	0	0	0	0	4

Pedestrian Counts

	Conway Drive North Leg	Conway Drive South Leg	Rincon Avenue East Leg	Rincon Avenue West Leg	TOTAL
4:00 PM	2	0	0	0	2
4:15 PM	0	0	0	2	2
4:30 PM	0	0	0	3	3
4:45 PM	2	0	0	0	2
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	6	0	0	5	11

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	2	0	0	0	2

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	17	14	2	33	2	39	9	1	2	17	98
Future Vol, veh/h	37	17	14	2	33	2	39	9	1	2	17	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	40	18	15	2	36	2	42	10	1	2	18	107
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	7.8	7.6	7.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	80%	54%	5%	11%	0%
Vol Thru, %	18%	25%	89%	89%	0%
Vol Right, %	2%	21%	5%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	68	37	19	98
LT Vol	39	37	2	2	0
Through Vol	9	17	33	17	0
RT Vol	1	14	2	0	98
Lane Flow Rate	53	74	40	21	107
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.068	0.09	0.049	0.028	0.121
Departure Headway (Hd)	4.599	4.387	4.417	4.832	4.078
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	783	821	815	732	866
Service Time	2.599	2.389	2.421	2.618	1.863
HCM Lane V/C Ratio	0.068	0.09	0.049	0.029	0.124
HCM Control Delay	7.9	7.8	7.6	7.8	7.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.2	0.1	0.4

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	124	45	36	0	26	1	28	14	5	1	16	54
Future Vol, veh/h	124	45	36	0	26	1	28	14	5	1	16	54
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	141	51	41	0	30	1	32	16	6	1	18	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	9	7.7	8.2	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	60%	60%	0%	6%	0%
Vol Thru, %	30%	22%	96%	94%	0%
Vol Right, %	11%	18%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	205	27	17	54
LT Vol	28	124	0	1	0
Through Vol	14	45	26	16	0
RT Vol	5	36	1	0	54
Lane Flow Rate	53	233	31	19	61
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.071	0.28	0.038	0.028	0.077
Departure Headway (Hd)	4.808	4.321	4.5	5.238	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	747	834	797	685	797
Service Time	2.828	2.333	2.518	2.955	2.221
HCM Lane V/C Ratio	0.071	0.279	0.039	0.028	0.077
HCM Control Delay	8.2	9	7.7	8.1	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	1.1	0.1	0.1	0.2