Air Quality & Greenhouse Gas Emissions Assessment for the Parkview Elementary School Reimagination Project

City of Chico, California

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
APCO	Air Pollution Control Officer
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Chico
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Butte
DPM	diesel particulate matter

Term	Description
EO	Executive Order
GHG	greenhouse gas
GSP	Gross state product
HVAC	Heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel On Climate Change
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NSVAB	Northern Sacramento Valley Air Basin
NO_x	Nitrogen Oxide
NO_2	Nitrogen Dioxide
O_3	Ozone
PFS	Public Facilities & Services
PM	Particulate Matter
PM_{10}	Particulate Matter Less than 10 Microns in Diameter
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
ppm	parts per million
Project	Parkview Elementary School Reimagination Project
ROG	Reactive Organic Gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
sf	square feet
SIP	State Implementation Plan
SO_x	Sulfur oxide
SO_2	sulfur dioxide
SVAQEEP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
TAC	toxic air contaminant
USEPA	U.S. Environmental Protection Agency
VMT	Vehicle miles traveled
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This report documents the results of an Air Quality and Greenhouse Gas (GHG) Emissions Assessment completed for the Parkview Elementary School Reimagination Project (Project). The Project involves the demolition of existing school buildings and the construction and reconfiguration of facilities at the Parkview Elementary School campus in the City of Chico (City) in Butte County (County), California. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the Butte County Air Quality Management District (BCAQMD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

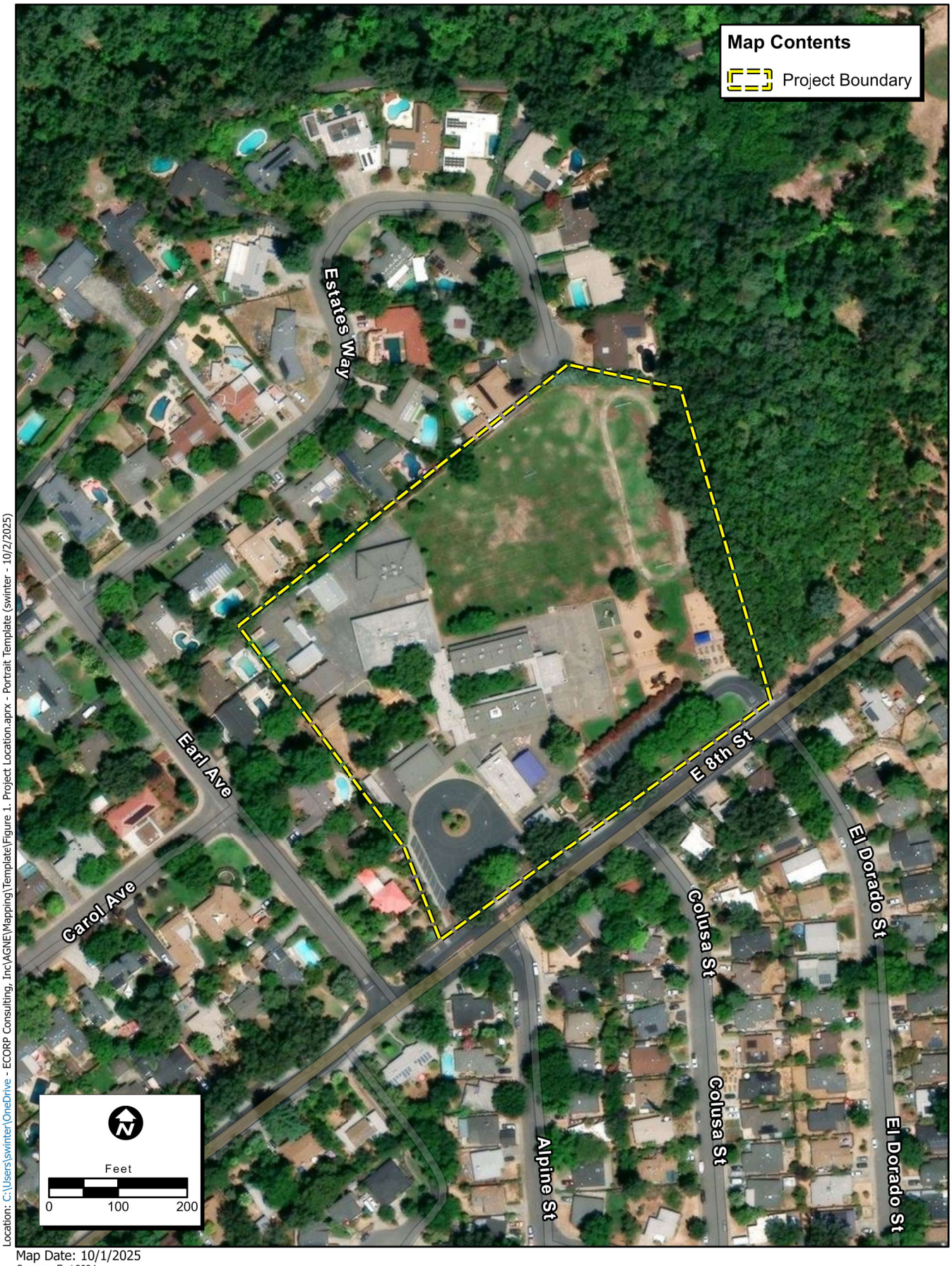
1.1 Project Location and Setting

The Proposed Project is located on an approximately 7.72-acre (336,283 square feet [sf]) parcel in Chico, California (Figure 1, Project Location). More specifically, the Project is located at 1770 E. 8th Street, Chico, CA 95928. The Project Site is currently an elementary school operating within the Chico Unified School District and serving 496 students. The Project Site is accessible via E. 8th Street. The Project Site is composed of one parcel (Assessor's Parcel Number 002-040-009-000) designated as Public Facilities & Services (PFS) by the City of Chico's 2030 General Plan. Existing land uses surrounding the Project Site include low density residential to the north, west, and south across E. 8th Street and secondary open space (Lower Bidwell Park) to the east.

1.2 Project Description

The Project Applicant, Chico Unified School District, proposes the demolition of approximately 32,934 sf of existing permanent buildings and 1,440 sf of portable classrooms at the Parkview Elementary School campus. Following demolition, the campus would be reconfigured and rebuilt with new educational facilities and associated improvements. Unlike the existing campus layout, which concentrates buildings on the southwestern portion of the Site, the new construction would extend across the entire Project Site, optimizing space utilization and circulation.

The reimagined campus would include new classroom buildings, administrative offices, multipurpose spaces, and associated support facilities. Outdoor play areas, circulation paths, and landscaped open spaces would also be reconfigured as part of the redevelopment.



Location: C:\Users\swinter\OneDrive - ECORP Consulting, Inc\AGNE\Mapping\Template\Figure 1. Project Location.aprx - Portrait Template (swinter - 10/2/2025)

Map Date: 10/1/2025

Sources: Esri 2024

Figure 1. Project Location

2.0 AIR QUALITY

2.1 Environmental Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Northern Sacramento Valley Air Basin (NSVAB), which encompasses the Project Site, pursuant to the regulatory authority of the BCAQMD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

2.1.1 Northern Sacramento Valley Air Basin

The Proposed Project is located in the NSVAB, which includes the counties of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern end of the Cascade Mountain Range and the northern end of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as to pollution transported northward on prevailing winds from the Sacramento metropolitan area (Sacramento Valley Air Quality Engineering and Enforcement Professionals [SVAQEEP] 2024).

The environmental conditions of Butte County are conducive to potentially adverse air quality conditions. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are generally from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Growth and urbanization in Butte County have also contributed to an increase in emissions.

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen oxides (NO_x), and sulfur dioxide (SO_2) are local pollutants because they tend to accumulate in the air locally. Particulate Matter (PM) is also considered a local pollutant in certain scenarios. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Summary of Criteria Air Pollutants Sources and Effects		
Pollutant	**Major Manufactured Sources**	**Human Health and Welfare Effects**
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_x	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROG) and nitrogen oxides in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
$PM_{2.5}$ & PM_{10}	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.

Source: California Air Pollution Control Offices Association 2013

2.1.2.1 Carbon Monoxide

CO, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

2.1.2.2 Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous

compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and nitrogen dioxide (NO_2), attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_x concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

2.1.2.3 Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOC) also known as reactive organic gases (ROG) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

2.1.2.4 Sulfur Dioxide

SO_2 is a colorless gas with a pungent odor, however sulfur dioxide can react with other particulates in the atmosphere to for particulates that contribute to the haze effect. SO_2 standards have been developed by the U.S. Environmental Protection Agency (USEPA) to regulate all sulfur oxides, however SO_2 is by far the most abundant sulfur oxide in the atmosphere. Currently, SO_2 is primarily a result of the burning of fossil fuels for power generation and other industrial sources. Modern regulations on diesel fuel have greatly reduced the amount of SO_2 in the atmosphere and there are currently no areas in California that have levels of SO_2 that are not acceptable by state or federal standards.

2.1.2.5 Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and smaller than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in

atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and ROG. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TAC) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis. Carcinogenic TACs can also have noncarcinogenic health hazard levels.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

The California Air Resources Board (CARB) identified diesel particulate matter (DPM) as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

2.1.4 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. The Chico-East Avenue air quality monitoring station (984 East Avenue, Suite 4, Chico, CA 95926), located approximately 1.91 miles northwest of the Project Area, is the closest station to the site and monitors ambient concentrations of O_3, PM_{10} and $PM_{2.5}$. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered generally representative of ambient concentrations in the development area. Table 2-2 summarizes the published data concerning O_3, PM_{10} and $PM_{2.5}$ since 2022 from the Chico-East Avenue monitoring station for each year that the monitoring data is provided.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Scenario	2022	2023	2024
O_3 – Chico-East Avenue			
Max 1-hour concentration (ppm)	0.082	0.075	0.093
Max 8-hour concentration (ppm) (state/federal)	0.068 / 0.068	0.069 / 0.068	0.071 / 0.070
Number of days above 1-hour standard (state)	0	0	0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	1 / 0
PM_{10} – Chico-East Avenue			
Max 24-hour concentration (µg/m^3) (state/federal)	74.0 / 76.2	78.5 / 78.8	109.9 / 113.4
Annual Average (federal)	19.3	22.7	20.4
Number of days above 24-hour standard (state/federal)	10.1 / 0	* / 0	13.2 / 0
$PM_{2.5}$ – Chico-East Avenue			
Max 24-hour concentration (µg/m^3) (state/federal)	42.8 / 42.8	35.4 / 35.4	85.2 / 85.2
Number of days above federal 24-hour standard	2	0	1

Notes: *Insufficient data available
µg/m^3 = micrograms per cubic meter; O_3 = Ozone; $PM_{2.5}$ = Fine Particulate Matter; PM_{10} = Coarse Particulate Matter; ppm = parts per million
Data was reported for the closest air monitoring station to the Project Site.

Sources: California Air Resources Board (CARB) 2025

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the NSVAB, which encompasses the Project Site, is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the Northern Sacramento Valley Air Basin		
Pollutant	**State Designation**	**Federal Designation**
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Attainment	Unclassified / Attainment
CO	Attainment	Unclassified / Attainment
NO_2	Attainment	Unclassified / Attainment
SO_2	Attainment	Unclassified / Attainment

Note: CO = Carbon Monoxide; NO_2 = Nitrogen Dioxide; O_3 = Ozone; $PM_{2.5}$ = Fine Particulate Matter; PM_{10} = Coarse Particulate Matter; SO_2 = Sulfur dioxide

Source: CARB 2023; USEPA 2025

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2023; USEPA 2025).

2.1.5 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include single-family residences located along the northern and western Project Site boundary. The nearest sensitive receptor is a single-family home to the north of the Proposed Project, approximately 47 feet distant from the proposed fourth- and fifth-grade classrooms.

2.2 Regulatory Framework

2.2.1 Federal

2.2.1.1 Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those *sensitive receptors* most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the Butte County portion of the NSVAB for the criteria pollutants.

2.2.2 State

2.2.2.1 California Clean Air Act

The California Clean Air Act allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, 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, including setting the CAAQS. CARB also conducts research, 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 (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

2.2.2.2 California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and

control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The *2024 Triennial Air Quality Attainment Plan* constitutes the current SIP for the Butte County portion of the NSVAB. The plan is updated on a triennial basis and was last updated in 2024. It presents comprehensive strategies to reduce the O_3 precursor pollutants (ROG and NO_x) from stationary, area, mobile, and indirect sources. More specifically, the triennial plan assesses the progress towards achieving the control measure commitments in the previous triennial plan, summarizes the last three years of O_3 data, compares the expected versus the actual emissions reductions for each measure committed to in the previous triennial plan, updates control measure commitments, and updates growth rates of population, industry, and vehicle related emissions (SVAQEEP 2024).

2.2.2.3 Tanner Air Toxics Act & Air Toxics "Hot Spot" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics *Hot Spots* Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the *Hot Spots* Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

2.2.3 Local

2.2.3.1 Butte County Air Quality Management District

The BCAQMD is the air pollution control agency for Butte County, including the Project Site. The agency's primary responsibility is ensuring that the federal and state ambient air quality standards are attained and maintained in the Butte County portion of the NSVAB. The BCAQMD, along with other air districts in the NSVAB, has committed to jointly prepare and implement the NSVAB Air Quality Attainment Plan for the purpose of achieving and maintaining healthful air quality throughout the air basin. The BCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing

permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities.

The BCAQMD has adopted a number of rules and regulations to implement its air quality plans, including permitting, prohibitions and limits to emissions from a variety of stationary resources, regulation of open burning, regulation of toxic air contaminants, and implementation of CAA requirements. The following is a list of noteworthy rules that are required of construction activities associated with the Proposed Project:

- **Rule 400: Permit Requirements.** The purpose of this Rule is to require any person constructing, altering, or operating a source that emits or may emit air contaminants to request an Authority to Construct or Permit to Operate from the Air Pollution Control Officer (APCO) and to provide an orderly procedure for application, review, and authorization of new sources and of the modification and operation of existing sources of air pollution. Stationary sources that are subject to Rule 1101-Title V-Federal Operating Permits of these Rules and Regulations shall also comply with the procedures specified in this Rule.
- **Rule 402: Nuisance.** No person shall discharge from any non-vehicular source 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.
- **Rule 205: Fugitive Dust.** The purpose of this Rule is to reduce ambient concentrations and limit fugitive emissions of fine particulate matter (PM_{10}) from construction activities, bulk material handling and storage, carryout and track-out, and similar activities, weed abatement activities, unpaved parking lots, unpaved staging areas, unpaved roads, inactive disturbed land, disturbed open areas, and windblown dust.
- **Rule 230: Architectural Coatings.** The purpose of this rule is to limit the emissions of volatile organic compounds from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the district.

2.2.3.2 City of Chico General Plan

The Chico 2030 General Plan is a statement of community priorities to guide public decision-making. The General Plan's Open Space and Environment Element advances local, regional and State air quality improvement efforts by requiring consistency with air quality regulations, encouraging the use of low emission and renewable energy sources and emerging clean air technologies, and directing City action to reduce wood burning and other major pollutant emissions. The General Plan's Open Space and Environment Element includes the following goals and policies relevant to air quality (City of Chico 2011):

- **Goal OS-4:** Improve air quality for a healthy City and region

1. *Policy OS-4.1 (Air Quality Standards):* Work to comply with state and federal ambient air quality standards and to meet mandated annual air quality reduction targets.

    i. *Action OS*-4.1.1 (Air Quality Impact Mitigation): During project and environmental review, evaluate air quality impacts and incorporate applicable mitigations, including payment of air quality impact fees, to reduce impacts consistent with the BCAQMD's Air Quality Handbook.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

A. Conflict with or obstruct implementation of any applicable air quality plan.

B. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

C. Expose sensitive receptors to substantial pollutant concentrations.

D. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

The significance criteria established by the applicable air quality management or air pollution control district (BCAQMD) may be relied upon to make the above determinations. According to the BCAQMD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The BCAQMD recommends the use of the Butte County thresholds of significance (BCAQMD 2024) for air quality for construction and operational activities of land use development projects, such as that proposed, as shown in Table 2-4.

Table 2-4. BCAQMD Regional Significance Thresholds

Air Pollutant	Construction Activities		Operations
	Pounds per Day	Tons per Year	Pounds per day
Reactive Organic Gas	137	4.5	25
Carbon Monoxide	-	-	-
Nitrogen Oxide	137	4.5	25
Sulfur Oxide	-	-	-
Coarse Particulate Matter (PM_{10})	80	-	80
Fine Particulate Matter ($PM_{2.5}$)	-	-	-

Note: $PM_{2.5}$ = Fine Particulate Matter; PM_{10} = Coarse Particulate Matter; BCAQMD = Butte County Air Quality Management District
Source: BCAQMD 2024

Air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the BCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2022.1 (California Air Pollution Control Officers Association 2022). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions are calculated using CalEEMod model defaults for Butte County and Project information provided in the Project Site Plan; including Site acreage, total building square footage, and the number of students. The model conservatively includes an estimated increase of 5,000 sf to the existing building footprint, expanding from 32,934 sf to a total modeled area of 37,932 sf on a 7.72-acre site. The model conservatively overestimates demolition activity and includes estimations for material imported and exported to account for dust related emissions during Proposed Project construction. Operational emissions are calculated using CalEEMod model defaults for Butte County, the total building square footage, and lot acreage identified by the Project Site Plan. The daily traffic trips are based on the Institute of Transportation Engineers' Trip Generation Manual to inform

the modeling calculations of operational mobile source emissions. Operational area source emissions account for emissions associated with pesticides used for maintenance of lawn areas, parking degreasers, parking lot paint, refrigerant use, and landscaping equipment emissions.

2.3.3 Impact Analysis

2.3.3.1 Project Construction-Generated Criteria Air Quality Emissions

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, forklifts, pavers), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts.

Construction-generated emissions associated with the Proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Appendix A provides more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily and annual construction-generated emissions for the Proposed Project are summarized in Table 2-5. Construction-generated emissions are short-term and of temporary duration, lasting only if construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the derived thresholds of significance.

Table 2-5. Construction-Related Emissions

Construction Year	Pollutant					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Daily (pounds per day)						
Construction Year One	3.32	34.40	31.00	0.08	22.30	11.70
Construction Year Two	8.92	9.60	13.90	0.02	0.48	0.34
BCAQMD Significance Threshold	*137 pounds/day*	*137 pounds/day*	-	-	*80 pounds/day*	-
Exceed BCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual (tons per year)						
Construction Year One	0.13	1.26	1.40	0.00	0.34	0.15
Construction Year Two	0.16	0.60	0.85	0.00	0.03	0.02
BCAQMD Significance Threshold	*4.5 tons/year*	*4.5 tons/year*	-	-	-	-
Exceed BCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: Land use classification applied in model is "Educational – Elementary School." The model includes an estimated increase of 5,000 sf to the existing building footprint, expanding from 32,934 sf to a total modeled area of 37,934 sf on a 7.72-acre Site. The model assumes that four acres of the Proposed Project would be landscaped to account for water use. For site preparation and grading activities, the import/export of 10,000 cubic yards of material is incorporated to account for dust emissions associated with material movement during construction. Emissions modeling conservatively assumes demolition of the existing 32,934 sf of building area. Additionally, 8,000 tons of material is assumed to be demolished and excavated to represent the demolition of existing buildings and asphalt surfaces.

Source: CalEEMod version 2022.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 2-5, emissions generated during Project construction would not exceed the BCAQMD's thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

2.3.3.2 Project Operations Criteria Air Quality Emissions

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NO_X. Project-generated increases in emissions would be predominantly associated with motor vehicle use from employees and parents dropping off their students to the elementary school. Operational air pollutant emissions were based on the lot acreage, building square footage, and number of students provided in the Project Site Plan. Traffic trips were based on CalEEMod defaults informed by the Institute of Transportation Engineers traffic volume estimates for elementary schools. Predicted maximum daily operational-generated emissions of criteria air pollutants for the Proposed Project are summarized in Table 2-6 and compared to the operational significance thresholds promulgated by the BCAQMD.

Table 2-6. Operational-Related Emissions						
Emission Source	**Pollutant (pounds per day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer Emissions						
Area	1.13	0.01	1.65	0.00	0.00	0.00
Energy	0.03	0.46	0.39	0.00	0.04	0.04
Mobile	4.34	2.32	18.10	0.03	2.43	0.64
Total:	**5.50**	**2.80**	**20.10**	**0.03**	**2.47**	**0.68**
BCAQMD Significance Threshold	*25 pounds/day*	*25 pounds/day*	-	-	*80 pounds/day*	-
Exceed BCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	0.86	-	-	-	-	-
Energy	0.03	0.46	0.39	0.00	0.04	0.04
Mobile	3.69	2.70	17.70	0.03	2.43	0.64
Total:	**4.58**	**3.16**	**18.10**	**0.03**	**2.47**	**0.68**
BCAQMD Significance Threshold	*25 pounds/day*	*25 pounds/day*	-	-	*80 pounds/day*	-
Exceed BCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: Emission projections predominately based on CalEEMod model defaults for Butte County as well as the lot acreage, building square footage, and number of students provided in the Project Site Plan.

Source: CalEEMod version 2022.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 2-6, the Project's emissions would not exceed any BCAQMD thresholds for any criteria air pollutants during operations.

2.3.3.3 Project Consistency with Air Quality Planning

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The *2024 Triennial Air Quality Attainment Plan* constitutes the current SIP for the Butte County portion of the NSVAB and is the most recent air quality planning document covering Butte County. Air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. State law makes CARB the lead agency for all purposes related to the *Air Quality Attainment Plan*. Local air districts prepare air quality attainment plans and submit them to CARB for review and approval. The *2024 Triennial Air Quality Attainment Plan* includes forecast ROG and NO_X emissions (O_3 precursors) for the entire NSVAB through the year 2030. The plan also includes control strategies necessary to attain the California O_3 standard at the earliest practicable date, as well as developed emissions inventories and associated emissions projections for the region showing a downtrend for both ROG and NO_X.

The consistency of the Project with the *2024 Triennial Air Quality Attainment Plan* is determined by Project-induced development's consistency with air pollutant emission projections in the plan. However, although the *2024 Triennial Air Quality Attainment Plan* provides estimated ROG and NO_x emissions for the entire NSVAB, they are not apportioned by local air district, county or municipality. The *2024 Triennial Air Quality Attainment Plan* is based on information derived from projected growth in Butte County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Therefore, until such time as Butte County's applicable air quality plan provides the locally appropriate data necessary to evaluate the consistency of a project's potential air quality impacts (due to non-stationary sources) with the attainment plan's emission projections, the BCAQMD recommends that lead agencies and applicants evaluate a project's contribution to changes in population growth in relation to those projections made by the Butte County Association of Governments (BCAG) (BCAQMD 2024).

BCAG has prepared the Butte County population and housing forecasts using professionally accepted methodologies for long-range forecasting. Utilizing a "top down" approach, long-term projections prepared by the California Department of Finance were consulted for Butte County and used by BCAG to re-establish control totals for the region. Additionally, a variety of data sources, including input from local jurisdictions, were reviewed and inserted at the local jurisdiction level, therefore incorporating a "bottom up" approach. As such, projects that propose development consistent with the growth anticipated by BCAG would be consistent with the *2024 Triennial Air Quality Attainment Plan*.

Importantly, the Proposed Project involves the redesign and modernization of the existing Parkview School campus and does not include new housing or employment generating development that could result in population or job growth. The Project is not intended to increase student enrollment but rather to replace aging facilities with updated building infrastructure. Because the Project is not associated with any land use intensification, population growth, or employment expansion, it will not introduce additional residential, commercial, or institutional development that would contribute to long-term emissions of criteria air pollutants. The Proposed Project is expected to maintain existing patterns of vehicle usage, including student drop-offs, staff commuting, and school bus service. Since enrollment and staffing levels will remain unchanged, there will be no net increase in daily vehicle trips, and therefore no meaningful change in associated vehicle miles traveled (VMT). VMT is a major contributor to regional ozone precursor emissions, including ROG and NO_x, which are the focus of the NSVAB's attainment planning efforts. In addition, the modernization of an existing school facility can lead to operational improvements that support air quality and environmental sustainability objectives. For example, upgrades to heating, ventilation, and air conditioning (HVAC) systems can reduce energy consumption and improve indoor air quality, while the use of low-emission building materials and energy-efficient lighting or insulation may contribute to a reduced emissions profile for long-term operations. If implemented, such improvements would align with California's broader efforts to reduce criteria pollutants through more sustainable public infrastructure. Thus, the expected growth in population and housing as a result of the Proposed Project would not surpass BCAG's projections and therefore would not result in a conflict with the *2024 Triennial Air Quality Attainment Plan*. Additionally, as shown in Table 2-5 and 2-6, all Project emissions would be under the BCAQMD significance thresholds, which were established for reducing air pollution and related adverse effects, a primary goal of the *2024 Triennial Air Quality Attainment Plan*. It is further noted that the Proposed Project is consistent with Policy OS-4.1 (Air Quality Standards) in the City's General Plan Open Space and Environment Element which aims to comply with state and federal ambient air quality standards to meet mandated annual air quality reduction targets. For these reasons, the Project would be consistent with the goals of local air quality planning.

2.3.3.4 Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include single-family residences located along the northern and western Project Site boundary. The nearest sensitive receptor is a single-family home to the north of the Proposed Project, approximately 47 feet distant from the proposed fourth- and fifth-grade classrooms.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Proposed Project-generated emissions of DPM, ROG, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment

for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The Butte County portion of the NSVAB is listed as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2023; USEPA 2025). Thus, existing O_3 and PM_{10} levels in the NSVAB are at unhealthy levels during certain periods. However, as shown in Table 2-6 the Project would not exceed the BCAQMD's significance thresholds for construction emissions.

The health effects associated with O_3 are generally associated with reduced lung function. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_x in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term O_3 exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O_3 may increase the risk of respiratory-related deaths. The concentration of O_3 at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of O_3 and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O_3 concentration reaches 80 parts per billion. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the BCAQMD thresholds, which are set to be protective of human health and account for cumulative emissions in Butte County, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the BCAQMD's thresholds, which are set to be protective of human health and account for cumulative emissions in Butte County. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity,

DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM and PM_{10} exhaust contains $PM_{2.5}$ exhaust as a subset. As with O_3 and NO_x, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the BCAQMD's thresholds. The increases of these pollutants generated by the Proposed Project would not on their own generate an increase in the number of days exceeding the NAAQS or CAAQS standards. Therefore, PM_{10} and $PM_{2.5}$ emissions, when combined with the existing PM emitted regionally, would have minimal health effect on people located in the immediate vicinity of the Project Site. Additionally, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects from these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Examples of projects that emit toxic pollutants over long-term operations include oil and gas processing, gasoline dispensing, dry cleaning, electronic and parts manufacturing, medical equipment sterilization, freeways, and rail yards. Operation of the Proposed Project would not result in the development of any substantial sources of air toxics at nearby sensitive receptors. The Project would not have a high carcinogenic or non-carcinogenic risk during operation.

Carbon Monoxide Hotspots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the NSVAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. A study conducted in Los Angeles County by the South Coast Air Quality Management District (SCAQMD) is helpful in showing the amount of traffic necessary to result in a CO Hotspot. The SCAQMD analysis prepared for CO attainment in the SCAQMD's 1992 Federal Attainment Plan for Carbon Monoxide in Los Angeles County, and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). To establish a more accurate record of baseline CO concentrations affecting Los Angeles County, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District, the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The Proposed Project is anticipated to result in an approximate maximum of 958 daily trips. Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per hour) and there is no likelihood of the Proposed Project traffic exceeding CO values.

2.3.3.5 Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory, and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to

another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word *strong* to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

According to the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), the sources of the most common operational odor complaints received by local air districts include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The Project does not contain any of the land uses identified as typically associated with emissions of objectionable odors.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. More specifically, experts agree that human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. (Intergovernmental Panel on Climate Change [IPCC] 2023).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Despite the sequestration of CO_2, human-

caused climate change is already causing damaging effects, including weather and climate extremes in every region across the globe (IPCC 2023).

Table 3-1. Summary of Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Note: CH_4 = methane; CO_2 = Carbon Monoxide; N_2O = Nitrous Oxide

Sources: [1]USEPA 2023a; [2]USEPA 2023b; [3]USEPA 2023c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2024, CARB released the 2024 edition of the *California GHG Emissions from 2000 to 2022: trends of Emissions and Other Indicators* report. In 2022, California emitted 371.1 million metric tons of CO_2e. This inventory is 2.4 percent lower than in 2021. The 2022 emissions data shows that the State of California is continuing its established long-term trend of GHG emission declines, despite the anomalous emissions trends from 2019 through 2021, due in large part to the impacts of the COVID-19 pandemic. Overall trends in the Inventory continue to demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross state product (GSP)) is declining. California's GSP increased by 0.7 percent in 2022, and emissions per GSP declined by 3.1 percent from 2021 to 2022.

Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for approximately 37.7 percent of total GHG emissions in the state. Transportation emissions have decreased 3.6 percent from 2021 levels due to reductions from on-road, rail and, to a lesser extent, intrastate aviation transportation. Emissions from the electricity sector account for 16.1 percent of the Inventory, which is a decrease of 4.1 percent since 2021, despite the growth of in-state solar, wind, and hydropower energy generation. California's industrial sector accounts for the second largest source of the state's GHG emissions in 2022, accounting for 19.6 percent, which saw a decrease of 2 percent since 2021 (CARB 2024).

3.2 Regulatory Framework

3.2.1 State

3.2.1.1 Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

3.2.1.2 Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed AB 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2022 Scoping Plan Update, outlines strategies and actions to reduce greenhouse gas emissions in California. The plan focuses on achieving the state's goal of reaching carbon neutrality by 2045 and reducing greenhouse gas emissions to 40% below 1990 levels by 2030. The plan includes a range of strategies across various sectors, including transportation, industry, energy, and agriculture. Some of the key strategies include transitioning to zero-emission vehicles, expanding renewable energy sources, promoting sustainable land use practices, implementing a low-carbon fuel standard, and reducing emissions from buildings. Additionally, the plan addresses equity and environmental justice by prioritizing investments in communities most impacted by pollution and climate change. The plan also aims to promote economic growth and job creation through the transition to a low-carbon economy.

3.2.1.3 Senate Bill 32 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030 (the other provisions of AB 32 remained unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provided a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies. The 2017 Scoping Plan also placed an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with Statewide per capita goals of no more than 6 metric tons of CO_2e by 2030 and 2 metric tons of CO_2e by 2050.

3.2.1.4 Assembly Bill 1279 of 2022

In September 2022, Governor Brown signed AB 1279, The California Climate Crisis Act, which requires California to achieve carbon neutrality as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. AB 1279 also requires that by 2045 statewide anthropogenic GHG emissions be reduced to at least 85 percent below 1990 levels and directs CARB to ensure that its scoping plan identifies and recommends measures to achieve these goals. AB 1279 also directs CARB to identify policies and strategies to enable carbon capture, utilization, and storage and CO_2 removal technologies to meet emission reduction goals. In addition, CARB is required to submit an annual report on progress in achieving the 2022 Scoping Plan's goals.

In response to the passage of AB 1279 and the identification of the 2045 GHG emissions reduction target, CARB published the *Final 2022 Climate Change Scoping Plan* in November 2022 (2022 Update). The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying a new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan; addresses recent legislation and direction from Governor Newsom; extends and expands upon these earlier plans; and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. As stated in the 2022 Update, "the plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by

expanding actions to capture and store carbon through the State's natural and working lands and using a variety of mechanical approaches." Specifically, the 2022 Update achieves the following:

- 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 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.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Update includes emissions and carbon sequestration in natural and working lands and explores how they contribute to long-term climate goals. Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet these GHG emissions reduction goals and achieve carbon neutrality no later than 2045. The 2022 Update approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

3.2.1.5 Executive Order N-79-20

Governor Gavin Newsom signed an executive order on September 23, 2020, that would phase out sales of new gas-powered passenger cars by 2035 with an additional 10-year transition period for heavy vehicles. The State would not restrict used car sales, nor forbid residents from owning gas-powered vehicles, meaning that the overall reduction in GHG emissions would likely not substantially reduce GHG emissions from vehicles for many years after the ban goes into effect.

3.2.1.6 Senate Bill 100 of 2018

In 2018, SB 100 was signed codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

3.2.1.7 Senate Bill 1020 of 2022

SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, adds interim targets to the policy framework originally established in SB 100 to require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. Additionally, the bill requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to serve their own facilities by 2035. This bill also requires that CARB's Scoping Plan workshops be held in non-attainment areas and requires the California Public Utilities Commission, the California Energy Commission, and CARB to create a joint report on electricity reliability.

3.2.1.8 Senate Bill 375 of 2008

SB 375 set forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHG emissions. SB 375 was adopted with a goal of reducing fuel consumption and GHG emissions from cars and light trucks. Under SB 375, CARB was required to set GHG reduction targets for each metropolitan region for 2020 and 2035, and each of California's metropolitan planning organizations was responsible to prepare a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. The Butte County Association of Governments adopted the 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to remain compliant with SB 375.

3.2.1.9 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2022 California Building Codes include provisions related to energy efficiency to reduce energy consumption and GHG emissions from buildings. Some of the key energy efficiency components of the codes are:

1. Energy Performance Requirements: The codes specify minimum energy performance standards for the building envelope, lighting, heating and cooling systems, and other components.
2. Lighting Efficiency: The codes require that lighting systems meet minimum efficiency standards, such as the use of energy-efficient light bulbs and fixtures.
3. Heading/Vacuum/Air Conditioning (HVAC Systems: The codes establish requirements for HVAC systems, including the use of high-efficiency equipment, duct sealing, and controls.

4. Building Envelope: The codes include provisions for insulation, air sealing, glazing, and other building envelope components to reduce energy loss and improve indoor comfort.
5. Renewable Energy: The codes encourage the use of renewable energy systems, such as photovoltaic panels and wind turbines, to reduce dependence on non-renewable energy sources.
6. Commissioning: The codes require the commissioning of building energy systems to ensure that they are installed and operate correctly and efficiently.

Overall, the energy efficiency provisions of the 2022 California Building Codes aim to reduce the energy consumption of buildings, lower energy costs for building owners and occupants, and reduce the environmental impact of the built environment. The 2022 Building Energy Efficiency Standards improve upon the 2019 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The exact amount by which the 2022 Building Codes are more efficient compared to the 2019 Building Codes would depend on the specific provisions that have been updated and the specific building being considered. However, in general, the 2022 Building Codes have been updated to include increased requirements for energy efficiency, such as higher insulation and air sealing standards, which are intended to result in more efficient buildings. The 2022 standards are a major step toward meeting Zero Net Energy.

3.2.2 Local

3.2.2.1 City of Chico Climate Action Plan

The City of Chico adopted an updated Climate Action Plan (CAP) in 2021 as part of its broader effort to align with statewide GHG reduction goals and plan for a safer and more resilient future. The updated CAP outlines strategies to reduce GHG emissions and achieve the City's target of carbon neutrality by 2045. In addition to climate goals, the CAP aims to improve community quality of life, create new economic opportunities through green jobs, enhance social equity, increase public engagement on climate issues, and reduce barriers to affordable housing development. The plan addresses communitywide GHG emissions, with a near-term target of reducing per capita emissions to 2.71 metric tons of CO_2e (or 292,437 metric tons in total) by 2030. To achieve these goals, the CAP identifies thirteen measures across four main sectors: energy, transportation, waste, and carbon sequestration. These measures include actions such as promoting sustainable transportation and fuel use, expanding recycling and composting, improving water efficiency, and increasing urban tree cover (City of Chico 2021).

3.2.2.2 Butte County Air Quality Management District

The BCAQMD has jurisdiction over local air quality in Butte County, including the Project Site. To date neither the BCAQMD nor the City of Chico have established specific threshold criteria for GHG emissions.

3.2.2.3 Butte County Association of Governments 2024 Regional Transportation Plan/Sustainable Communities Strategy

The BCAG region, which encompasses the Project Site, must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions. Specifically, the region has been tasked by CARB to achieve a seven percent per capita reduction by the end of 2035 (BCAG 2024). The BCAG 2024 RTP/SCS specifies the policies, projects, and programs necessary over a 20+ year period to maintain, manage, and improve the region's transportation system. Updated every four years, the plan integrates land use planning through the SCS, aligning transportation investments with more compact, efficient development patterns. Together, these strategies aim to reduce per capita VMT, improve air quality, promote public health, and help the region meet state climate goals.

3.2.2.4 California Air Pollution Control Officers Association

California Air Pollution Control Officers Association (CAPCOA) is an association of air pollution control officers representing all 35 local air quality agencies across California. Established in 1976, CAPCOA's primary objectives include the advancement of clean air initiatives and to provide a platform for the exchange of knowledge, experience, and information among air quality regulatory bodies statewide. The association is dedicated to fostering unity and efficiency, aiming to promote consistency in methods and practices pertaining to air pollution control. CAPCOA convenes regularly with federal and state air quality officials to formulate statewide regulations and ensure uniform adherence to established rules.

CAPCOA has instituted a GHG significance threshold of 900 metric tons of CO_2e annually for the evaluation of proposed land use development projects. This threshold, indicating a 90 percent capture rate, encompasses projects representing approximately 90 percent of GHG emissions from new sources. The 900 metric tons of CO2e per year threshold is typically utilized to classify small projects within California as inconsequential, as it accounts for less than one percent of the future 2050 statewide GHG emissions target. CAPCOA considers the 900 metric ton threshold sufficiently low to capture a significant portion of future residential and nonresidential development necessary for accommodating statewide population and economic growth. Simultaneously, it establishes the emission threshold at a level that excludes small projects contributing a relatively minor fraction of cumulative statewide GHG emissions.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to GHG emissions if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently consider the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs 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 plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant

for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For both stationary and non-stationary sources of GHG emissions, the BCAQMD's CEQA Air Quality Handbook recommends compliance with the Lead Agency's qualified CAP or consistency with a qualified GHG reduction strategy (BCAQMD 2024). The City does have a CAP that is intended to make Chico a more sustainable community by reducing GHGs by providing guidance to adapt to the effects of climate change. However, the City of Chico's GHG-reduction standards and associated measures are not binding on the Chico Unified School District. Therefore, an analysis of Project consistency with the City of Chico CAP is not appropriate. Instead, the Proposed Project's GHG emissions are analyzed and compared to an appropriate numeric threshold.

Neither the City of Chico nor the BCAQMD identify any numeric GHG significance thresholds. As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). For comparison purposes and in the absence of any numeric GHG emissions significance thresholds, Project GHG emissions are compared to the California Air Pollution Control Officers Association (CAPCOA) significance threshold of 900 metric tons annually for comparison purposes. CAPCOA is an association of air pollution control officers representing all 35 local air quality agencies across California, including the BCAQMD. CAPCOA has instituted a GHG significance threshold of 900 metric tons of CO_2e annually for the evaluation of proposed land use development projects. This threshold, indicating a 90 percent capture rate, encompasses projects representing approximately 90 percent of GHG emissions from new sources. The 900 metric tons of CO_2e per year threshold is typically utilized to classify small projects within California as inconsequential, as it accounts for less than one percent of the future 2050 statewide GHG emissions target. CAPCOA considers the 900 metric ton threshold sufficiently low to capture a significant portion of future residential and nonresidential development necessary for accommodating statewide population and economic growth. Simultaneously, it establishes the emission threshold at a level that excludes small projects contributing a relatively minor fraction of cumulative statewide GHG emissions. The Project is compared to the CAPCOA significance threshold of 900 metric tons annually.

3.3.2 Methodology

GHG emissions were modeled using CalEEMod, version 2022.1, for disclosure purposes. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated GHG emissions were calculated using CalEEMod model defaults for Butte County and Project information provided in the Project Site Plan; including Site acreage, total building square footage, and the number of students. The model conservatively includes an estimated increase of 5,000 sf to the existing building footprint, expanding from 32,934 sf to a total modeled area of 39,934 sf on a 7.72-acre Site. The model

conservatively overestimates demolition activity and includes estimations for material imported and exported to account for dust related emissions during Proposed Project construction. Operational emissions are calculated using CalEEMod model defaults for Butte County, the total building square footage, and lot acreage identified by the Project Site Plan. The daily traffic trips are based on the Institute of Transportation Engineers' Trip Generation Manual to inform the modeling calculations of operational mobile source emissions. Operational area source emissions account for emissions associated with pesticides used for maintenance of lawn areas, parking degreasers, parking lot paint, refrigerant use, and landscaping equipment emissions.

3.3.3 Impact Analysis

3.3.3.1 Project Generated Greenhous Gas Emissions

Construction

Construction-related activities that would generate GHG emissions include on- and off-road equipment traffic. Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Table 3-2. Construction Related Greenhouse Gas Emissions

Description	CO_2e Emissions (Metric Tons/Year)
Construction – Calendar Year 1	337
Construction – Calendar Year 2	144
Maximum Annual Construction Emissions	**337**
CAPCOA Significance Threshold	*900*
Exceed Threshold?	**No**

Notes: Construction GHG emissions account for the removal of 32,934 sf of building debris and 10,000 cubic yards of soil.
CalEEMod = California Energy Emissions Estimator Model; CO_2e = Carbon Dioxide Equivalent; CAPCOA = California Air Pollution Control Officers Association

Sources: CalEEMod version 2022.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 3-2, Project construction would result in the generation of 337 metric tons of CO_2e during the first calendar year of construction and 144 metric tons of CO_2e during the second calendar year of construction. Both years are below the CAPCOA significance threshold of 900 metric tons of CO_2e. Once construction is complete, the generation of these GHG emissions would cease.

Operations

Operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project are identified in Table 3-3.

Table 3-3. Operational Related Greenhouse Gas Emissions	
Description	**CO_2e Emissions (Metric Tons/Year)**
Mobile	349
Area	<1
Energy	108
Water	3
Waste	29
Refrigerants	<1
Project Operations Total	**489**
Significance Threshold	*900*
Exceed Threshold?	**No**

Notes: GHG Emission projections predominately based on CalEEMod model defaults for Butte County as well as the lot acreage, building square footage and number of students provided by the Project Proponent. Traffic information is informed by the CaleEEMod model which relies on the Trip Generation Manual published by the Institute of Transportation Engineers.
CalEEMod = California Energy Emissions Estimator Model; GHG = Greenhouse Gas

Sources: CalEEMod version 2022.1. See Appendix A for modeling assumptions.

As shown in Table 3-3, operational-generated emissions would total to approximately 489 metric tons of CO_2e, which would not exceed the numeric bright-line threshold of 900 metric tons of CO_2e annually. This significance threshold was developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. The 900 metric tons of CO_2e per year value represents less than one percent of future 2050 statewide GHG emissions target.

3.3.3.2 Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The Project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. As discussed previously, the Proposed Project-generated GHG emissions would not surpass the CAPCOA GHG significance threshold, which was developed in consideration of statewide GHG reduction goals. Additionally, it is noted that the Project would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. During the Proposed Project, there would be updates and improvements to main school buildings, including classrooms, outdoor play areas, and corridors. These improvements would ensure that the buildings are more energy efficient and more effective at reducing the need for heating and air conditioning compared with existing conditions. The new facilities would be improved with new LED lighting, which have greater energy efficiency and lifespan than traditional fluorescent light bulbs.

The Project would be built to the Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24). Title 24 was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years; the 2019 Title 24 updates went into effect on January 1, 2020. The 2022 standards became effective January 1, 2023. The 2022 Energy Standards improve upon the 2019 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2022 update to the Energy Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, encouraging better energy efficiency, strengthening ventilation standards, and more. The 2022 Energy Standards are a major step toward meeting Zero Net Energy. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments. The 2025 Energy Standards expands the use of electric heat pumps in newly constructed residential buildings, encourages electric-readiness through promotion of solar energy and battery storage systems, strengthens ventilation standards to improve indoor air quality and enhance public health, and more. Buildings permitted on or after January 1, 2026, must comply with the 2025 Standards. Thus, the modernization of school buildings proposed by the Project would result in greater energy efficiency compared to existing conditions.

For these reasons, the Project would not conflict with any applicable plan, policy or regulation related to the reduction in GHG emissions.

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APPENDIX A

Criteria Air Pollutants & Greenhouse Gas Emissions CalEEMod Output Files

Parkview Elementary School Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Parkview Elementary School
Construction Start Date	5/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	5.20
Location	1770 E 8th St, Chico, CA 95928, USA
County	Butte
City	Chico
Air District	Butte County AQMD
Air Basin	Sacramento Valley
TAZ	207
EDFZ	3
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.30

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
Elementary School	506	Student	7.72	37,934	174,240	174,240	—	—

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.92	34.4	31.0	0.08	1.33	21.0	22.3	1.23	10.5	11.7	—	10,396	10,396	0.26	1.12	15.1	10,749
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.15	10.1	13.7	0.02	0.38	0.14	0.52	0.35	0.03	0.38	—	2,601	2,601	0.11	0.04	0.02	2,615
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.86	6.93	7.67	0.02	0.26	1.63	1.89	0.24	0.60	0.83	—	1,997	1,997	0.06	0.11	0.69	2,034
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	1.26	1.40	< 0.005	0.05	0.30	0.34	0.04	0.11	0.15	—	331	331	0.01	0.02	0.11	337

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.32	34.4	31.0	0.08	1.33	21.0	22.3	1.23	10.5	11.7	—	10,396	10,396	0.26	1.12	15.1	10,749

2027	8.92	9.58	13.9	0.02	0.34	0.14	0.48	0.31	0.03	0.34	—	2,612	2,612	0.10	0.04	0.62	2,626
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.15	10.1	13.7	0.02	0.38	0.14	0.52	0.35	0.03	0.38	—	2,601	2,601	0.11	0.04	0.02	2,615
2027	1.10	9.60	13.6	0.02	0.34	0.14	0.48	0.31	0.03	0.34	—	2,597	2,597	0.11	0.04	0.02	2,611
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.71	6.93	7.67	0.02	0.26	1.63	1.89	0.24	0.60	0.83	—	1,997	1,997	0.06	0.11	0.69	2,034
2027	0.86	3.26	4.68	0.01	0.12	0.05	0.17	0.11	0.01	0.12	—	866	866	0.04	0.01	0.09	870
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.13	1.26	1.40	< 0.005	0.05	0.30	0.34	0.04	0.11	0.15	—	331	331	0.01	0.02	0.11	337
2027	0.16	0.60	0.85	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	143	143	0.01	< 0.005	0.02	144

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.50	2.80	20.1	0.03	0.07	2.40	2.47	0.07	0.61	0.68	52.1	3,738	3,790	5.48	0.20	9.82	3,995
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.58	3.16	18.1	0.03	0.07	2.40	2.47	0.07	0.61	0.68	52.1	3,483	3,536	5.53	0.21	0.40	3,738
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.71	2.26	13.0	0.02	0.06	1.71	1.77	0.06	0.43	0.49	52.1	2,717	2,770	5.44	0.15	3.13	2,953
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.68	0.41	2.37	< 0.005	0.01	0.31	0.32	0.01	0.08	0.09	8.63	450	459	0.90	0.02	0.52	489

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.34	2.32	18.1	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	3,073	3,073	0.20	0.19	9.67	3,144
Area	1.13	0.01	1.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.78	6.78	< 0.005	< 0.005	—	6.81
Energy	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.07	< 0.005	—	654
Water	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Waste	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	5.50	2.80	20.1	0.03	0.07	2.40	2.47	0.07	0.61	0.68	52.1	3,738	3,790	5.48	0.20	9.82	3,995
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.69	2.70	17.7	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	2,826	2,826	0.25	0.20	0.25	2,893
Area	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.07	< 0.005	—	654
Water	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Waste	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	4.58	3.16	18.1	0.03	0.07	2.40	2.47	0.07	0.61	0.68	52.1	3,483	3,536	5.53	0.21	0.40	3,738
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.69	1.80	11.8	0.02	0.02	1.71	1.73	0.02	0.43	0.46	—	2,056	2,056	0.16	0.14	2.98	2,105
Area	0.99	0.01	0.81	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.35	3.35	< 0.005	< 0.005	—	3.36
Energy	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.07	< 0.005	—	654
Water	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Waste	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	3.71	2.26	13.0	0.02	0.06	1.71	1.77	0.06	0.43	0.49	52.1	2,717	2,770	5.44	0.15	3.13	2,953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.49	0.33	2.15	< 0.005	< 0.005	0.31	0.32	< 0.005	0.08	0.08	—	340	340	0.03	0.02	0.49	349
Area	0.18	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.55	0.55	< 0.005	< 0.005	—	0.56
Energy	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	108
Water	—	—	—	—	—	—	—	—	—	—	0.39	0.99	1.38	0.04	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	8.24	0.00	8.24	0.82	0.00	—	28.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.68	0.41	2.37	< 0.005	0.01	0.31	0.32	0.01	0.08	0.09	8.63	450	459	0.90	0.02	0.52	489

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

Location	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	2.29	20.7	19.0	0.03	0.84	—	0.84	0.78	—	0.78	—	3,427	3,427	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	8.75	8.75	—	1.32	1.32	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	1.13	1.04	< 0.005	0.05	—	0.05	0.04	—	0.04	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	0.48	0.48	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.21	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	0.09	0.09	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.87	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	122	122	0.01	< 0.005	0.44	124
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
Hauling	0.13	8.36	1.81	0.05	0.13	1.85	1.99	0.13	0.51	0.64	—	6,847	6,847	0.06	1.09	14.6	7,187
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.07	6.07	< 0.005	< 0.005	0.01	6.17
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
Hauling	0.01	0.48	0.10	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	375	375	< 0.005	0.06	0.35	393
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.01	1.01	< 0.005	< 0.005	< 0.005	1.02
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
Hauling	< 0.005	0.09	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	62.1	62.1	< 0.005	0.01	0.06	65.1

3.3. Site Preparation (2026) - Unmitigated

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

Location	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	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.80	0.79	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—

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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.06	1.02	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	0.01	0.51	145
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
Hauling	0.08	5.23	1.13	0.03	0.08	1.16	1.24	0.08	0.32	0.40	—	4,279	4,279	0.03	0.68	9.14	4,492
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	0.01	3.60
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
Hauling	< 0.005	0.15	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	117	117	< 0.005	0.02	0.11	123
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.60
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.4	19.4	< 0.005	< 0.005	0.02	20.4

3.5. Grading (2026) - Unmitigated

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

Location	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	1.65	15.0	17.4	0.03	0.65	—	0.65	0.59	—	0.59	—	2,960	2,960	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.82	0.96	< 0.005	0.04	—	0.04	0.03	—	0.03	—	162	162	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	0.39	0.39	—	0.19	0.19	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.87	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	122	122	0.01	< 0.005	0.44	124
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
Hauling	0.04	2.61	0.57	0.01	0.04	0.58	0.62	0.04	0.16	0.20	—	2,140	2,140	0.02	0.34	4.57	2,246

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.07	6.07	< 0.005	< 0.005	0.01	6.17
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
Hauling	< 0.005	0.15	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	117	117	< 0.005	0.02	0.11	123
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.01	1.01	< 0.005	< 0.005	< 0.005	1.02
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.4	19.4	< 0.005	< 0.005	0.02	20.4

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	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	1.07	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.32	4.36	0.01	0.13	—	0.13	0.12	—	0.12	—	807	807	0.03	0.01	—	810
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.61	0.80	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.93	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	0.01	0.01	0.46	132
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	89.8	89.8	< 0.005	0.01	0.22	94.1
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.70	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	0.01	0.01	0.01	116
Vendor	< 0.005	0.15	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	90.0	90.0	< 0.005	0.01	0.01	94.0
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.6	39.6	< 0.005	< 0.005	0.07	40.2
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.3	30.3	< 0.005	< 0.005	0.03	31.6
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.56	6.56	< 0.005	< 0.005	0.01	6.66
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.01	5.01	< 0.005	< 0.005	0.01	5.24

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

3.9. Building Construction (2027) - Unmitigated

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

Location	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	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.78	3.82	0.01	0.10	—	0.10	0.09	—	0.09	—	708	708	0.03	0.01	—	711
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.51	0.70	< 0.005	0.02	—	0.02	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.86	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	127	127	0.01	0.01	0.42	129
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.9	87.9	< 0.005	0.01	0.20	91.9
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.65	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	0.01	0.01	0.01	114
Vendor	< 0.005	0.15	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	88.0	88.0	< 0.005	0.01	0.01	91.9
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.1	34.1	< 0.005	< 0.005	0.05	34.6
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.64	5.64	< 0.005	< 0.005	0.01	5.73
Vendor	< 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

3.11. Paving (2027) - Unmitigated

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

Location	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	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516

Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	120	120	0.01	< 0.005	0.40	122
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.95	5.95	< 0.005	< 0.005	0.01	6.05
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

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.99	0.99	< 0.005	< 0.005	< 0.005	1.00
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
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

3.13. Architectural Coating (2027) - Unmitigated

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

Location	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	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 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	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.08	25.8
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 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
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

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	4.34	2.32	18.1	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	3,073	3,073	0.20	0.19	9.67	3,144
Total	4.34	2.32	18.1	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	3,073	3,073	0.20	0.19	9.67	3,144
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	3.69	2.70	17.7	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	2,826	2,826	0.25	0.20	0.25	2,893
Total	3.69	2.70	17.7	0.03	0.03	2.40	2.43	0.03	0.61	0.64	—	2,826	2,826	0.25	0.20	0.25	2,893
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	0.49	0.33	2.15	< 0.005	< 0.005	0.31	0.32	< 0.005	0.08	0.08	—	340	340	0.03	0.02	0.49	349
Total	0.49	0.33	2.15	< 0.005	< 0.005	0.31	0.32	< 0.005	0.08	0.08	—	340	340	0.03	0.02	0.49	349

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

Elementary School	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Total	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Total	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9
Total	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	551	551	0.05	< 0.005	—	552
Total	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	551	551	0.05	< 0.005	—	552
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	551	551	0.05	< 0.005	—	552

Total	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	551	551	0.05	< 0.005	—	552
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.2	91.2	0.01	< 0.005	—	91.4
Total	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.2	91.2	0.01	< 0.005	—	91.4

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.01	1.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.78	6.78	< 0.005	< 0.005	—	6.81
Total	1.13	0.01	1.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.78	6.78	< 0.005	< 0.005	—	6.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.55	0.55	< 0.005	< 0.005	—	0.56
Total	0.18	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.55	0.55	< 0.005	< 0.005	—	0.56

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Total	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1
Total	—	—	—	—	—	—	—	—	—	—	2.35	5.99	8.34	0.24	0.01	—	16.1

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	0.39	0.99	1.38	0.04	< 0.005	—	2.67
Total	—	—	—	—	—	—	—	—	—	—	0.39	0.99	1.38	0.04	< 0.005	—	2.67

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Total	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Total	—	—	—	—	—	—	—	—	—	—	49.8	0.00	49.8	4.97	0.00	—	174
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	8.24	0.00	8.24	0.82	0.00	—	28.8
Total	—	—	—	—	—	—	—	—	—	—	8.24	0.00	8.24	0.82	0.00	—	28.8

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

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	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	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	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	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	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	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
Demolition	Demolition	5/1/2026	5/29/2026	5.00	20.0	—
Site Preparation	Site Preparation	5/30/2026	6/13/2026	5.00	10.0	—
Grading	Grading	6/14/2026	7/12/2026	5.00	20.0	—

Building Construction	Building Construction	7/13/2026	5/31/2027	5.00	230	—
Paving	Paving	6/1/2027	6/29/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	6/30/2027	7/28/2027	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
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
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	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
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
Demolition	—	—	—	—
Demolition	Worker	15.0	10.3	LDA,LDT1,LDT2
Demolition	Vendor	—	4.50	HHDT,MHDT
Demolition	Hauling	100	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	4.50	HHDT,MHDT
Site Preparation	Hauling	62.5	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	10.3	LDA,LDT1,LDT2
Grading	Vendor	—	4.50	HHDT,MHDT
Grading	Hauling	31.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.9	10.3	LDA,LDT1,LDT2
Building Construction	Vendor	6.22	4.50	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	10.3	LDA,LDT1,LDT2
Paving	Vendor	—	4.50	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	3.19	10.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.50	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

Non-applicable. No control strategies activated by user.

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	0.00	0.00	56,901	18,967	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	8,000	—
Site Preparation	—	5,000	15.0	0.00	—
Grading	5,000	—	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	3.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Elementary School	3.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	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
Elementary School	956	0.00	0.00	249,331	3,360	0.00	0.00	876,082

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

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)
0	0.00	56,901	18,967	—

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)
Elementary School	180,777	204	0.0330	0.0040	1,717,977

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Elementary School	1,226,665	4,261,701

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Elementary School	92.3	—

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

Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Elementary School	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	25.3	annual days of extreme heat
Extreme Precipitation	6.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	3.09	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	0	0	0	N/A
Extreme Precipitation	0	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	0	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	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	1	1	1	2
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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	58.2
AQ-PM	34.5
AQ-DPM	65.4
Drinking Water	18.4
Lead Risk Housing	15.5
Pesticides	56.0
Toxic Releases	4.73
Traffic	18.6
Effect Indicators	—
CleanUp Sites	17.1
Groundwater	14.3
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	12.5
Solid Waste	35.7

Sensitive Population	—
Asthma	46.7
Cardio-vascular	28.2
Low Birth Weights	32.0
Socioeconomic Factor Indicators	—
Education	21.7
Housing	42.3
Linguistic	22.9
Poverty	49.7
Unemployment	87.1

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	80.1360195
Employed	58.03926601
Median HI	70.48633389
Education	—
Bachelor's or higher	82.80508148
High school enrollment	1.527011421
Preschool enrollment	57.73129732
Transportation	—
Auto Access	64.27563198
Active commuting	37.96997305
Social	—
2-parent households	91.1587322
Voting	92.12113435

Neighborhood	—
Alcohol availability	85.82060824
Park access	48.86436546
Retail density	24.43218273
Supermarket access	8.58462723
Tree canopy	89.54189657
Housing	—
Homeownership	60.00256641
Housing habitability	92.30078275
Low-inc homeowner severe housing cost burden	81.80418324
Low-inc renter severe housing cost burden	89.4649044
Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	90.86359553
Arthritis	8.2
Asthma ER Admissions	55.0
High Blood Pressure	9.4
Cancer (excluding skin)	3.4
Asthma	61.7
Coronary Heart Disease	15.5
Chronic Obstructive Pulmonary Disease	47.8
Diagnosed Diabetes	75.2
Life Expectancy at Birth	83.2
Cognitively Disabled	68.5
Physically Disabled	41.1
Heart Attack ER Admissions	55.0
Mental Health Not Good	83.6
Chronic Kidney Disease	27.1

Obesity	66.6
Pedestrian Injuries	19.6
Physical Health Not Good	72.6
Stroke	34.3
Health Risk Behaviors	—
Binge Drinking	26.9
Current Smoker	85.8
No Leisure Time for Physical Activity	83.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	11.5
English Speaking	75.3
Foreign-born	1.2
Outdoor Workers	76.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	61.8
Traffic Density	20.7
Traffic Access	0.0
Other Indices	—
Hardship	23.1
Other Decision Support	—
2016 Voting	85.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0

Healthy Places Index Score for Project Location (b)	69.0
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	Number of students provided (496) with an additional 10 students added to account for any fluctuation in enrollment.
Construction: Paving	Updated to match the Project Site Plan.

Biological Resources Assessment for the Parkview Elementary School Campus Re-Imagining Project

City of Chico, Butte County, California

Prepared For:

Chico Unified School District

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, CA 95677

October 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
°F	degrees Fahrenheit
BCC	Birds of Conservation Concern
BRA	Biological Resources Assessment
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act

Term	Definition
DPS	Distinct Population Segment
ECORP	ECORP Consulting, Inc.
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
HCP	Habitat Conservation Plan
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
N/A	Not Applicable
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
Project	Parkview Elementary School Campus Re-Imagining Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

1.0 INTRODUCTION

ECORP Consulting, Inc. (ECORP) has conducted a Biological Resources Assessment (BRA) at the request of Chico Unified School District for the proposed Parkview Elementary School Campus Re-Imagining Project (Project) located in the City of Chico, Butte County, California. The results of this assessment will support environmental review of the Project in accordance with the California Environmental Quality Act (CEQA) and provide the basis for identifying appropriate measures to lessen or avoid significant impacts to biological resources.

1.1 Project Location and Description

The Project Area is located to the northwest of East 8th Street, to the northeast of Earl Avenue, to the southeast of Estates Way, and to the southwest of Lower Bidwell Park (Figure 1).

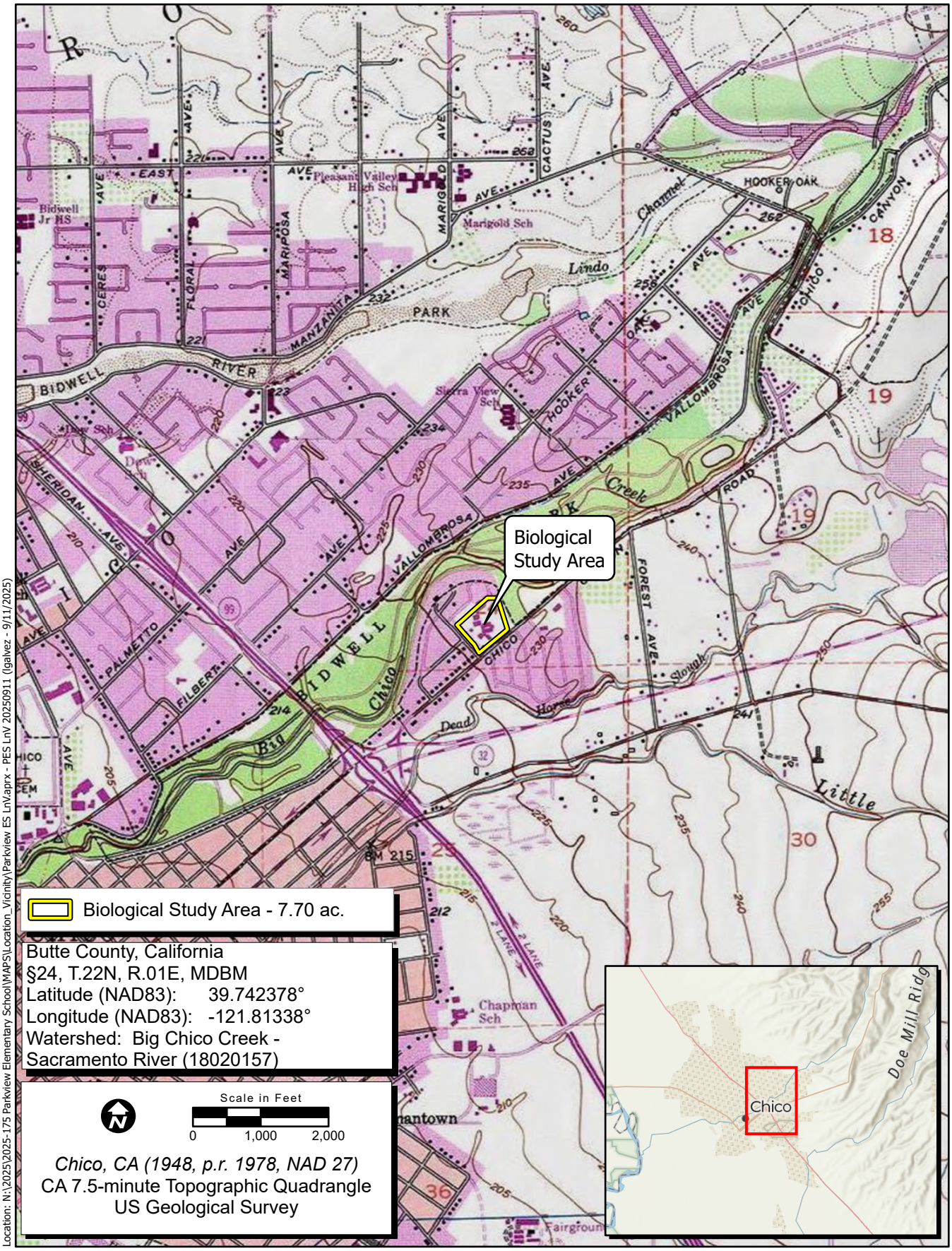
The Proposed Project would create a new campus for the existing Parkview Elementary School. The Project would develop the new campus on the same site as the existing campus; the new campus would serve the same purpose and offer the same services as the existing campus. The new campus would be developed in phases in order to allow the existing campus to continue normal operations in conjunction with construction. The anticipated Project schedule proposes an 18-month construction period beginning during the 2026-2027 school year.

1.2 Biological Study Area

The Biological Study Area (BSA) includes all areas where Project-related activities may result in impacts to sensitive biological resources. The approximately 7.70-acre BSA is located within a portion of Section 24, Township 22 North, Range 1 East, Mount Diablo Base and Meridian, as depicted on the *Chico, California* 7.5-minute topographic quadrangle (U.S. Geological Survey [USGS] 1948 [photorevised 1978]) (Figure 1). The approximate center of the BSA is located at 39.742378° latitude and -121.81338° longitude within the Big Chico Creek Sacramento River watershed (Hydrological Unit Code 18020157; USGS 2025).

1.3 Purpose of This Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and other sensitive or protected resources such as migratory birds, sensitive natural communities, riparian habitat, oak woodlands, and potential Waters of the U.S. or State, including wetlands, within the BSA. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of available literature and the results of site reconnaissance field surveys.



Map Date: 9/11/2025
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2025-175 Parkview Elementary School Campus Re-Imagining Project

For the purposes of this assessment, *special-status species* are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" or "rare, threatened, or endangered in California but more common elsewhere" (California Rare Plant Ranks [CRPRs] 1 and 2);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, Section 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

2.0 REGULATORY SETTING

The following sections describe federal, state, and local regulations applicable to the Project.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal ESA protects plants and animals that are listed as endangered or threatened by USFWS or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, the ESA prohibits removing or possessing any listed plant on federal land, maliciously damaging or destroying any listed plant in any area, or removing, cutting, digging up, damaging, or destroying any such species in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals or funding, may affect a listed species (including plants) or its designated critical habitat. Through consultation and the issuance of a Biological Opinion (formal consultation), USFWS and/or NMFS may authorize take of a listed species that is incidental to an otherwise legal activity provided the activity will not jeopardize the continued existence of the species. USFWS and/or NMFS may issue a letter of concurrence through an informal consultation process if the federal agency demonstrates that the action is not likely to adversely affect a listed species.

Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. USFWS may issue permits to qualified applicants as authorized by the MBTA for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

> …that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3 7b).

Under the current regulations implementing the CWA, wetlands are considered Waters of the U.S. and are subject to USACE jurisdiction if they are adjacent (defined as having a continuous surface connection) to relatively permanent, standing or continuously flowing bodies of water.

Substantial impacts to Waters of the U.S. may require an individual permit. Projects with only minimally effects may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called *candidates* by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered,

threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2081 allows CDFW to authorize incidental take permits if species-specific minimization and avoidance measures are incorporated to fully mitigate the impacts of a project.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as *fully protected* prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. Previously, the regulations that implement the Fully Protected Species Statute (California Fish and Game Code Sections 4700 for mammals, 3511 for birds, 5050 for reptiles and amphibians, and 5515 for fish) provided that fully protected species may not be taken or possessed at any time. However, on July 10, 2023, Senate Bill 147 was signed into law authorizing CDFW to issue take permits under the California ESA for fully protected species for qualifying projects through 2033.

CDFW may also issue licenses or permits for take of these species for necessary scientific research or live capture and relocation, and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.1.3 Native Plant Protection Act

The NPPA of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code Sections 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as *endangered* or *rare* and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code Sections 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 Special Protections for Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protect birds. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 prohibits the take, possession, or destruction of any birds in the orders Strigiformes (owls) or Falconiformes (hawks and eagles), as well as their nests and eggs. Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that, with limited exceptions, it is unlawful to take any nongame bird, defined as all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. These provisions, along with the federal MBTA, serve to protect all nongame birds and their nests and eggs, except as otherwise provided in the code.

2.2.1.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires an entity to notify CDFW of activities that may:

> ... substantially divert or obstruct the natural flow of any river stream or lake; substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or deposit or dispose of debris, waste or other materials containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The statute has been interpreted by CDFW to include modification of adjacent wetland and riparian habitat. If CDFW determines the activity may "substantially adversely affect a fish or wildlife resource," the entity may not commence the activity without a Lake or Streambed Alteration Agreement (LSAA). The LSAA establishes measures necessary to protect the resource, and is mutually agreed upon by CDFW and the applicant.

2.2.2 California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was passed in 2001 to address loss of oak woodland habitats throughout the State. As a result of the Act, the Oak Woodland Conservation Program was established to provide funding for conservation and protection of California oak woodlands. Public Resources Code Section 21083.4 went into effect as of January 1, 2005 and requires lead agencies to analyze potential effects to oak woodlands during the CEQA process. The lead agency must implement one of several mitigation alternatives, including conservation of oak woodlands through conservation easements, planting or restoration of oak woodlands, contribution of funds to the Oak Woodlands Conservation Fund, or other appropriate mitigation measures if it is determined that a project may have a significant effect on oak woodlands.

2.2.3 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb 1 or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB also regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code 13260[a]). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

2.2.4 California Environmental Quality Act

CEQA requires state and local agencies to disclose and evaluate the significant environmental impacts of proposed projects. Where significant impacts are identified, the agency must adopt all feasible mitigation measures to reduce or eliminate those impacts.

2.2.4.1 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to state or federally listed (i.e., rare, threatened, or endangered) species are considered significant. Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if it meets certain criteria. A species is considered "endangered" if its survival and reproduction in the wild are in immediate jeopardy; a species is considered "rare" when it is present in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.

Assessment of *impact significance* to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Pursuant to Appendix G, impacts to biological resources would normally be considered significant if a project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.4.2 Species of Special Concern

CDFW defines SSC as species, subspecies, or distinct populations of an animal native to California that are not legally protected under the ESA, the California ESA or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the State or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not State) threatened or endangered, and meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

Projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.4.3 U.S. Fish and Wildlife Service Bird of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates that USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of BCC (USFWS 2021) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.2.4.4 California Rare Plant Ranks

CNPS maintains the *Rare Plant Inventory* (CNPS 2025a), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academic, non-governmental organizations, and private sector botanists,

and is jointly managed by CDFW and CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 0.1 through 0.3, with 0.1 being the most threatened and 0.3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2025a). Substantial impacts to plants ranked 1A, 1B, 2A, or 2B are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4.5 Sensitive Natural Communities

Sensitive natural communities are vegetation communities that are imperiled or vulnerable to environmental effects of projects. CDFW maintains the California Natural Community List (CDFW 2025a), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation*, Online Edition (MCV; CNPS 2025b), along with their respective state and global rarity ranks, if applicable. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Substantial impacts to sensitive natural communities may be considered significant under CEQA.

2.2.4.6 Wildlife Movement Corridors and Nursery Sites

Impacts to wildlife movement corridors or nursery sites may be considered significant under CEQA. As part of the California Essential Habitat Connectivity Project, CDFW and California Department of Transportation (Caltrans) maintain data on Essential Habitat Connectivity areas. This data is available in the CNDDB. The goal of the California Essential Habitat Connectivity Project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife. In urban settings, riparian vegetated stream corridors can also serve as wildlife movement corridors. Nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, and mule deer critical fawning areas. These data are available through CDFW's Biogeographic Information and Observation System database or as occurrence records in the CNDDB and are supplemented with the results of the field reconnaissance.

3.0 METHODS

3.1 Literature Review

ECORP biologists reviewed existing available information for the BSA. Literature sources included current and historical aerial imagery, previous biological studies conducted for the area, topographic mapping, soil survey mapping available from the Natural Resources Conservation Service (NRCS) *Web Soil Survey*, USFWS National Wetlands Inventory (NWI) mapping, the USFWS Critical Habitat Mapper, the NMFS Essential Fish Habitat Mapper, and other relevant literature as cited throughout this document. ECORP reviewed the following resources to identify special-status plant and wildlife species that have been documented within or near the BSA:

- CDFW's CNDDB data for the *Chico, California* 7.5-minute topographic quadrangle and the surrounding eight quadrangles (CDFW 2025b);
- CNPS Rare Plant Inventory data for the *Chico, California* 7.5-minute topographic quadrangle and the surrounding eight quadrangles (CNPS 2025a);
- USFWS Information for Planning and Consultation Resource Report List for the BSA (USFWS 2025a);
- NMFS resources data for the *Chico, California* 7.5-minute topographic quadrangle (National Oceanic and Atmospheric Administration [NOAA] 2022).

ECORP did not include unprocessed CNDDB data in the results because these data have not been quality controlled by CDFW. Appendix A provides the results of the database queries. Section 4 evaluates each special-status species identified in the literature review for its potential to occur within the BSA based on available information concerning species habitat requirements and distribution, occurrence data, and the findings of the site reconnaissance.

3.2 Site Reconnaissance

ECORP biologist Daniel Machek conducted the site reconnaissance visit on September 11, 2025. The biologist visually assessed the BSA while walking meandering transects through all portions of the site, paying special attention to identifying those portions of the BSA with the potential to support special-status species or sensitive habitats, and using binoculars to scan inaccessible areas. The biologist collected the following biological resource information:

- Characteristics and approximate boundaries of vegetation communities and other land cover types
- Plant and animal species or their sign directly observed
- Characteristics and approximate extents of potential aquatic resources observed
- Incidental observations of special habitat features such as burrows, elderberry shrubs (*Sambucus* sp.), active raptor nests, and potential bat roost sites

The biologist qualitatively assessed and mapped vegetation communities based on dominant plant composition and classified vegetation communities based on the classification systems presented in the MCV. The biologist recorded data on a GPS unit, field notebooks, and/or maps and took photographs during the survey to provide visual representation of the conditions within the BSA.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The BSA is located on level terrain in an urban area. The BSA is situated at an elevational range of approximately 230 to 240 feet above mean sea level in the Sacramento Valley Subregion of the Great Central Valley Region of the California floristic province (Jepson Flora Project 2025). At the Chico Univ Farm, CA station, which is approximately 3.6 miles from the BSA, the average winter low temperature is 36.9 degrees Fahrenheit (˚F) and the average summer high temperature is 92.9˚F; the average annual precipitation is approximately 27.39 inches (NOAA 2025).

The BSA is currently occupied by Parkview Elementary School, including school buildings, a maintained grass lawn, and associated school infrastructure. Section 4.3 described vegetation communities and plant species composition within the BSA.

Land uses surrounding the BSA include residential buildings and Bidwell Park. Figure 2 provides an overview of the Project setting, including existing land uses within and adjacent to the BSA.

Appendix B provides representative photographs of the BSA.

Location: N:\2025\2025-175 Parkview Elementary School\MAPS\Location_Vicinity\Parkview ES LnV.aprx - PES Aerial Overview 20250912 (lgalvez - 9/15/2025)

Map Date: 9/11/2025
Sources: Maxar (2024)

Figure 2. Aerial Overview Map

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4.2 Soils and Geology

ECORP staff obtained soil survey mapping for the BSA from the NRCS *Web Soil Survey* (Figure 3; NRCS 2025a). Table 1 provides an overview of the soil map unit within the BSA, including the presence of hydric soils, parent materials, or other key features that may influence the potential for sensitive biological resources to occur onsite.

Table 1. Soil Map Unit within the Biological Study Area

Map Unit Symbol	Map Unit Name	Parent Material or Key Features	Hydric Soils Present
418	Almendra loam, 0 to 1 percent slopes	Loamy alluvium derived from igneous, metamorphic and sedimentary rock	No

Source: Natural Resources Conservation Service 2025a, 2025b

4.3 Vegetation Communities and Land Cover Types

The BSA consists entirely of the developed or disturbed land cover type and comprises school buildings, associated infrastructure, playgrounds, a maintained lawn, and landscaping. The developed portions of the BSA are largely devoid of vegetation except within landscaping areas. Trees planted within the BSA include hackberry (*Celtis* sp.), northern red oak (*Quercus rubra*), elm (*Ulmus* sp.), and white alder (*Alnus rhombifolia*). Appendix C lists plants incidentally observed within the BSA during the site reconnaissance.

4.4 Aquatic Resources

Review of the NWI showed no mapped aquatic features within the BSA (USFWS 2025b) (Figure 4). The NWI mapping is a national dataset based on data prepared from the analysis of high-altitude imagery in conjunction with collateral data sources and field work. Because a margin of error is inherent in the use of imagery, an on-the-ground inspection was needed to confirm wetland boundaries and classifications.

ECORP conducted a preliminary aquatic resources assessment concurrent with the site reconnaissance. The assessment did not identify aquatic resources were identified within the BSA.

4.5 Wildlife

The BSA provides limited habitat for a variety of wildlife species. Wildlife species observed within or flying over the BSA include turkey vulture (*Cathartes aura*) and California scrub-jay (*Aphelocoma californica*). Other species typically associated with the habitat types found within the BSA include western gray squirrel (*Sciurus griseus*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), and house finch (*Haemorhous mexicanus*).

Map Contents

Biological Study Area - 7.70 ac.

Series Number - Series Name

418 - Almendra loam, 0 to 1 percent slopes

Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Butte County, CA

Sources: Maxar 2024

Location: N:\2025\2025-175 Parkview Elementary School\MAPS\Soils_and_Geology\Parkview ES Soils and Geology.aprx - PES Soils 20250912 (lgalvez - 9/15/2025)

Map Date: 9/15/2025

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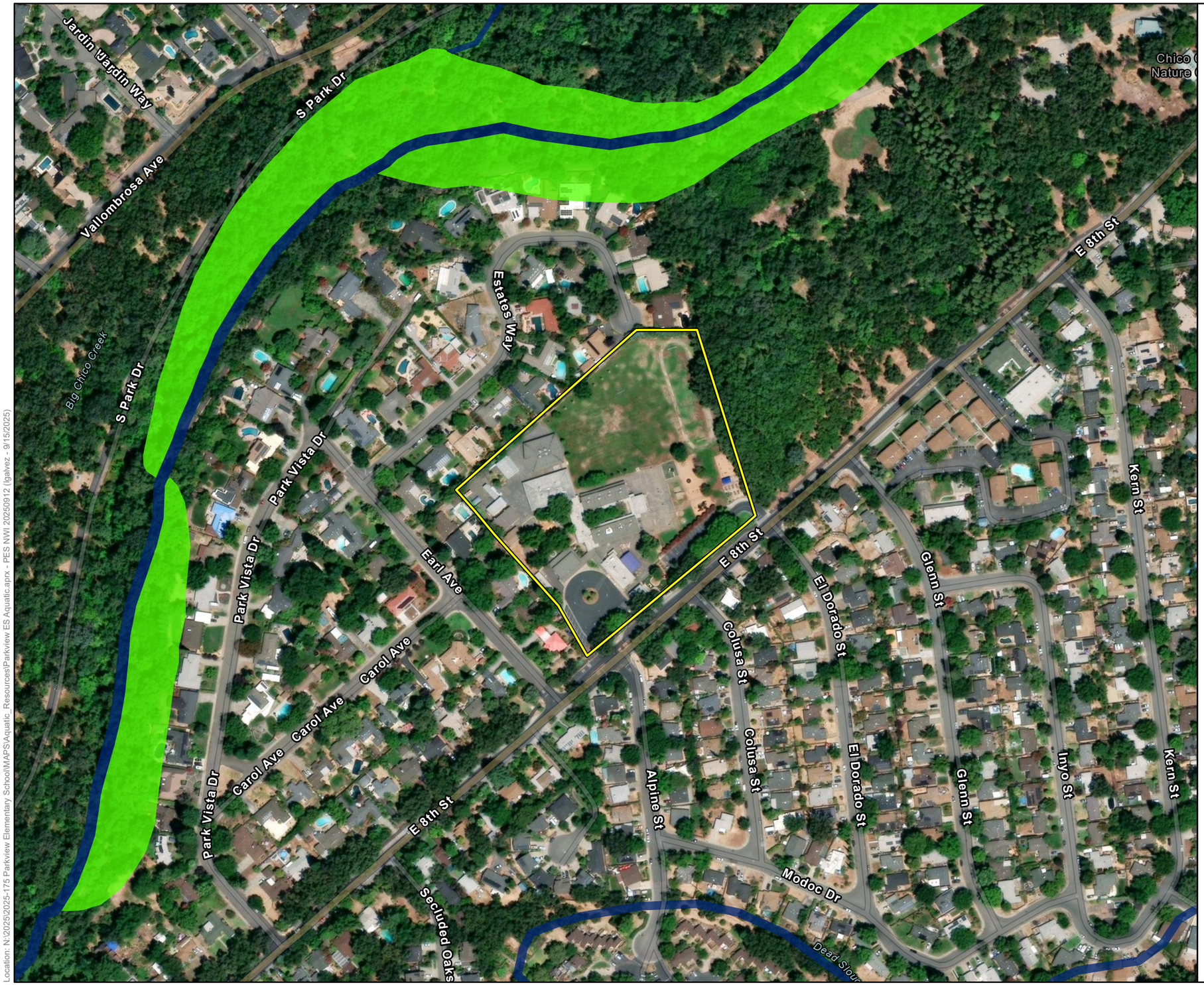
Scale in Feet
0 250

Figure 3. Natural Resources Conservation Service Soils Map

2025-175 Parkview Elementary School Campus Re-Imagining Project



Map Contents

Biological Study Area - 7.70 ac.

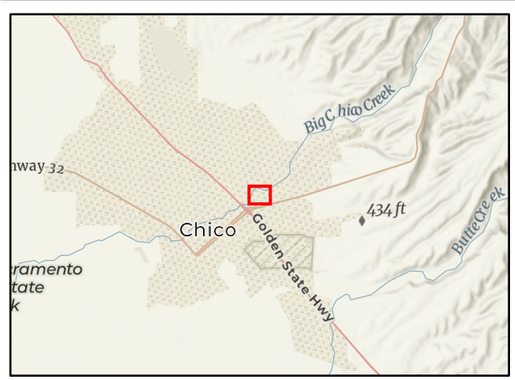
NWI Type

Freshwater Forested/Shrub Wetland

Riverine

Sources: Esri, Maxar (2024), NWI (2024)

Other Related Info if Needed



Location: N:\2025\2025-175 Parkview Elementary School\MAPS\Aquatic_Resources\Parkview ES Aquatic.aprx - PES NWI 20250912 (galvez - 9/15/2025)

Map Date: 9/15/2025

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Scale in Feet
0 250

Figure 4. National Wetlands Inventory

2025-175 Parkview Elementary School Campus Re-Imagining Project

4.6 Special-Status Species

Table 2 presents the full list of special-status plant and animal species identified through the literature review. For each species, the table provides the listing status, a brief description of habitat requirements and/or species ecology, a determination of the potential to occur within the BSA, and the rationale for that determination. ECORP assessed the potential for each species to occur within the BSA using the following criteria:

- *Present* – Species was observed during the site visit or is known to occur within the BSA based on recent documented occurrences within the CNDDB or other literature.
- *Moderate to High Potential* – Suitable habitat (including soils and elevation requirements) occurs within the BSA and the species is known to occur in the vicinity of the BSA based on available data sources.
- *Low Potential* – Marginal or limited amounts of habitat occur within the BSA, or the species is not known to occur in the vicinity of the BSA based on available data sources.
- *Presumed Absent* – No suitable habitat (including soils and elevation requirements) occurs within the BSA, or the BSA is outside of the current known geographical range for the species.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential to Occur within the BSA
	ESA	CESA/ NPPA	Other		
Plants*					
Ferris' milk-vetch *(Astragalus tener* var. *ferrisiae)*	–	–	1B.1	Vernally mesic meadows and seeps and in sub–alkaline flats within valley and foothill grasslands. Elevation: 5–245 feet Bloom Period: April–May	Presumed Absent. There is no suitable habitat within the BSA.
Big-scale balsamroot *(Balsamorhiza macrolepis)*	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils. Elevation: 150–5,100 feet Bloom Period: March–June	Presumed Absent. There is no suitable habitat within the BSA.
Watershield *(Brasenia schreberi)*	–	–	2B.3	Freshwater marshes and swamps. Elevation: 0–7,220 feet Bloom Period: June–September	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Spicate calycadenia *(Calycadenia spicata)*	–	–	1B.3	Adobe, clay, disturbed areas, dry, gravelly, openings, roadsides, and rocky sites within cismontane woodland and valley and foothill grassland. Elevation: 130–4,595 feet Bloom Period: May–September	Presumed Absent. There is no suitable habitat within the BSA.
Dissected-leaved toothwort (*Cardamine pachystigma* var. *dissectifolia*)	–	–	1B.2	Rocky, usually serpentine soils of chaparral and lower montane coniferous forest. Elevation: 835–6,890 feet Bloom Period: February– May	Presumed Absent. There is no suitable habitat within the BSA and the BSA is significantly outside the known elevational range of this species.
Pink cream sacs *(Castilleja rubicundula* var. *rubicundula)*	–	–	1B.2	Serpentine substrates in chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland. Elevation: 65–2,985 feet Bloom Period: April–June	Presumed Absent. There is no suitable habitat within the BSA.
White-stemmed clarkia (*Clarkia gracilis* ssp. *albicaulis*)	–	–	1B.2	Sometimes serpentine soils of chaparral and cismontane woodland. Elevation: 805–3,560 feet Bloom Period: May–July	Presumed Absent. There is no suitable habitat within the BSA and the BSA is significantly outside the known elevational range of this species.
Silky cryptantha (*Cryptantha crinita*)	–	–	1B.2	Gravelly streambeds of cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, and valley and foothill grassland habitats. Elevation: 200–3,985 feet Bloom Period: April–May	Presumed Absent. There is no suitable habitat within the BSA.
Recurved larkspur *(Delphinium recurvatum)*	–	–	1B.2	Alkaline habitats within chenopod scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 10–2,590 feet Bloom Period: March–June	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Ahart's buckwheat (*Eriogonum umbellatum* var. *ahartii*)	–	–	1B.2	Serpentine soils, slopes, and openings of chaparral and cismontane woodland. Elevation: 1,310–6,560 feet Bloom Period: June–September	Presumed Absent. There is no suitable habitat within the BSA and the BSA is significantly outside the known elevational range of this species.
Hoover's spurge (*Euphorbia hooveri*)	FT	–	1B.2	Vernal pools. Elevation: 80–820 feet Bloom Period: July–September	Presumed Absent. There is no suitable habitat within the BSA.
Adobe lily *(Fritillaria pluriflora)*	–	–	1B.2	Adobe soils in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 195–2,315 feet Bloom Period: February–April	Presumed Absent. There is no suitable habitat within the BSA.
Woolly rose-mallow *(Hibiscus lasiocarpos* var. *occidentalis)*	–	–	1B.2	Marshes and freshwater swamps (river banks and low peat islands in sloughs), and riprap on sides of levees. Elevation: 0–395 feet Bloom Period: June–September	Presumed Absent. There is no suitable habitat within the BSA.
California satintail *(Imperata brevifolia)*	–	–	2B.1	Mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali) and riparian scrub. Elevation: 0–3,985 feet Bloom Period: September–May	Presumed Absent. There is no suitable habitat within the BSA.
Red Bluff dwarf rush *(Juncus leiospermus* var. *leiospermus)*	–	–	1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 115–4,100 feet Bloom Period: March–June	Presumed Absent. There is no suitable habitat within the BSA.
Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*)	FE	CE	1B.1	Mesic valley and foothill grassland and vernal pools. Elevation: 150–3,050 feet Bloom Period: March–May	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Veiny monardella *(Monardella venosa)*	–	–	1B.1	Heavy clay soils in cismontane woodland and valley and foothill grasslands. Elevation: 195–1,345 feet Bloom Period: May–July	Presumed Absent. There is no suitable habitat within the BSA.
Ahart's paronychia (*Paronychia ahartii*)	–	–	1B.1	Stony, nearly barren clay of swales and higher ground around vernal pools within cismontane woodland, valley and foothill grassland (CDFW 2025b). Elevation: 100–1,675 feet Bloom Period: February–June	Presumed Absent. There is no suitable habitat within the BSA.
California beaked-rush *(Rhynchospora californica)*	–	–	1B.1	Bogs and fens, lower montane coniferous forest, seeps in meadows, and freshwater marshes and swamps. Elevation: 150–3,315 feet Bloom Period: May–July	Presumed Absent. There is no suitable habitat within the BSA.
Brownish beaked-rush *(Rhynchospora capitellata)*	–	–	2B.2	Mesic areas in lower montane coniferous forest, upper montane coniferous forests, meadows and seeps, marshes and swamps. Elevation: 150–6,560 feet Bloom Period: July–August	Presumed Absent. There is no suitable habitat within the BSA.
Butte County checkerbloom (*Sidalcea robusta*)	–	–	1B.2	Chaparral and cismontane woodland. Elevation: 295–5,250 feet Bloom Period: April–June	Presumed Absent. There is no suitable habitat within the BSA.
Northern slender pondweed (*Stuckenia filiformis* ssp. *alpina*)	–	–	2B.2	Assorted shallow freshwater marshes and swamps. Elevation: 985–7,055 feet Bloom Period: May–July	Presumed Absent. There is no suitable habitat within the BSA and the BSA is significantly outside the known elevational range of this species.
Butte County golden clover (*Trifolium jokerstii*)	–	–	1B.2	Mesic valley and foothill grassland and vernal pools. Elevation: 165–1,575 feet Bloom Period: March–May	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Greene's tuctoria *(Tuctoria greenei)*	FE	CR	1B.1	Vernal pools. Elevation: 100–3,510 feet Bloom Period: May–July	Presumed Absent. There is no suitable habitat within the BSA.
Brazilian watermeal *(Wolffia brasiliensis)*	–	–	2B.3	Assorted shallow freshwater marshes and swamps. Elevation: 65–330 feet Bloom Period: April–December	Presumed Absent. There is no suitable habitat within the BSA.
Invertebrates					
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE	–	–	Vernal pools/wetlands. Survey Period: November-April	Presumed Absent. There is no suitable habitat within the BSA.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	–	–	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable habitat within the BSA.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	–	–	Vernal pools/wetlands. Survey Period: November-April	Presumed Absent. There is no suitable habitat within the BSA.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	–	–	Elderberry shrubs. Survey Period: Any season	Presumed Absent. There is no suitable habitat within the BSA.
Monarch butterfly (*Danaus plexippus*)	FPT	–	–	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed. Survey Period: Any season	Presumed Absent. There is no milkweed and no suitable overwintering habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Crotch's bumble bee (*Bombus crotchii*)	–	CC	–	Primarily nests underground, found in variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings, from the California coast east to the Sierra Cascade and from Redding south to Mexico. Survey Period: February-October (Preferably April-August)	Presumed Absent. There is no suitable nesting or foraging habitat within the BSA.
Fish					
Green sturgeon (*Acipenser medirostris*)	FT	–	SSC	Anadromous; undammed cold-water rivers having relatively deep pools with large substrates. Survey Period: N/A	Presumed Absent. There is no suitable habitat within the BSA.
Chinook salmon (Central Valley spring-run ESU) (*Oncorhynchus tshawytscha*)	FT	CT	–	Undammed rivers, streams, creeks in the Sacramento and San Joaquin River systems. Survey Period: N/A	Presumed Absent. There is no suitable habitat within the BSA.
Chinook salmon (Sacramento River winter-run ESU) *(Oncorhynchus tshawytscha)*	FE	CE	–	Undammed reaches of the mainstem and tributaries to the Sacramento River downstream of Shasta Reservoir. Survey Period: N/A	Presumed Absent. There is no suitable habitat within the BSA.
Steelhead (CA Central Valley DPS) (*Oncorhynchus mykiss irideus*)	FT	–	SSC	Fast-flowing, well-oxygenated rivers and streams below dams in the Sacramento and San Joaquin River systems. Survey Period: N/A	Presumed Absent. There is no suitable habitat within the BSA.
Amphibians					
Western spadefoot (Northern DPS) (*Spea hammondii*)	FPT	–	SSC	California endemic species of vernal pools, swales, and seasonal wetlands in grassland, scrub and woodland habitats throughout the Central Valley and South Coast Ranges. Prefers open areas with sandy or gravelly soils. Survey Period: Winter-Spring.	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Foothill yellow-legged frog Northwest/North Coast Clade (*Rana boylii*)	–	–	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Northern Coast Ranges, Klamath Mountains and Cascade Range. Survey Period: May–October.	Presumed Absent. There is no suitable habitat within the BSA and the BSA is significantly outside the known geographic range of this clade.
Foothill yellow-legged frog North Feather River/Upper Feather River Watershed Clade (*Rana boylii*)	FT	CT	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Feather River watershed above Oroville. Survey Period: May–October.	Presumed Absent. There is no suitable habitat within the BSA.
Reptiles					
Northwestern pond turtle (*Actinemys marmorata*)	FPT	–	SSC	Requires basking sites and upland habitats up to 0.5 kilometer from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches. Survey Period: April-September	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Blainville's ("Coast") horned lizard (*Phrynosoma blainvillii*)	–	–	SSC	Formerly a wide-spread horned lizard found in a wide variety of habitats, often in lower elevation areas with sandy washes and scattered low bushes. Also occurs in Sierra Nevada foothills. Requires open areas for basking, but with bushes or grass clumps for cover, patches of loamy soil or sand for burrowing and an abundance of ants (Stebbins and McGinnis 2012). In the northern Sacramento area, this species appears restricted to the foothills between 1000 to 3000 feet from Cameron Park (El Dorado County) north and west to Grass Valley and Nevada City. Survey Period: April-October	Presumed Absent. There is no suitable habitat within the BSA.
Giant garter snake (*Thamnophis gigas*)	FT	CT	–	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range. Survey Period: April-October	Presumed Absent. There is no suitable habitat within the BSA.
Birds					
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	–	Breeding habitat is generally open woodland with clearings and low, dense, scrubby vegetation associated with watercourses, and includes desert riparian woodlands with willow, Fremont's cottonwood, alder, walnut, box-elder, and dense mesquite. Nests are generally found in deciduous hardwoods with thick bushes, vines, or hedgerows providing dense foliage within 10 meters (33 feet) of ground; prefer riparian patches of at least 81 hectares (200 acres) (Hughes 2020). Winters in South America. Nesting: June 15-August 15	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Black swift *(Cypseloides niger)*	–	–	BCC, SSC	In California, nests from Cascade-Sierra Nevada region south to Tulare and Mono counties; coastal ranges (Santa Cruz south to San Luis Obispo counties), San Gabriel, San Bernardino, and San Jacinto Mountains. Nests on ledges or shallow caves on steep rock faces, usually behind waterfalls. Winter range, unknown, but thought to be northern and western South America, and West Indies. Nesting: May-September	Presumed Absent. There is no suitable habitat within the BSA.
California black rail (*Laterallus jamaicensis coturniculus*)	–	CT	CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties). Nesting: March-September	Presumed Absent. There is no suitable nesting habitat within the BSA.
California gull (nesting colony) *(Larus californicus)*	–	–	BCC, WL	Nesting occurs in the Great Basin, Great Plains, Mono Lake, and south San Francisco Bay. Breeding colonies located on islands on natural lakes, rivers, or reservoirs. Winters along Pacific Coast from southern British Columbia south to Baja California and Mexico. In California, winters along coast and inland (Central Valley, Salton Sea). Nesting: April-August	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
California condor *(Gymnogyps californianus)*	FE	CE	CFP	Nests on cliff ledges and rarely in large tree cavities; foraging occurs over vast expanses of coastline, grassland, meadows, savannahs. Non-migratory; can be observed during any season; nesting: eggs (late January-May), nestlings to fledge (March-December)	Presumed Absent. There is no suitable nesting habitat within the BSA.
Golden eagle (*Aquila chrysaetos*)	–	–	CFP, WL	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter. Nesting: February-August Wintering in Central Valley: October-February	Presumed Absent. There is no suitable nesting habitat within the BSA.
Northern harrier (*Circus hudsonius*)	–	–	BCC, SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, and shrub-steppe. Nesting: April-September	Presumed Absent. There is no suitable nesting habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands. Nesting: February-September	Presumed Absent. There is no suitable nesting or foraging habitat within the BSA.
Swainson's hawk (*Buteo swainsoni*)	–	CT	–	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures. Nesting: March-August	Presumed Absent. There is no suitable nesting or foraging habitat within the BSA.
Western screech-owl *(Megascops kennicottii)*	–	–	BCC	Nests in tree cavities excavated by woodpeckers, natural cavities in trees, and nest boxes. Breeding habitat includes vegetation communities with deciduous trees, such as riparian, desert, oak and pine-oak woodlands, and urban/suburban parks. Nesting: March-July	Presumed Absent. There is no suitable habitat within the BSA.
Burrowing owl *(Athene cunicularia)*	–	CC	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-landscapes such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds. Nesting: February-August	Presumed Absent. There is no suitable habitat within the BSA. No burrows were observed during the site reconnaissance.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Long-eared owl *(Asio otus)*	–	–	BCC, SSC	Nests in open forests, riparian woodland, conifer forests, dense vegetation adjacent to grasslands, shrublands or other open communities. Nesting: March-August	Presumed Absent. There is no suitable nesting habitat within the BSA.
Nuttall's woodpecker *(Dryobates nuttallii)*	–	–	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands. Nesting: April-July	Moderate to High Potential. The trees within the BSA may provide suitable nesting habitat for this species.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	–	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur. Nesting: April 1-July 31	Presumed Absent. There is no suitable nesting habitat within the BSA.
Loggerhead shrike (*Lanius ludovicianus*)	–	–	SSC	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats. Nesting: March-July	Presumed Absent. There is no suitable habitat within the BSA.
Yellow-billed magpie (*Pica nuttallii*)	–	–	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings. Nesting: April-June	Low Potential. The trees within the BSA may provide marginally suitable nesting habitat for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Oak titmouse (*Baeolophus inornatus*)	–	–	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree). Nesting: March-July	Moderate to High Potential. The trees within the BSA may provide suitable nesting habitat for this species.
Bank swallow (*Riparia riparia*)	–	CT	–	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California. Nesting: May-July	Presumed Absent. There is no suitable nesting habitat within the BSA.
Wrentit (*Chamaea fasciata*)	–	–	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens. Nesting: March-August	Presumed Absent. There is no suitable nesting habitat within the BSA.
California thrasher (*Toxostoma redivivum*)	–	–	BCC	Resident and endemic to coastal and Sierra Nevada-Cascade foothill areas of California. Nests are usually well hidden in dense shrubs, including scrub oak, California lilac, and chamise. Nesting: February-July	Presumed Absent. There is no suitable nesting habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Cassin's finch (*Haemorhous cassinii*)	–	–	BCC	Breeds throughout the conifer belts of North America's western interior mountains, from central British Columbia to northern New Mexico and Arizona; mostly between 3,000'-10,000' elevation. Often in mature forests of pine, spruce and aspen; especially open, dry pine forests. Some will breed in open sagebrush shrubland with scattered western junipers. Nesting: May-July	Presumed Absent. There is no suitable habitat within the BSA.
Lawrence's goldfinch (*Spinus lawrencei*)	–	–	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g., small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water. Nesting: March-September	Low Potential. The trees within the BSA may provide marginally suitable nesting habitat for this species.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	–	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh. Year-round resident; nests March-August	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Santa Barbara song sparrow (*Melospiza melodia graminea*)	–	–	BCC	Breeding habitat includes dense shrubs and thickets of giant coreopsis (*Coreopsis gigantea*), grasslands with scattered shrubs, Artemisia-Opuntia grass associations, and dense grasslands. Resident on California Channel Islands (San Clemente, San Miguel, Santa Cruz, Santa Rosa, Anacapa) and Isla Los Coronados, Baja California.; nests February-July	Presumed Absent. This subspecies is endemic to the Channel Islands.
Bullock's oriole (*Icterus bullockii*)	–	–	BCC	Breeding habitat includes riparian and oak woodlands. Nesting: March-July	Moderate to High Potential. The trees within the BSA may provide suitable nesting habitat for this species.
Tricolored blackbird (*Agelaius tricolor*)	–	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields (Beedy et al 2023). Nesting: March-August	Presumed Absent. There is no suitable nesting habitat within the BSA.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	–	–	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County. Nesting: March-July	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Yellow warbler (*Setophaga petechia*)	–	–	SSC	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte counties), Sierra Nevada range above tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America. Nesting: May-August	Presumed Absent. There is no suitable nesting habitat within the BSA.
Mammals					
Western red bat (*Lasiurus frantzii*)	–	–	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2025). Survey Period: April-September	Presumed Absent. There is no suitable habitat within the BSA.
Pallid bat *(Antrozous pallidus)*	–	–	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (WBWG 2025). Survey Period: April-September	Presumed Absent. There is no suitable habitat within the BSA.
Western mastiff bat (*Eumops perotis californicus*)	–	–	SSC	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings (WBWG 2025). Survey Period: April-September	Presumed Absent. There is no suitable habitat within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
American badger *(Taxidea taxus)*	–	–	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Survey Period: Any season	Presumed Absent. There is no suitable habitat within the BSA.

Notes: BSA = Biological Study Area; CDFW = California Department of Fish and Wildlife;
CESA = California Endangered Species Act; DPS = Distinct Population Segment;
ESA = Endangered Species Act; ESU = Evolutionarily Significant Unit; N/A = Not Applicable;
NPPA = Native Plant Protection Act; USFWS = U.S. Fish and Wildlife Service;
WBWG = Western Bat Working Group

Status Codes

1B	CRPR/Rare or Endangered in California and elsewhere
2B	CRPR/Plants rare, threatened, or endangered in California but more common elsewhere
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
BCC	USFWS Bird of Conservation Concern
CC	Candidate for CESA listing as Endangered or Threatened
CE	CESA- or NPPA listed, Endangered
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5050-reptiles/amphibians)
CR	CESA- or NPPA-listed, Rare
CT	CESA- or NPPA-listed, Threatened
Delisted	Formally Delisted
FE	ESA listed, Endangered
FPT	Formally Proposed for ESA listing as Threatened
FT	ESA listed, Threatened
SSC	CDFW Species of Special Concern
WL	CDFW WL

Sources: Beedy et al. 2023; CDFW 2025b; Hughes 2020; Stebbins and McGinnis 2012; USFWS 2021; WBWG 2025
*Plant species information is from the CNPS Rare Plant Inventory (CNPS 2025a), unless otherwise cited.

4.7 Critical Habitat or Essential Fish Habitat

No designated critical habitat is mapped within the BSA (USFWS 2025a).

Based on the literature review, anadromous fish critical habitat for chinook salmon (Central Valley spring-run Evolutionarily Significant Unit) and steelhead (Central Valley Distinct Population Segment) and Essential Fish Habitat for chinook salmon may be present within the *Chico, California* 7.5-minute topographic quadrangle (NOAA 2022). However, no habitat for fish occurs within the BSA; therefore, no anadromous fish critical habitat or Essential Fish Habitat is present within the BSA.

4.8 Wildlife Movement Corridors and Nursery Sites

The BSA is not located within an Essential Habitat Connectivity area (CDFW 2025c) or a natural habitat block (CDFW 2025d). The BSA is located within a small natural area that could support ecological value (CDFW 2025e); however, due to the high level of disturbance within the BSA, the BSA does not support a significant wildlife movement corridor.

No nursery sites have been documented within the BSA (CDFW 2025b), and the biologist did not observe nursery sites during the site reconnaissance.

4.9 Protected Trees/Oak Woodlands

No protected trees or oak woodlands are present within the BSA.

5.0 IMPACT ASSESSMENT AND RECOMMENDATIONS

This section specifically addresses questions raised by the Biological Resources section of the Environmental Checklist Form in Appendix G of the CEQA Guidelines.

5.1 CEQA Checklist Criteria IV(a) – Special-Status Species

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

5.1.1 Nesting Birds (Including Raptors)

The Project Area contains suitable nesting habitat for several special-status birds (Table 2) and other birds protected under the California Fish and Game Code and MBTA. If Project-related activities occur during the nesting season, the removal of active nests or disruption of nesting activities could lead to *take* of a protected bird or an active nest with eggs or young, which would be considered a significant impact under CEQA.

To avoid or minimize impacts to protected birds and active nests, ECORP recommends the following mitigation measure:

- A preconstruction nesting bird survey shall be conducted within 14 days prior to the commencement of Project-related activities to identify active nests that could be affected by construction. The preconstruction nesting bird survey shall include accessible areas within 500 feet of the Project boundaries for raptors and within 100 feet of the Project boundaries for other birds, including any temporary disturbance areas. If active nests are found, a no-disturbance buffer shall be established around the nest. A qualified biologist, in consultation with CDFW, shall

establish a buffer distance. The buffer shall be maintained until the nestlings have fledged (e.g., are capable of flight and have become independent of the nest), to be determined by a qualified biologist. The avoidance buffer can be removed and no further measures shall be necessary once the young have fledged or the nest is no longer occupied, as determined by a qualified biologist.

5.2 CEQA Checklist Criteria IV(b) – Sensitive Natural Communities

Would the Project:

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

No riparian habitats or sensitive natural communities occur within the BSA; therefore, the Project would have no impact on riparian habitats or sensitive natural communities.

5.3 CEQA Checklist Criteria IV(c) – Aquatic Resources

Would the Project:

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No aquatic resources occur within the BSA; therefore, the Project would have no impact on aquatic resources.

5.4 CEQA Checklist Criteria IV(d) – Movement Corridors and Nursery Sites

Would the Project:

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The BSA does not support a significant wildlife movement corridor, and no nursery sites have been documented or observed within the BSA. The preconstruction nesting bird survey described in Section 5.1.1 would ensure that the Project does not result in impacts to nursery sites.; as such, the Project would have no impact on wildlife movement and nursery sites.

5.5 CEQA Checklist Criteria IV(e) – Conflicts with Local Policies or Ordinances

Would the Project:

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

No local plans or ordinances apply to Project activities. Public school projects are exempt from the City of Chico tree preservation regulations (Chapter 16.66 of the Chico Municipal Code); therefore, the Project would not conflict with any local policies or ordinances.

5.6 CEQA Checklist Criteria IV(f) – Conflicts with Conservation Plans

Would the Project:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The BSA is not covered by any local, regional, or state conservation plans; therefore, the Project would not conflict with any such plans.

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LIST OF APPENDICES

APPENDIX A

Results of Database Queries

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Chico (3912167) OR Nord (3912178) OR Richardson Springs (3912177) OR Paradise West (3912176) OR Hamlin Canyon (3912166) OR Shippee (3912156) OR Nelson (3912157) OR Llano Seco (3912158) OR Ord Ferry (3912168))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABF02020	***Spea hammondii*** western spadefoot	Proposed Threatened	None	G2G3	S3S4	SSC
AAABH01051	***Rana boylii pop. 1*** foothill yellow-legged frog - north coast DPS	None	None	G3T4	S4	SSC
AAABH01052	***Rana boylii pop. 2*** foothill yellow-legged frog - Feather River DPS	Threatened	Threatened	G3T2	S2	
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S4	
ABNKD06071	***Falco peregrinus anatum*** American peregrine falcon	Delisted	Delisted	G4T4	S3S4	
ABNME03041	***Laterallus jamaicensis coturniculus*** California black rail	None	Threatened	G3T1	S2	FP
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	Candidate Endangered	G4	S2	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S3	
ABPBR01030	***Lanius ludovicianus*** loggerhead shrike	None	None	G4	S4	SSC
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S3	
ABPBX03010	***Setophaga petechia*** yellow warbler	None	None	G5	S3	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S2	SSC
AFCAA01031	***Acipenser medirostris pop. 1*** green sturgeon - southern DPS	Threatened	None	G2T1	S1	SSC
AFCHA0205L	***Oncorhynchus tshawytscha pop. 11*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5T2Q	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	SSC
AMACC01020	***Myotis yumanensis*** Yuma myotis	None	None	G5	S4	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G4	S3S4	
AMACC05032	***Lasiurus cinereus*** hoary bat	None	None	G3G4	S4	
AMACC05080	***Lasiurus frantzii*** western red bat	None	None	G4	S3	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02031	***Actinemys marmorata*** northwestern pond turtle	Proposed Threatened	None	G2	SNR	SSC
ARACF12100	***Phrynosoma blainvillii*** coast horned lizard	None	None	G4	S4	SSC
ARADB36150	***Thamnophis gigas*** giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44131CA	***Northern Basalt Flow Vernal Pool*** Northern Basalt Flow Vernal Pool	None	None	G3	S2.2	
CTT44132CA	***Northern Volcanic Mud Flow Vernal Pool*** Northern Volcanic Mud Flow Vernal Pool	None	None	G1	S1.1	
CTT52410CA	***Coastal and Valley Freshwater Marsh*** Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63410CA	***Great Valley Willow Scrub*** Great Valley Willow Scrub	None	None	G3	S3.2	
ICBRA03010	***Branchinecta conservatio*** Conservancy fairy shrimp	Endangered	None	G2	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	***Branchinecta mesovallensis*** midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G3	S3	
ICMAL05E10	***Stygobromus gallawayae*** Gallaway's amphipod	None	None	G1	S1	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T3	S3	
IICOL49010	***Anthicus sacramento*** Sacramento anthicid beetle	None	None	G4	S4	
IICOL49020	***Anthicus antiochensis*** Antioch Dunes anthicid beetle	None	None	G3	S3	
IICOL58010	***Atractelmis wawona*** Wawona riffle beetle	None	None	G3	S1S2	
IIHYM24260	***Bombus pensylvanicus*** American bumble bee	None	None	G3G4	S2	
IIHYM24480	***Bombus crotchii*** Crotch's bumble bee	None	Candidate Endangered	G2	S2	
PDAST11061	***Balsamorhiza macrolepis*** big-scale balsamroot	None	None	G2	S2	1B.2
PDAST1P090	***Calycadenia spicata*** spicate calycadenia	None	None	G3?	S3	1B.3
PDBOR0A0Q0	***Cryptantha crinita*** silky cryptantha	None	None	G2	S2	1B.2
PDBRA0K1B1	***Cardamine pachystigma var. dissectifolia*** dissected-leaved toothwort	None	None	G3G5T2Q	S2	1B.2
PDCAB01010	***Brasenia schreberi*** watershield	None	None	G5	S3	2B.3
PDCAR0L0V0	***Paronychia ahartii*** Ahart's paronychia	None	None	G3	S3	1B.1
PDCON04012	***Calystegia atriplicifolia ssp. buttensis*** Butte County morning-glory	None	None	G5T3	S3	4.2
PDEUP0D150	***Euphorbia hooveri*** Hoover's spurge	Threatened	None	G1	S1	1B.2
PDFAB0F8R3	***Astragalus tener var. ferrisiae*** Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDFAB40310	***Trifolium jokerstii*** Butte County golden clover	None	None	G2	S2	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDLAM18082	***Monardella venosa*** veiny monardella	None	None	G1	S1	1B.1
PDLIM02042	***Limnanthes floccosa ssp. californica*** Butte County meadowfoam	Endangered	Endangered	G4T1	S1	1B.1
PDLIM02043	***Limnanthes floccosa ssp. floccosa*** woolly meadowfoam	None	None	G4T4	S3	4.2
PDMAL0H0R3	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	None	None	G5T3	S3	1B.2
PDMAL110P0	***Sidalcea robusta*** Butte County checkerbloom	None	None	G2	S2	1B.2
PDONA050J1	***Clarkia gracilis ssp. albicaulis*** white-stemmed clarkia	None	None	G5T3	S3	1B.2
PDPGN086UY	***Eriogonum umbellatum var. ahartii*** Ahart's buckwheat	None	None	G5T3	S3	1B.2
PDRAN0B1J0	***Delphinium recurvatum*** recurved larkspur	None	None	G2?	S2	1B.2
PDSCR0D482	***Castilleja rubicundula var. rubicundula*** pink creamsacs	None	None	G5T2	S2	1B.2
PMCYP0N060	***Rhynchospora californica*** California beaked-rush	None	None	G1	S1	1B.1
PMCYP0N080	***Rhynchospora capitellata*** brownish beaked-rush	None	None	G5	S2	2B.2
PMJUN011L2	***Juncus leiospermus var. leiospermus*** Red Bluff dwarf rush	None	None	G2T2	S2	1B.1
PMLEM03020	***Wolffia brasiliensis*** Brazilian watermeal	None	None	G5	S2	2B.3
PMLIL0V060	***Fritillaria eastwoodiae*** Butte County fritillary	None	None	G3Q	S3	3.2
PMLIL0V0F0	***Fritillaria pluriflora*** adobe-lily	None	None	G2G3	S2S3	1B.2
PMPOA3D020	***Imperata brevifolia*** California satintail	None	None	G3	S3	2B.1
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1
PMPOT03091	***Stuckenia filiformis ssp. alpina*** northern slender pondweed	None	None	G5T5	S2S3	2B.2

Record Count: 79

CNPS Rare Plant Inventory

Search Results

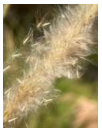
43 matches found. Click on scientific name for details

Search Criteria: , Quad is one of [3912167:3912178:3912177:3912176:3912166:3912156:3912157:3912158:3912168]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G4	S4	4.3	Yes	1974-01-01	 ©2012 Tim Kellison
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	Yes	1994-01-01	No Photo Available
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	G5	S4	4.2		1994-01-01	 © 2021 Neal Kramer
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01	 ©1998 Dean Wm. Taylor
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	G5	S3	2B.3		2010-10-27	 ©2014 Kirsten Bovee
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G4G5T3	S3	4.2	Yes	2019-01-07	 © 2011 Steven Perry
Bryum chryseum	brassy bryum	Bryaceae	moss		None	None	G5	S3	4.3		2014-05-05	No Photo Available

Calycadenia oppositifolia	Butte County calycadenia	Asteraceae	annual herb	Apr-Jul	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available
Calycadenia spicata	spicate calycadenia	Asteraceae	annual herb	May-Sep	None	None	G3?	S3	1B.3		2023-04-05	 © 2023 Christopher Bronny
Calystegia atriplicifolia ssp. *buttensis*	Butte County morning-glory	Convolvulaceae	perennial rhizomatous herb	May-Jul	None	None	G5T3	S3	4.2	Yes	1984-01-01	 ©2018 Sierra Pacific Industries
Cardamine pachystigma var. *dissectifolia*	dissected-leaved toothwort	Brassicaceae	perennial rhizomatous herb	Feb-May	None	None	G3G5T2Q	S2	1B.2	Yes	1988-01-01	No Photo Available
Castilleja rubicundula var. *rubicundula*	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	None	None	G5T2	S2	1B.2	Yes	2001-01-01	 ©2010 Vernon Smith
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Yes	2007-05-22	 © 2019 John Doyen
Clarkia gracilis ssp. *albicaulis*	white-stemmed clarkia	Onagraceae	annual herb	(Apr)May-Jul	None	None	G5T3	S3	1B.2	Yes	1994-01-01	No Photo Available
Claytonia palustris	marsh claytonia	Montiaceae	perennial herb	May-Oct	None	None	G4	S4	4.3	Yes	1988-01-01	 ©2006 Dean Wm. Taylor, Ph.D.
Cryptantha crinita	silky cryptantha	Boraginaceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1980-01-01	 ©2009 Sierra Pacific Industries

Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G4	S3	4.2		2018-06-26	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2	1B.2	Yes	1988-01-01	No Photo Available
Eriogonum umbellatum var. *ahartii*	Ahart's buckwheat	Polygonaceae	perennial herb	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	2010-11-29	No Photo Available
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	None	None	G3G4	S3S4	4.3	Yes	1974-01-01	 Neal Kramer 2020
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	(May-Jun)Jul-Sep(Oct)	FT	None	G1	S1	1B.2	Yes	1974-01-01	 © 2020 Neal Kramer
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3Q	S3	3.2		1974-01-01	 ©2009 Sierra Pacific Industries
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2G3	S2S3	1B.2	Yes	1974-01-01	 © 2015 Steve Matson
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2017 John Doyen
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	1974-01-01	 © 2020 Steven Perry

Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G3	S3	2B.1		2006-12-26	 © 2020 Matt C. Berger
Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	None	None	G2T2	S2	1B.1	Yes	1974-01-01	 ©2016 Dylan Neubauer
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2009 Zoya Akulova
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2010 Aaron Schusteff
Lilium humboldtii ssp. *humboldtii*	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	None	None	G4T3	S3	4.2	Yes	1994-01-01	 © 2008 Sierra Pacific Industries
Limnanthes floccosa ssp. *californica*	Butte County meadowfoam	Limnanthaceae	annual herb	Mar-May	FE	CE	G4T1	S1	1B.1	Yes	1980-01-01	 © 2007 George W. Hartwell
Limnanthes floccosa ssp. *floccosa*	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	G4T4	S3	4.2		1980-01-01	 © 2021 Scot Loring
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May-Jul	None	None	G1	S1	1B.1	Yes	1984-01-01	 © 2007 George W. Hartwell

Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3		1974-01-01	 ©2021 Scot Loring
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	G3	S3	1B.1	Yes	1988-01-01	 © 2004 Carol W. Witham
Polygonum bidwelliae	Bidwell's knotweed	Polygonaceae	annual herb	Apr-Jul	None	None	G4	S4	4.3	Yes	1974-01-01	 ©2020 Neal Kramer
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	None	None	G1	S1	1B.1	Yes	1974-01-01	 © 2013 Jake Ruygt
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	None	None	G5	S2	2B.2		1974-01-01	 ©2004 Dean Wm. Taylor
Sidalcea robusta	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2010 George W Hartwell
Stuckenia filiformis ssp. *alpina*	northern slender pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	G5T5	S2S3	2B.2		1994-01-01	 Dana York (2016)
Trifolium jokerstii	Butte County golden clover	Fabaceae	annual herb	Mar-May	None	None	G2	S2	1B.2	Yes	2001-01-01	 © 2008 George W Hartwell
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	Yes	1974-01-01	 ©2008 F. Gauna

Wolffia brasiliensis	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr-Dec	None	None	G5	S2	2B.3	2001-01-01	 © 2021 Scot Loring

Showing 1 to 43 of 43 entries

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Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 5 September 2025].

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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Butte County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., *placing a dam upstream of a fish population even if that fish does not occur at the dam site, may* indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Condor Gymnogyps californianus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8193	EXPN

Reptiles

NAME	STATUS
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
Western Spadefoot Spea hammondii No critical habitat has been designated for this species.	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

Conservancy Fairy Shrimp Branchinecta conservatio Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Butte County Meadowfoam Limnanthes floccosa ssp. californica Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4223	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information

on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that

week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

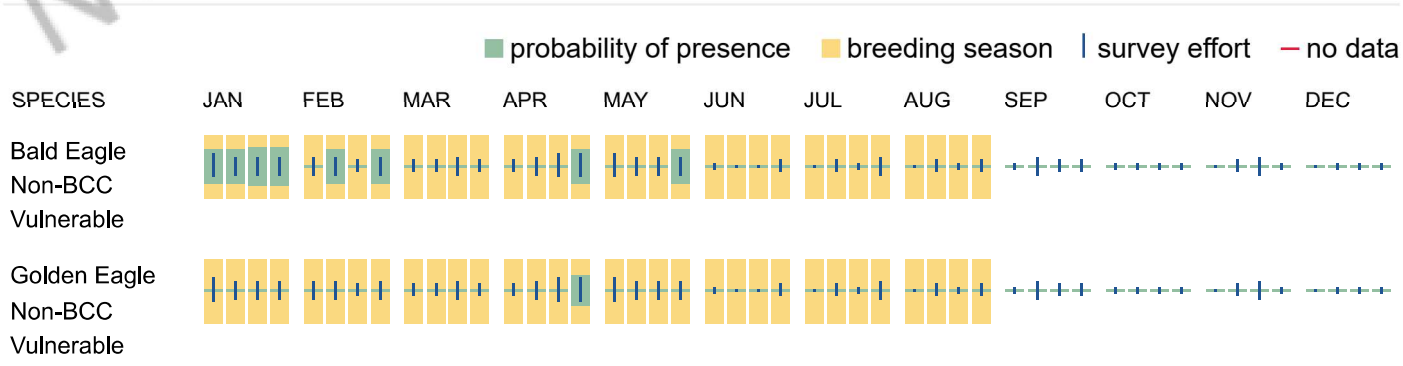
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory

Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31

Cassin's Finch Haemorhous cassinii — Breeds May 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9462

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Spinus lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Santa Barbara Song Sparrow Melospiza melodia graminea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Screech-owl Megascops kennicottii cardonensis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jun 30
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that

week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

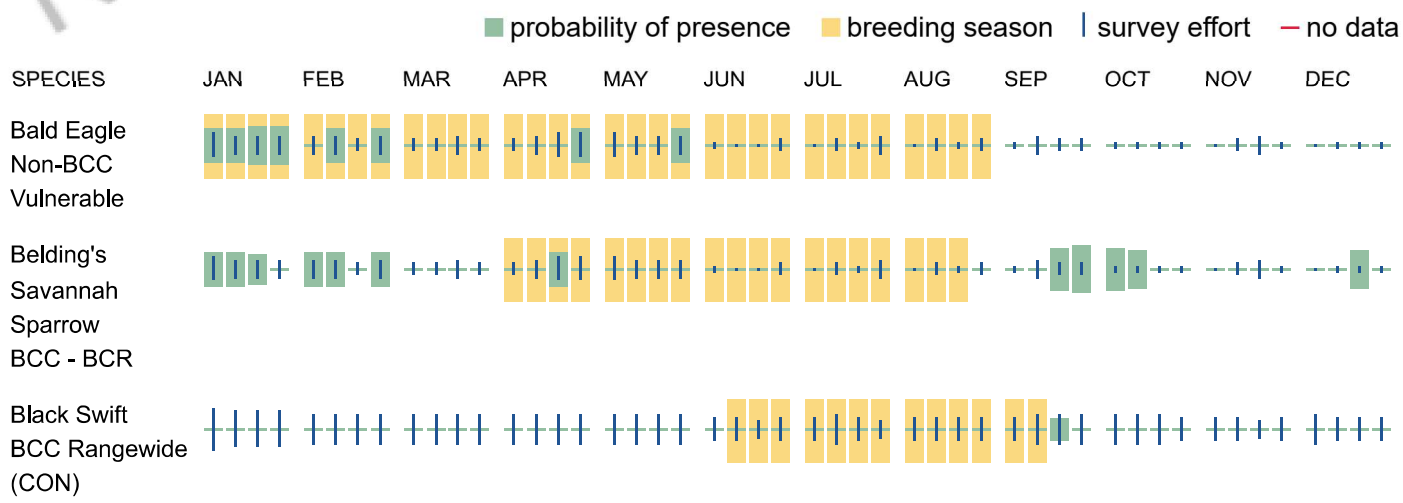
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

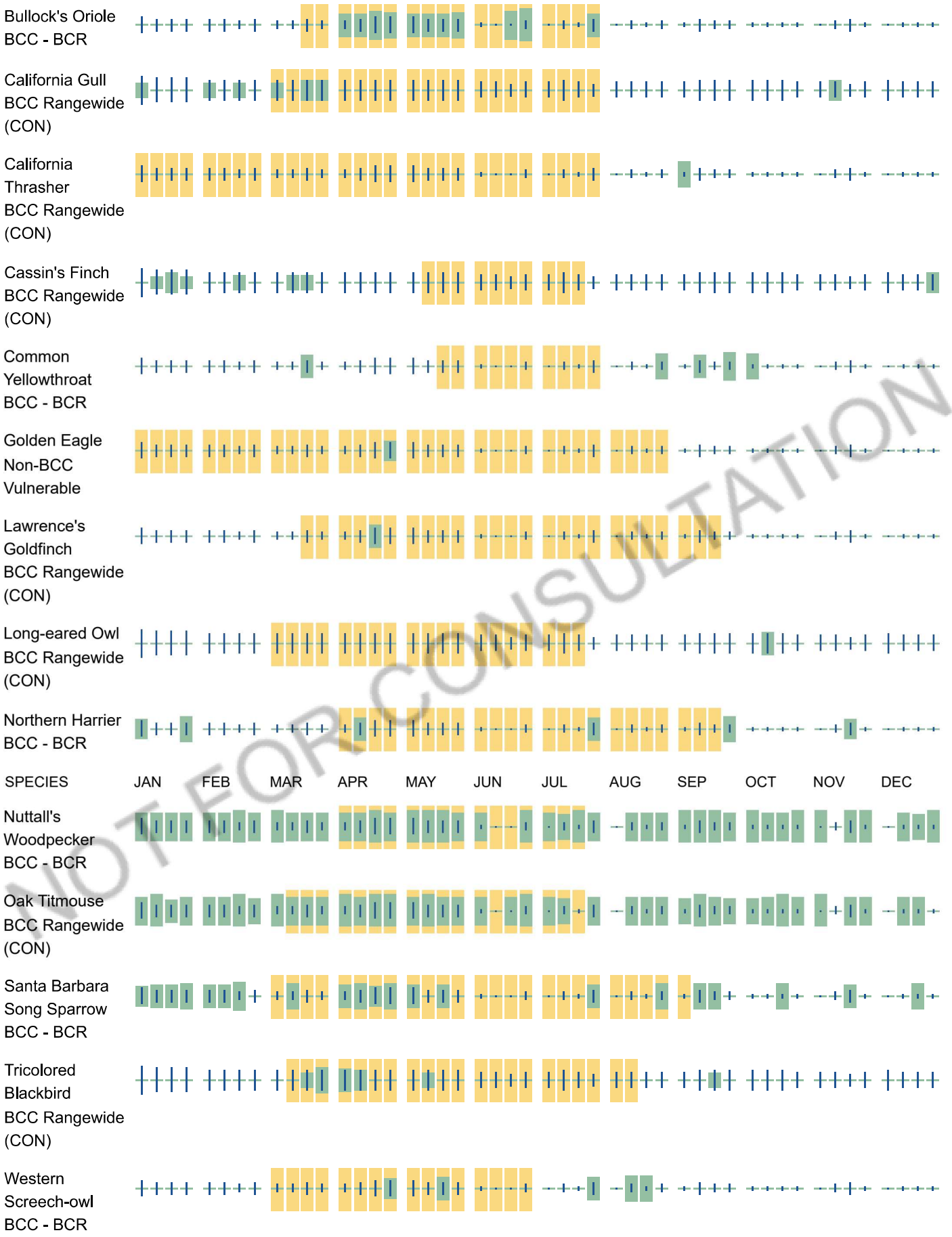
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

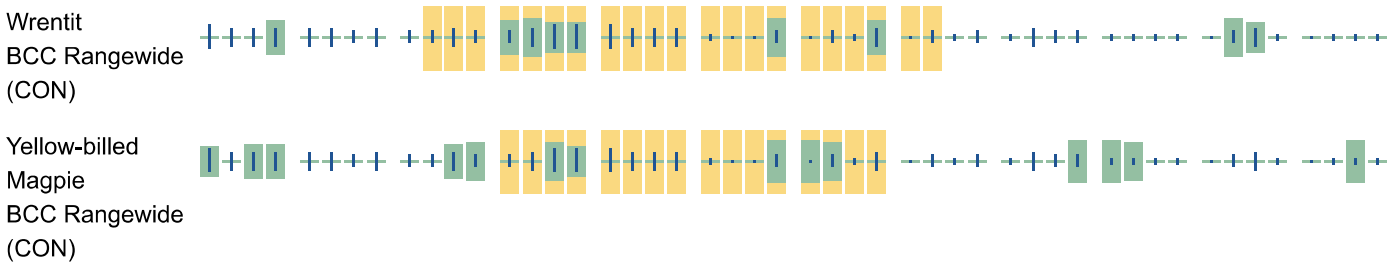
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of *all* birds *potentially present in* your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially

occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Quad Name **Chico**

Quad Number **39121-F7**

1.0 ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) -

2.0 ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

3.0 ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

4.0 ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

5.0 ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

6.0 ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

7.0 ESA Pinnipeds

Guadalupe Fur Seal (T) -

8.0 Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

9.0 MMPA Species (See list at left)

10.0 ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans -

MMPA Pinnipeds -

APPENDIX B

Representative Photographs

Photo 1. Representative Photograph of the BSA (view south; September 11, 2025).

Photo 2. School Buildings (view southeast; September 11, 2025).

Photo 3. School Outdoor Play Area and Landscaping (view south; September 11, 2025).

Photo 4. Maintained Grass Field (view northeast; September 11, 2025).

APPENDIX C

Plant Species Observed (September 11, 2025)

SCIENTIFIC NAME	COMMON NAME
ANACARDIACEAE	**SUMAC FAMILY**
*Pistacia chinensis**	Chinese pistache (cultivated)
ARALIACEAE	**IVY FAMILY**
*Hedera helix**	English ivy
BETULACEAE	**BIRCH FAMILY**
Alnus rhombifolia	White alder (cultivated)
CANNABACEAE	**CANNABIS FAMILY**
Celtis sp.	Hackberry (cultivated)
FABACEAE	**LEGUME FAMILY**
*Albizia julibrissin**	Silktree (cultivated)
FAGACEAE	**OAK FAMILY**
*Quercus rubra**	Northern red oak (cultivated)
LYTHRACEAE	**LOOSESTRIFE FAMILY**
*Lagerstroemia indica**	Crape mytle (cultivated)
OLEACEAE	**OLIVE FAMILY**
Fraxinus sp.	Ash (cultivated)
PLATANACEAE	**PLANE-TREE FAMILY**
Platanus racemosa	California sycamore
POACEAE	**GRASS FAMILY**
Poa sp.*	Bluegrass
SAPINDACEAE	**SOAPBERRY FAMILY**
*Acer saccharinum**	Silver maple (cultivated)
ULMACEAE	**ELM FAMILY**
Ulmus sp.*	Elm (cultivated)

Notes: * = non-native species

Noise and Vibration Impact Assessment for the Parkview Elementary School Reimagination Project

City of Chico, California

Prepared For:

Chico Unified School District
1163 East Seventh Avenue
Chico, CA 95926

Prepared By:

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ENVIRONMENTAL CONSULTANTS
55 Hanover Lane
Chico, CA 95926

October 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CBC	California Building Code
CEQA	California Environmental Quality Act
City	City of Chico
CMA	Chico Municipal Airport
CNEL	Community Noise Equivalent Level
County	County of Butte
dB	decibels
dBA	A-weighted decibels
DNL	Day-Night Average Noise Level
ECORP	ECORP Consulting, Inc.
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, ventilation, and air conditioning
Hz	Hertz
L_{dn}	Day-Night Average Noise Level
L_{eq}	Equivalent Noise Level
L_{max}	the maximum A-weighted noise level during the measurement period
L_{min}	the minimum A-weighted noise level during the measurement period
PFS	Public Facilities & Services
PPV	Peak Particle Velocity
Project	Parkview Elementary School Reimagination Project
RMS	Root Mean Square
sf	square feet
SR	State Route
STC	Sound Transmission Class
VdB	Vibration Velocity Level

1.0 INTRODUCTION

This report documents the results of a Noise and Vibration Impact Assessment completed for the Parkview Elementary School Reimagination Project (Project). The Project involves the demolition of existing school buildings and the construction and reconfiguration of facilities at the Parkview Elementary School campus in the City of Chico (City) in Butte County (County), California. This report was prepared as a comparison of predicted Project noise levels to noise standards promulgated by the City of Chico General Plan Noise Element and Municipal Code. The purpose of this report is to estimate Project-generated noise and to determine the level of impact the Project would have on the environment.

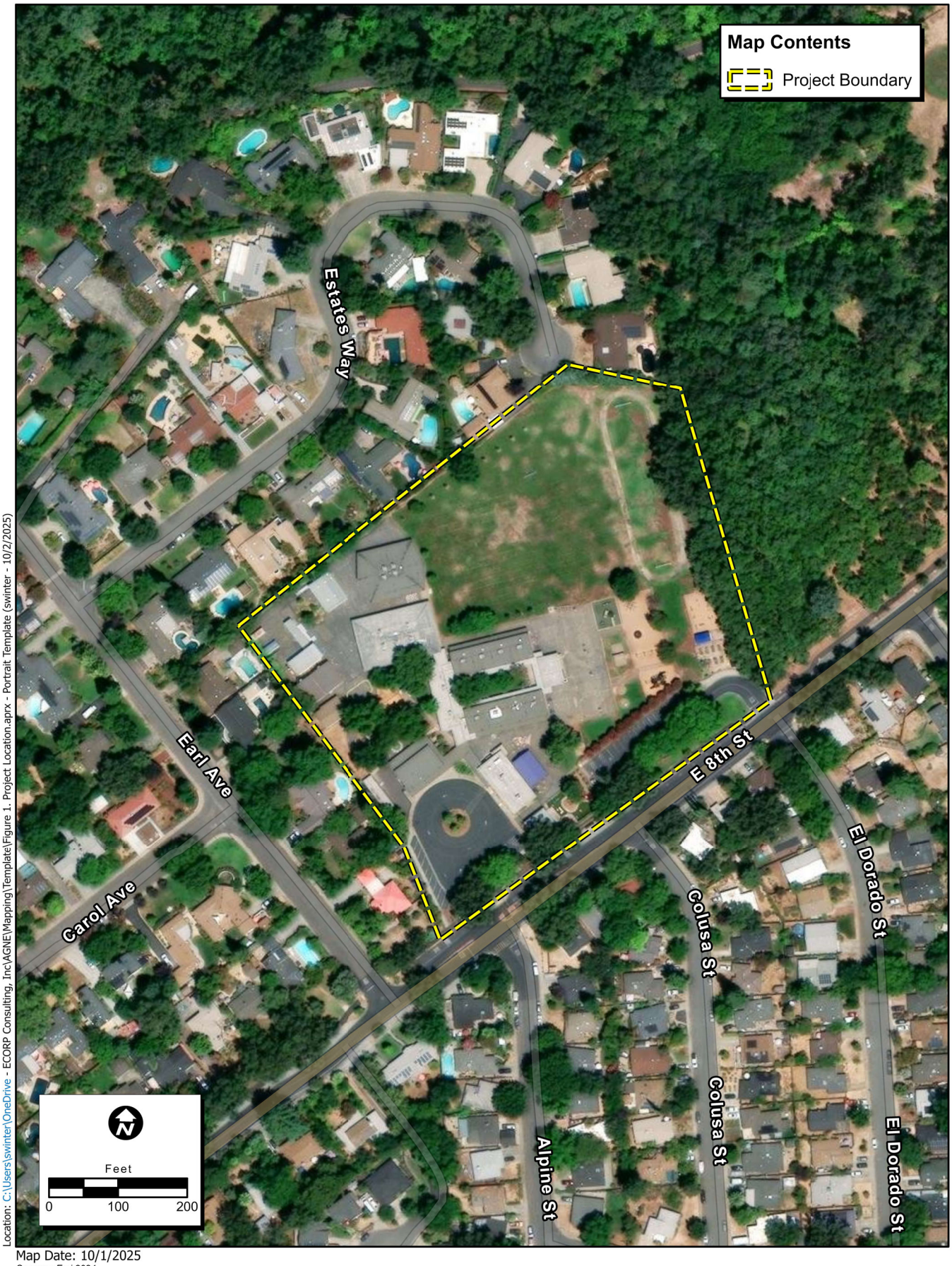
1.1 Location and Setting

The Proposed Project is located on an approximately 7.72-acre (336,283 square feet [sf]) parcel in Chico, California (Figure 1, Project Location). More specifically, the Project is located at 1770 E. 8th Street, Chico, CA 95928. The Project Site is currently an elementary school operating within the Chico Unified School District and serving 496 students. The Project Site is accessible via E. 8th Street. The Project Site is composed of one parcel (Assessor's Parcel Number 002-040-009-000) designated as Public Facilities & Services (PFS) by the City of Chico's 2030 General Plan. Existing land uses surrounding the Project Site include low density residential to the north, west, and south across E. 8th Street and secondary open space (Lower Bidwell Park) to the east.

1.2 Project Description

The Project Applicant, Chico Unified School District, proposes the demolition of approximately 32,934 sf of existing permanent buildings and 1,440 sf of portable classrooms at the Parkview Elementary School campus. Following demolition, the campus would be reconfigured and rebuilt with new educational facilities and associated improvements. Unlike the existing campus layout, which concentrates buildings on the southwestern portion of the Site, the new construction would extend across the entire Project Site, optimizing space utilization and circulation.

The reimagined campus would include new classroom buildings, administrative offices, multipurpose spaces, and associated support facilities. Outdoor play areas, circulation paths, and landscaped open spaces would also be reconfigured as part of the redevelopment.



Location: C:\Users\swinter\OneDrive - ECORP Consulting, Inc\AGNE\Mapping\Template\Figure 1. Project Location.aprx - Portrait Template (swinter - 10/2/2025)

Map Date: 10/1/2025

Sources: Esri 2024

Figure 1-1. Project Location

2.0 ENVIRONMENTAL NOISE AND GROUNDBORNE VIBRATION ANALYSIS

2.1 Fundamentals of Noise and Environmental Sound

2.1.1 Addition of Decibels

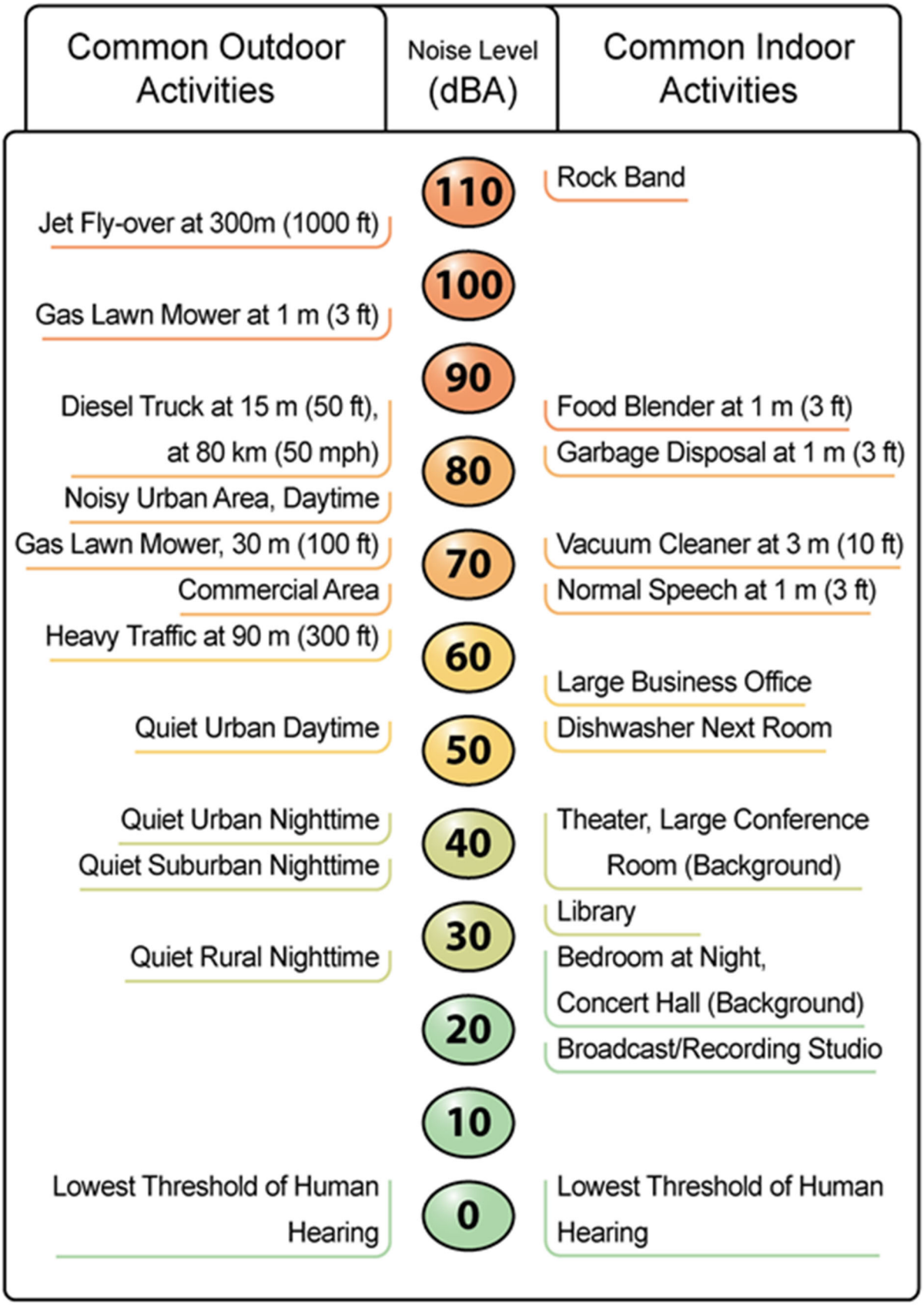
The decibel (dB) scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions. For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB.

Typical noise levels associated with common noise sources are depicted in Figure 2-1.

2.1.2 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the Equivalent Noise Level (L_{eq}) as well as the Day-Night Average Noise Level (L_{dn}) and Community Noise Equivalent Level (CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- *L_{eq}* is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- *L_{dn}* is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- *CNEL* is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.



Source: California Department of Transportation (Caltrans) 2020a

Figure 2-1. Common Noise Levels

2025-175 Parkview Elementary School Reimagination Project

Table 2-1 provides a list of other common acoustical descriptors.

Table 2-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels is measured on a sound level meter using the A-weighting filter network. 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 and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Average Noise Level (L_{dn} or DNL)	A 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

The A-weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the

variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

2.1.3 Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB (dBA) for each doubling of distance from a stationary or point source (Federal Highway Administration [FHWA] 2017a). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2017a). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2017a).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 5 to 10 dBA (FHWA 2017b). According to the FHWA (2017b), noise barriers can reduce noise levels by 15 dBA in certain instances, yet this level of noise reduction is very difficult to achieve. To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (California Department of Transportation [Caltrans] 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. 2006). Generally, in exterior noise environments ranging from 60 dBA CNEL to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typical residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with

a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations). In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments experiencing less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

2.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL or L_{dn} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

2.1.5 Effects of Noise on People

2.1.5.1 Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

2.1.5.2 Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes of annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation between noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources.

2.2 Fundamentals of Environmental Groundborne Vibration

2.2.1 Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV); another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1-second period.

Table 2-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 2-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earthmoving which requires the use of heavy-duty earth moving equipment.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Threshold at which there is a risk of architectural damage to extremely fragile historic buildings, ruins, ancient monuments
0.10	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Threshold at which there is a risk of architectural damage to fragile buildings. Virtually no risk of architectural damage to normal buildings
0.25	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to historic and some old buildings
0.30	96	Vibrations may begin to feel severe to people in buildings	Threshold at which there is a risk of architectural damage to older residential structures
0.50	103	Vibrations considered unpleasant by people subjected to continuous vibrations	Threshold at which there is a risk of architectural damage to new residential structures and Modern industrial/commercial buildings

Source: California Department of Transportation 2020b

3.0 EXISTING ENVIRONMENTAL NOISE SETTING

3.1 Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in adverse risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as historic sites, hotels, schools, health care centers, libraries, churches, senior homes, recreational areas, and cemeteries are also commonly considered sensitive to increases in exterior noise levels. The nearest noise sensitive receptors to the Project Site include single-family residences located along the northern and western Project Site boundary. The nearest noise sensitive receptor is a single-family home to the north of the Proposed Project, approximately 47 feet distant from the Proposed fourth- and fifth-grade classrooms.

3.1.1 Existing Ambient Noise Environment

The most common and significant sources of stationary noise in the City of Chico are industrial and commercial activities. Noise sources commonly associated with these land uses include on-site truck traffic, loading dock activities, heavy-equipment operation, banging of metal on metal, conveyor belts, air handling systems, and large heating, ventilating, and air conditioning (HVAC) systems (City of Chico 2010). The City's General Plan Noise Element also cites the Silver Dollar Speedway, parks and school playing fields, and California State University, Chico, as stationary noise producers within the community. The most common and significant sources of transportation noise sources in the City include vehicle traffic, railroad and aircraft operations. Ambient noise levels in many portions of the City are defined by traffic on major roadways such as State Routes (SRs) 99 and 32 and major arterial roadways.

The Project Site is bound by single-family residences to the north, Lower Bidwell Park to the east, E. 8th Street to the south, and single-family residences to the west. The Project Site is accessible by E. 8th Street, which is classified as a major two-lane collector roadway (City of Chico 2010). As shown in Table 3-1 below, the ambient recorded noise over an eight-hour period during operational hours of the existing elementary school is 56.6 dBA L_{eq} in the vicinity of the Project Site.

3.1.2 Existing Ambient Noise Measurements

In order to quantify existing ambient noise levels on the Project Site, ECORP Consulting, Inc. (ECORP) conducted one noise measurement over an eight-hour period on September 30, 2025, on the Project Site. The eight-hour measurement was taken between 7:00 a.m. and 3:00 p.m. to capture existing Project Site operational noise during school hours. This noise measurement is representative of typical existing noise exposure within and immediately adjacent to the Project Site during the school day (see Appendix A for a visual representation of the measurement locations). The noise measurement details are listed in Table 3-1.

Table 3-1. Existing Ambient Noise Measurements					
Location Number	**Location**	**L_{eq} dBA**	**L_{min} dBA**	**L_{max} dBA**	**Time**
1	On Parkview Elementary School campus secured in a tree along the northern site boundary	56.6	47.3	77.6	7:00 a.m.–3:00 p.m.

Notes: dBA = A-weighted decibels; N/A = Not Applicable
L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. L_{min} is the minimum noise level during the measurement period and L_{max} is the maximum noise level during the measurement period.

Source: Measurements were taken by ECORP Consulting, Inc. with a Larson Davis LxT SE sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the LxT SE sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Appendix A for noise measurement outputs.

As shown in Table 3-1, the ambient recorded noise level during a typical school day is 56.6 dBA L_{eq} over the course of an eight-hour period taken on the Project Site in September of 2025. The most common noise in the Project vicinity is produced by children at the school and vehicle traffic on adjacent roadways.

4.0 REGULATORY FRAMEWORK

4.1 Federal

4.1.1 Federal Transit Administration

The Federal Transit Administration (FTA) provides a guidance manual that contains procedures for predicting and assessing noise and vibration impacts of proposed transit projects. This manual acknowledges that noise and vibration are among the primary concerns of the surrounding communities. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the surrounding land use. The FTA provides guidelines that are typically considered applicable criteria for construction noise assessments in a California Environmental Quality Act (CEQA) analysis.

4.2 State

4.2.1 California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations, commonly referred to as the California Building Code (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Future individual projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

4.2.2 California Department of Transportation

In 2020, Caltrans published the Transportation and Construction Vibration Manual (2020b). The manual provides general guidance on vibration issues associated with the construction and operation of projects concerning human perception and structural damage. Table 2-2 above presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

4.3 Local

4.3.1 City of Chico General Plan Noise Element

The Project Site is located within the City of Chico and therefore would potentially affect receptors within the City from onsite and offsite sources. The City's Noise Element of the General Plan is a tool for planners

to use in achieving and maintaining land uses that are compatible with existing and future environmental noise levels. It is the intent of the City to regulate and control unnecessary, excessive, and annoying sounds and vibrations emanating from land uses and activities within the City. The Noise Element contains goals, policies, and actions that are intended to protect noise sensitive uses from excessive noise levels. The following goals, policies, and actions are applicable to the Proposed Project:

- **Goal N-1:** To benefit public health, welfare and the local economy, protect noise-sensitive uses from uses that generate significant amounts of noise.
  - *Policy N-1.2 (New Development and Non-Transportation Noise):* New development of noise-sensitive land uses will not be permitted in areas exposed to existing non-transportation noise sources that exceed the levels specified in Table 4-1, unless the project design includes measures to reduce exterior noise levels to the unadjusted levels specified in Table 4-1.
  - *Policy N-1.3 (Acoustical Analysis):* Where proposed projects are likely to expose noise-sensitive land uses to noise levels exceeding the City's standards, require an acoustical analysis as part of the environmental review so that noise mitigation measures may be identified and included in the project design.
  - *Policy N-1.6 (Construction Activity):* Maintain special standards in the Municipal Code to allow temporary construction activity to exceed the noise standards established in this element, with limits on the time of disturbance to nearby noise-sensitive uses.
- **Goal N-2:** Encourage noise attenuation methods that support the goals of the General Plan.
  - *Policy N-2.1 (Well-Designed Noise Mitigation):* Utilize effective noise attenuation measures that complement the Community Design Element's Goals.
    - *Action N-2.1.1 (Noise Control Measures):* Limit noise exposure through the use of insulation, building design and orientation, staggered operating hours, and other techniques. Utilize physical barriers such as landscaped sound walls only when other solutions are unable to achieve the desired level of mitigation.
- **Goal N-3:** Promote and enforce the City's noise standards.

Table 4-1. City of Chico Maximum Allowable Exterior Noise Levels from Non-Transportation Sources

Noise Level Descriptor (dBA)	Exterior Noise Level (dBA)	
	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Average-Hourly Noise Level (L_{eq})	55	50
Intermittent Noise Level (L_2 or L_{max})	75	65

Notes: 1. Noise levels are for planning purposes and may vary from the standards of the City's Noise Ordinance, which are for enforcement purposes. 2. In areas where the existing ambient noise level exceeds the established daytime or nighttime standard, the existing level shall become the respective noise standard and an increase of three dBA or more shall be significant. Noise levels shall be reduced five dBA if the existing ambient hourly L_{eq} is at least 10 dBA lower than the standards. 3. Noise standards are to be applied at outdoor activity areas with the greatest exposure to the noise source.

L_2 = The dBA level exceeded for two percent of a given time period.

Source: City of Chico 2011

4.3.2 City of Chico Municipal Code

The City's Municipal Code serves to protect residents of the City from excessive, unnecessary and unreasonable noises form any and all sources in the community by establishing noise standards and exemptions to those standards. Chapter 9.38 of the Municipal Code enumerates the noise standards relevant to the Proposed Project. The following portions of Chapter 9.38 are relevant to this analysis (City of Chico 2024):

- **9.38.030 (A), Residential property noise limits:** No person shall produce, suffer or allow to be produced by human voice, machine, animal, or device, or any combination of same, on residential property, a noise level at any point outside of the property plane that exceeds, at any point outside of the property plane, 70 dBA between the hours of 7:00 a.m. and 9:00 p.m. or 60 dBA between the hours of 9:00 p.m. and 7:00 a.m.
- **9.38.040, Commercial and industrial property noise limits:** No person shall produce, suffer or allow to be produced by human voice, machine, animal, or device, or any combination of same, on commercial or industrial property, a noise level at any point outside of the property plane that exceeds 70 dBA.
- **9.38.050, Public property noise limits:** Except as otherwise provided in this chapter, no person shall produce, suffer or allow to be produced on public property, by human voice, machine, animal, or device, or any combination of same, a noise level that exceeds 60 dBA at a distance of 25 feet or more from the source.
- **9.38.060 (B), Categorical exemptions:** The following activities or sources of noise are exempt from the provisions of this chapter:

- Construction and Alteration of Structures: Notwithstanding any other provision of this chapter, between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, and 7:00 a.m. and 9:00 p.m. on other days, construction, alteration or repair of structures shall be subject to one of the following limits:
  - A. No individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. If the device or equipment is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close as possible to 25 feet from the equipment.
  - B. The noise level at any point outside of the property plane of the project shall not exceed 86 dBA.

5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act Guidelines Appendix G thresholds of significance. The Project would result in a significant noise-related impact if it would result in the:

1) 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.

2) Generation of excessive groundborne vibration or groundborne noise levels.

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

For the purposes of this analysis, Project construction noise is compared to the prohibited hours of construction established by the City. The City's Municipal Code identifies that construction activity is exempt from any special noise permitting during the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays or 7:00 a.m. and 9:00 p.m. on any other days. However, the City's noise exemption for construction activities is subject to one of the following limits:

1) Any individual device or piece of equipment from producing a noise level exceeding 83 dBA at a distance of 25 feet from the source. If the device or equipment is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close as possible to 25 feet from the equipment.

2) The noise level at any point outside of the property plane of the project shall not exceed 86 dB

Construction noise is quantified at the center of the Proposed Project (per FTA guidance) and evaluated against the City's standards above.

The City's Municipal Code prohibits the generation of noise in exceedance of 70 dBA at the property line of a residential or commercial property (for residential property, the noise level shall not exceed 60 dBA between 9:00 p.m. and 7:00 a.m.) (City of Chico 2024). However, the City's General Plan Noise Element states it is prohibited to generate operational noise levels (from non-transportation sources) in excess of 55 dBA L_{eq} (or in excess of 75 dBA L_{max}) during daytime hours (7:00 a.m. and 10:00 p.m.), or in excess of 50 dBA Leq (or 65 dBA L_{max}) during nighttime hours (10:00 p.m. and 7:00 a.m.), as measured at the outdoor activity area of the nearest receptor. It is noted that the noise thresholds in the General Plan are to be used for planning purposes, while the Municipal Code noise thresholds are for enforcement purposes (City of Chico 2011). For the purposes of this analysis, operational noise will be compared to the City's General Plan daytime standards, though in consideration of existing ambient noise levels currently experienced in the Project Area.

Construction vibration generated by the Project is compared to the Caltrans (2020b) recommended standard of 0.3 inches per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold.

5.2 Methodology

This analysis of the existing and future noise environments is based on empirical observations and noise prediction modeling. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Noise Model (FHWA 2006). Groundborne vibration levels associated with construction-related activities for the Project have been evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage.

Onsite stationary source noise levels associated with the Project have been calculated with the SoundPLAN 3D noise model, which predicts noise propagation from a noise source based on the location, noise level, and frequency spectra of the noise sources as well as the geometry and reflective properties of the local terrain, buildings and barriers. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening structures. Modeled noise levels are based on noise levels included in the SoundPLAN reference library. "Reference" noise levels are also collected from field noise measurements from similar types of activities and are then used to estimate noise levels expected with the Project's non-transportation noise sources. The reference noise levels are used to represent a worst-case noise environment as noise levels from area sources can vary throughout the day.

5.3 Impact Analysis

5.3.1 Would the Project Result in Short-Term Construction-Generated Noise in Excess of City Standards?

5.3.1.1 Onsite Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

All construction activity noise levels are governed by the standards set forth in the City's Municipal Code. The City's Municipal Code identifies that construction activity is exempt from any special noise permitting during the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays or 7:00 a.m. and 9:00 p.m. on any other days. However, no individual device or piece of equipment may produce a noise level that exceeds 83 dBA at a distance of 25 feet from the source nor can the noise level at any point outside of the property plane of a project exceed 86 dBA during construction (City of Chico 2024). In order to remain compliant with the City's regulations, the Proposed Project would be required to follow these construction guidelines.

A previous Fifth District of Appeal decision held that the use of an absolute noise threshold for evaluating all ambient noise impacts violated CEQA because it did not provide a "complete picture" of the noise impacts that may result from implementation of the ordinance. As such, the Proposed Project's construction noise is estimated and then added to the recorded ambient noise level on the Project Site as determined by the baseline noise survey conducted by ECORP Consulting, Inc. (see Table 3-1). As previously described, the dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. For instance, when combining two separate sources where one of the noise sources is 10 dB or more greater than then other noise source, the noise contribution of the quieter source is virtually completely obscured by the louder source.

The nearest existing noise-sensitive land uses to the Project Site are the single-family homes located north and west of the Project Site boundary. To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors and in order to evaluate the potential adverse effects from construction noise, the construction equipment noise levels were calculated using the Federal Highway Administration's Roadway Noise Construction Model and compared against the City's noise thresholds enumerated in the Municipal Code.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities but rather spread throughout the Project Site and at various distances from sensitive receptors. Therefore, this analysis employs FTA guidance for calculating construction noise, which recommends measuring construction noise produced by all construction equipment simultaneously from the center of the Project Site (FTA 2018), which in this case is approximately 273 feet from the residences located north of the Project Site boundary. The anticipated short-term construction noise levels generated for the necessary equipment for each phase of construction are presented in Table 5-1.

Table 5-1. Construction Average (dBA) Noise Levels at Nearest Receptors					
Construction Phase	**Ambient Noise Level* (dBA L_{eq})**	**Exterior Construction Noise Level @ Closest Noise Sensitive Receptor (dBA L_{eq})**	**Existing Ambient Noise + Exterior Construction Noise Levels (dBA L_{eq})**	**Construction Noise Standard (dBA L_{eq})**	**Exceeds Standards?**
Demolition	56.6	71.7	71.8	*86*	No
Site Preparation		72.9	73.0	*86*	No
Grading		72.5	72.6	*86*	No
Building Construction		73.4	73.5	*86*	No
Paving		71.8	71.9	*86*	No
Painting		58.9	60.9	*86*	No

Notes: dBA = A-weighted decibels; FHWA = Federal Highway Administration
*Ambient noise levels of the Project Site are estimated using the recorded L_{eq} measurement on the Project Site as identified in Table 3-1.
L_{eq} is the equivalent energy noise level; it is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Construction equipment used during construction derived from the California Emissions Estimator Model (CalEEMod). CalEEMod is designed to calculate air pollutant emissions from construction activity but contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 273 feet from the nearest sensitive receptor.

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix B for Model Data Outputs.

As shown in Table 5-1, the Project's contribution of construction noise combined with the ambient noise environment would not exceed the 86 dBA construction noise threshold promulgated by the City's Municipal Code during any phase of construction at the nearby noise-sensitive receptors. It is noted that construction noise was modeled on a worst-case basis and is considered in addition to ambient noise levels currently experienced on the Project Site. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction.

5.3.2 Would the Project Result in a Substantial Permanent Increase in Ambient Noise Levels in Excess of City Standards during Operations?

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest noise sensitive receptors to the Project Site include single-family residences located along the northern and western Project Site

boundary. The nearest noise sensitive receptor is a single-family home to the north of the Proposed Project, approximately 47 feet distant from the proposed fourth- and fifth-grade classrooms.

5.3.2.1 Operational Offsite Traffic Noise

Future traffic noise levels throughout the Project vicinity in consideration of the Proposed Project's contribution are predicted to remain the same as current conditions. Upon Proposed Project completion, the number of students and staff on-site is not projected to increase as a result of Project implementation. Therefore, current conditions would not be expected to change.

5.3.2.2 Operational Onsite Noise

The Project is proposing the reimagination of Parkview Elementary School which would include the demolition of existing buildings and construction and operation of new educational facilities. The Project Site boundaries would not be changing, and the land use classification would remain the same. The Project is not intended to increase student enrollment but rather to replace aging facilities with updated building infrastructure. Operational noise may vary due to the proposed updated configuration of the buildings and outdoor play areas. Another operational noise source at school land uses is operational traffic noise during student pick-up and drop-off. The Proposed Project Site Plan does not include updates that would affect the current configuration for pick-up and drop-off. More specifically, the existing pick-up/drop-off area located along the western Project Site boundary along E. 8th Street does not have any proposed updates. Therefore, operational onsite traffic noise is not expected to increase upon completion of the Proposed Project. Due to the updated configuration of proposed educational buildings, corridors, and outdoor play areas, on-site stationary noise attributable to children playing during recess and lunch time will be addressed quantitatively to ensure the Proposed updates would not significantly increase noise levels experienced at the neighboring noise sensitive land uses.

On-site noise associated with the playground areas has been calculated using the SoundPLAN 3D noise model and based on the noise source locations identified on the Project Site Plans provided by the Project proponent. SoundPLAN 3D noise model generates computer simulations of noise situations based on the site's features. Further, SoundPLAN creates noise contour maps using reference noise levels, topography, point and area noise source, mobile noise sources, and intervening structures. Table 5-2 shows the predicted Project noise levels at 23 noise-sensitive locations (all residential properties) in the Project vicinity during daytime activity, in combination with existing ambient noise, as predicted by SoundPLAN. Additionally, a noise contour graphic (Figure 5-1) has been prepared to provide a visual depiction of the predicted noise levels in the Project vicinity from Project operations.

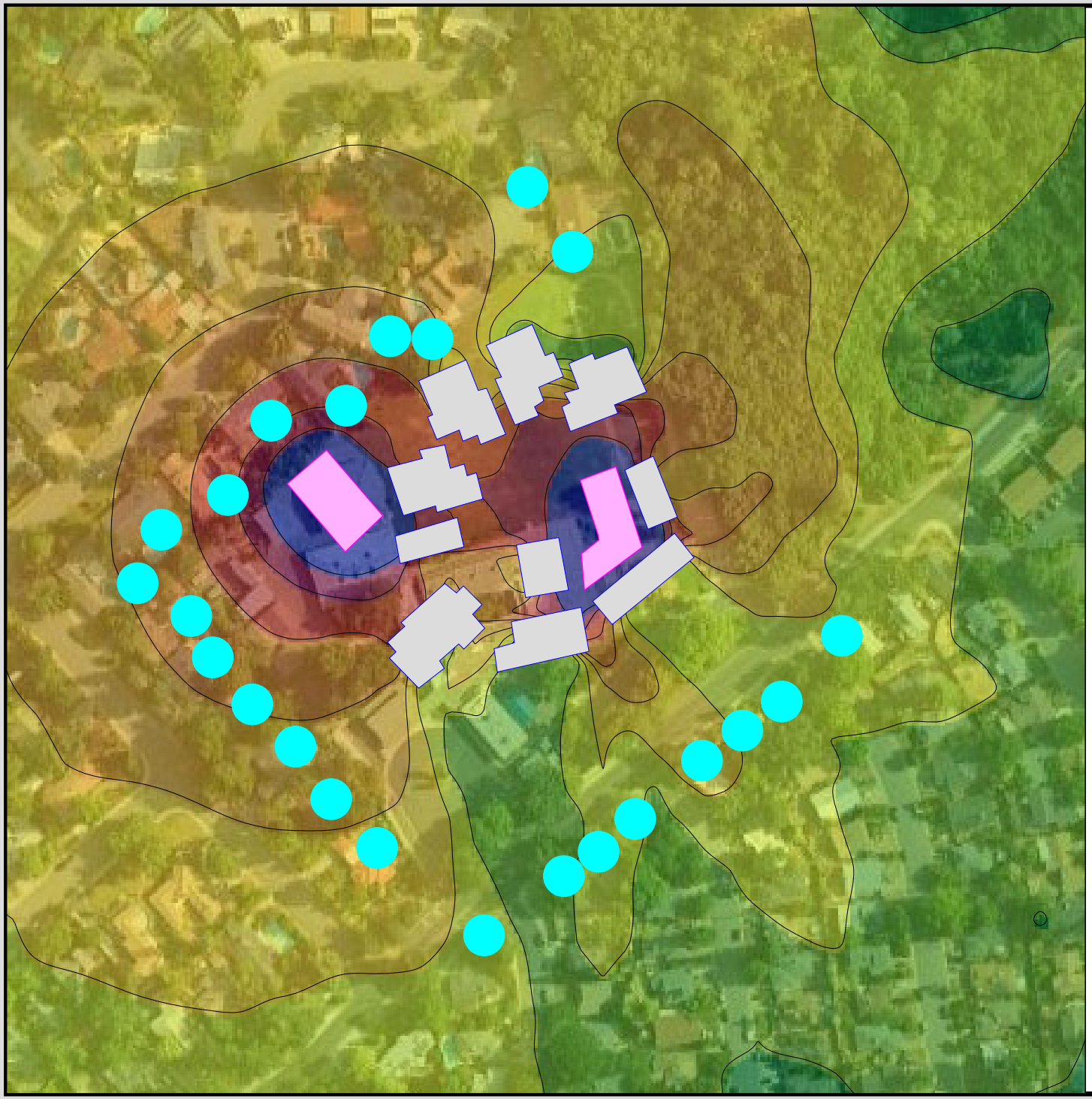


Figure 5-1. Parkview Elementary School Reimagination Project Operational Noise Generation

Signs and symbols
- Play Areas
- Proposed Buildings
- Noise Receptors

Noise Level Scale in dB(A) Leq,d

	<= 32.0
32.0 <	<= 36.0
36.0 <	<= 40.0
40.0 <	<= 44.0
44.0 <	<= 48.0
48.0 <	<= 52.0
52.0 <	<= 56.0
56.0 <	<= 60.0
60.0 <	

N

Scale 1:173

0 35 70 140 210 280 feet

Map Date: 9/30/2025
2025-175: Parkview Elementary School Reimagination Project

Table 5-2. Non-Transportation Source Operational Noise Levels					
No.	**Location**	**Noise Attributed to the Project Predicted by SoundPLAN (dBA L_{eq})**	**Existing Noise Level on Project Site (dBA L_{eq})***	**Existing Ambient Noise + Exterior Operational Noise Levels (dBA L_{eq})**	**Change over Existing Conditions**
1	1752 E. 8th Street (Residential)	42.8	56.6	56.8	+0.2
2	715 Earl Street (Residential)	44.6		56.9	+0.3
3	707 Earl Street (Residential)	46.7		57.0	+0.4
4	651 Earl Street (Residential)	47.9		57.1	+0.5
5	639 Earl Street (Residential)	48.9		57.3	+0.7
6	635 Earl Street (Residential)	49.3		57.3	+0.7
7	1707 Estates Way (Residential)	48.1		57.2	+0.6
8	1731 Estates Way (Residential)	49.7		57.4	+0.8
9	1741 Estates Way (Residential)	54.1		58.5	+1.9
10	1771 Estates Way (Residential)	54.0		58.5	+1.9
11	1775 Estates Way (Residential)	54.4		58.6	+2.0
12	1777 Estates Way (Residential)	49.1		57.3	+0.7
13	1799 Estates Way (Residential)	48.3		57.2	+0.6
14	1796 Estates Way (Residential)	38.3		56.7	+0.1
15	1794 Estates Way (Residential)	41.7		56.7	+0.1
16	1779 E. 8th Street (Residential)	38.9		56.7	+0.1

Table 5-2. Non-Transportation Source Operational Noise Levels					
No.	**Location**	**Noise Attributed to the Project Predicted by SoundPLAN (dBA L_{eq})**	**Existing Noise Level on Project Site (dBA L_{eq})***	**Existing Ambient Noise + Exterior Operational Noise Levels (dBA L_{eq})**	**Change over Existing Conditions**
17	1777 E. 8th Street (Residential)	35.2		56.6	+0.0
18	1775 E. 8th Street (Residential)	38.8		56.7	+0.1
19	1773 E. 8th Street (Residential)	40.5		56.7	+0.1
20	1767 E. 8th Street (Residential)	35.2		56.6	+0.0
21	1765 E. 8th Street (Residential)	36.5		56.6	+0.0
22	1761 E. 8th Street (Residential)	33.2		56.6	+0.0
23	1697 E. 8th Street (Residential)	38.3		56.7	+0.1

Notes: dBA = A-weighted decibels; L_{eq} = Equivalent Noise Level
* Measurement collected by ECORP Consulting, Inc. on September 30, 2025. Refer to Appendix C for onsite noise modeling assumptions and results.

The noise measurement taken by ECORP in September, 2025, establishes baseline ambient noise levels during a typical school day (see Table 3-1 above). The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. For instance, when combining two separate sources where one of the noise sources is 10 dB or more greater than then other noise source, the noise contribution of the quieter source is almost completely obscured by the louder source. The attenuated noise from the proposed outdoor play areas that would likely see the highest noise levels, as students would congregate in these areas during recess and lunch, combined with the existing ambient daytime noise level would result in an imperceptible increase in noise. The highest noise level attributable to operational activity from the Proposed Project is 58.6 dBA L_{eq}. The maximum change in noise due to Proposed Project operational activities experienced at noise sensitive receptors on the Project Site is an increase of 2.0 dBA. Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference. Therefore, Proposed Project operations, as modeled by SoundPLAN, would not result in a perceptible increase for residents or visitors to the industrial land uses in the surrounding community.

5.3.3 Would the Project Expose Structures to Substantial Groundborne Vibration during Construction?

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 5-3.

Table 5-3. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Loaded Haul Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Federal Transit Administration 2018

The City does not regulate or have a numeric threshold associated with construction vibrations. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.3 inches per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. The nearest structure of concern to the construction site is a residential building north of the Project Site approximately 47 feet distant from the Proposed fourth- and fifth-grade classrooms.

Based on the representative vibration levels presented for various construction equipment types in Table 5-3 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

$$[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}]$$

Construction vibration was measured from the edge of the Project Site. Table 5-4 presents the expected Project related vibration levels at a distance of 47 feet.

Table 5-4 Construction Vibration Levels at 47 Feet

Receiver Peak Particle Velocity Levels (inches/second)[1]					Peak Vibration	Threshold	Exceed Threshold?
Large Bulldozer, Caisson Drilling, & Hoe Ram	Loaded Trucks	Jackhammer	Pile Driver	Vibratory Roller			
0.035	0.029	0.014	0.066	0.081	0.081	*0.3*	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 5-2 (Federal Transit Administration 2018). Distance to the nearest structure of concern is approximately 47 feet measured from Project Site construction.

As shown in Table 5-4, vibration as a result of onsite construction activities on the Project Site would not exceed 0.3 PPV at the nearest structure of concern. Thus, onsite Project construction would not exceed the recommended threshold.

5.3.4 Would the Project Expose Structures to Substantial Groundborne Vibration during Operations?

Project operations would not include the use of any stationary equipment that would result in excessive vibration levels. While the Project could accommodate heavy-duty trucks, these vehicles would not generate groundborne vibrations that would result in excessive vibration levels. Therefore, the Project would result in negligible groundborne vibration impacts during operations.

5.3.5 Would the Project Expose People Residing or Working on the Project Site to Excessive Airport Noise?

The Project Site is located approximately 4.32 miles southeast of the Chico Municipal Airport (CMA) and 3.35 east of the Ranchaero Airport. The CMA is used for general aviation, firefighting, air cargo operations, and maintenance. Prior to the CMA stopping commercial flight services in 2014, it was estimated to handle nearly 70,000 aircraft take-offs and landings annually (City of Chico 2011). The Ranchaero Airport is a privately owned general aviation facility and serves an estimated 5,000 annual aircraft take-offs and landings each year. The Project Site is located outside of the 50 dBA CNEL noise-level contour boundaries for both airports (City of Chico 2011). Therefore, the Proposed Project would not expose those visiting or working on the Project Site to excessive airport noise.

6.0 REFERENCES

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LIST OF APPENDICES

APPENDIX A

Baseline (Existing) Noise Measurements – Project Site and Vicinity

Location: C:\Users\swinter\OneDrive - ECORP Consulting, Inc\AGNE\Mapping\Template\Figure 1. Project Location.aprx - Portrait Template (swinter - 10/2/2025)

Map Date: 10/2/2025

Sources: Esri 2024

Baseline Noise Measurement Map

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Parkview Elementary School Reimagination Project 2025-175

8-Hour Noise Measurement Field Data Sheet	
Recorded By: Rosey Worden	**Date:** 9/30/2025
Site Number: ST 1	**Job Number:** 2025-175
Start Time: 7:00 a.m.	**End Time:** 3:00 p.m.
Location/Address: On Parkview Elementary School campus secured in a tree along the northern site boundary.	
Primary Noise Source: Activity on the school campus	
Secondary Noise Source: Vehicles on adjacent roadways.	

Equipment

Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	**Larson Davis**	**821**	**40159**	**4/17/2025**	
	Microphone	**Larson Davis**	**377B02**	**348852**	**4/28/2025**	
	Preamp	**Larson Davis**	**PRM821**	**001240**	**4/24/2025**	
	Calibrator	**Larson Davis**	**CAL200**	**21985**	**4/17/2025**	

Calibration Data

Offset Before Measurement Period	Offset After Measurement Period
Calibration Time: 3:23 p.m. (9/29/2025)	**Calibration Time:**
Calibration Offset (+-): 0.10	**Calibration Offset (+-):**

Weather Data

	Sky Conditions: Overcast			
Est.	**Avg Wind Speed (mph)**	**Max Wind Speed**	**Temperature º F**	**Humidity %**
	11	18	73	83

Noise Meter Data Outputs (dBA)

Leq	Lmin	Lmax	Ln
56.6	47.3	77.6	

Photo(s) of Measurement Location

APPENDIX B

Federal Highway Administration Roadway Construction Noise Model Outputs – Project Construction

Roadway Constructior Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025
Case Description: **Parkview Elementary School: Demolition**

Description	**Affected Land Use**
01 - Demolition	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Dozer	No	40		81.7	273	0
Dozer	No	40		81.7	273	0
Excavator	No	40		80.7	273	0
Excavator	No	40		80.7	273	0
Excavator	No	40		80.7	273	0
Concrete Saw	No	20		89.6	273	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Dozer	66.9	62.9
Dozer	66.9	62.9
Excavator	66	62
Excavator	66	62
Excavator	66	62
Concrete Saw	74.8	67.8
Total	74.8	**71.7**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025
Case Description: **Parkview Elementary School: Site Preparation**

Description	**Affected Land Use**
02 - Site Preparation	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Dozer	No	40		81.7	273	0
Dozer	No	40		81.7	273	0
Dozer	No	40		81.7	273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Dozer	66.9	62.9
Dozer	66.9	62.9
Dozer	66.9	62.9
Tractor	69.3	65.3
Tractor	69.3	65.3
Tractor	69.3	65.3
Tractor	69.3	65.3
Total	69.3	**72.9**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025
Case Description: **Parkview Elementary School: Demolition**

Description	**Affected Land Use**
03 - Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Grader	No	40	85		273	0
Excavator	No	40		80.7	273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0
Dozer	No	40		81.7	273	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	70.3	66.3
Excavator	66	62
Tractor	69.3	65.3
Tractor	69.3	65.3
Tractor	69.3	65.3
Dozer	66.9	62.9
Total	70.3	**72.5**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025

Case Description: Parkview Elementary School: Building Construction

Description
04 - Building Construction

Affected Land Use
Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Gradall	No	40		83.4	273	0
Gradall	No	40		83.4	273	0
Gradall	No	40		83.4	273	0
Generator	No	50		80.6	273	0
Crane	No	16		80.6	273	0
Welder / Torch	No	40		74	273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0
Tractor	No	40	84		273	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Gradall		68.7	64.7
Gradall		68.7	64.7
Gradall		68.7	64.7
Generator		65.9	62.9
Crane		65.8	57.8
Welder / Torch		59.3	55.3
Tractor		69.3	65.3
Tractor		69.3	65.3
Tractor		69.3	65.3
	Total	69.3	**73.4**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025
Case Description: **Parkview Elementary School: Grading**

Description	**Affected Land Use**
05 - Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Paver	No	50		77.2	273	0
Paver	No	50		77.2	273	0
Pavement Scarafier	No	20		89.5	273	0
Pavement Scarafier	No	20		89.5	273	0
Roller	No	20		80	273	0
Roller	No	20		80	273	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Paver	62.5	59.5
Paver	62.5	59.5
Pavement Scarafier	74.8	67.8
Pavement Scarafier	74.8	67.8
Roller	65.3	58.3
Roller	65.3	58.3
Total	74.8	**71.8**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/24/2025
Case Description: **Parkview Elementary School: Painting**

Description	**Affected Land Use**
06 - Painting	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Compressor (air)	No	40		77.7	273	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Compressor (air)	62.9	58.9
Total	62.9	**58.9**

*Calculated Lmax is the Loudest value.

APPENDIX C

SoundPLAN Onsite Noise Generation

SoundPLAN
Output Source Information

Number	Reciever Name	Floor	Level at Receiver (dBA)
1	1752 E. 8th Street (Residential)	Ground Floor	42.8
2	715 Earl Street (Residential)	Ground Floor	44.6
3	707 Earl Street (Residential)	Ground Floor	46.7
4	651 Earl Street (Residential)	Ground Floor	47.9
5	639 Earl Street (Residential)	Ground Floor	48.9
6	635 Earl Street (Residential)	Ground Floor	49.3
7	1707 Estates Way (Residential)	Ground Floor	48.1
8	1731 Estates Way (Residential)	Ground Floor	49.7
9	1741 Estates Way (Residential)	Ground Floor	54.1
10	1771 Estates Way (Residential)	Ground Floor	54
11	1775 Estates Way (Residential)	Ground Floor	54.4
12	1777 Estates Way (Residential)	Ground Floor	49.1
13	1799 Estates Way (Residential)	Ground Floor	48.3
14	1796 Estates Way (Residential)	Ground Floor	38.3
15	1794 Estates Way (Residential)	Ground Floor	41.7
16	1779 E. 8th Street (Residential)	Ground Floor	38.9
17	1777 E. 8th Street (Residential)	Ground Floor	35.2
18	1775 E. 8th Street (Residential)	Ground Floor	38.8
19	1773 E. 8th Street (Residential)	Ground Floor	40.5
20	1767 E. 8th Street (Residential)	Ground Floor	35.2
21	1765 E. 8th Street (Residential)	Ground Floor	36.5
22	1761 E. 8th Street (Residential)	Ground Floor	33.2
23	1697 E. 8th Street (Residential)	Ground Floor	38.3

Number	Noise Source Information	Citation	Level at Source (dBA)
1	School Recess/Lunchtime Playground Activity	SoundPLAN Library	70.0