4.7 GREENHOUSE GAS EMISSIONS

This section describes issues related to greenhouse gas (GHG) emissions in the project area and discusses applicable federal, state, and regional regulations pertaining to greenhouse gases (GHGs). This section evaluates the potential effects of GHGs associated with development of the SUD-B Northeast Quadrant Specific Plan (proposed project).

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included general recommendations from the Placer County Air Pollution Control District (PCAPCD) regarding the methodology for analysis of the proposed project's GHG impacts.

Information contained in this section is based on construction and operational features described in Chapter 3, Project Description, as well as data provided in the *Special Use District B Northeast Quadrant Specific Plan* (Frayji 2016), the *City of Lincoln 2050 General Plan* (City of Lincoln 2008), the PCAPCD *CEQA Air Quality Handbook* (PCAPCD 2012), the updated thresholds included in the PCAPCD *Review of Land Use Projects Under CEQA Policy* (PCAPCD 2016), and traffic data provided by DKS (2017). Other sources consulted are listed in Section 4.7.8, References.

4.7.1 Environmental Setting

4.7.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 4.7.1.5, Potential Effects of Human Activity on Climate Change.

4.7.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code section 38505(g) for purposes of administering many of the State's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). (See also CEQA Guidelines section 15364.5.)[1] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

[1] Climate forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code 38505.

[2] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2015), and EPA's "Glossary of Climate Change Terms" (2016).

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone (O_3)-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O_3-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants (TACs) that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

4.7.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017b). The Intergovernmental Panel on Climate

Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2E).

The current version of CalEEMod (version 2016.3.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

4.7.1.4 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2012 totaled approximately 44,816 million metric tons (MMT) CO_2E (WRI 2015). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, approximately 29,300 MMT CO_2E (WRI 2015). Table 4.7-1 presents the top GHG-emissions-producing countries.

Table 4.7-1
Six Top GHG Producer Countries and the European Community

Emitting Countries	GHG Emissions (MMT CO_2E)
China	10,975.5
United States	6,235.1
European Union	4,399.2
India	3,013.8
Russian Federation	2,322.2
Japan	1,344.6
Brazil	1,012.6
Total	**29,302.9**

Source: WRI 2015
Notes: Total may not sum due to rounding.

National and State Inventories

Per the U.S. Environmental Protection Agency's (EPA's) *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015* (EPA 2017c), total GHG emissions in the United States were approximately 6,586.7 million metric tons (MMT) CO_2E in 2015. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 82.1% of total GHG emissions (5,411.4 MMT CO_2E) for that year. The largest source of CO_2, and of overall GHG

emissions, was fossil-fuel combustion, which accounted for approximately 93.3% of CO_2 emissions in 2015 (5,049.8 MMT CO_2E). Total GHG emissions in the United States have increased by 3.5% from 1990 to 2015, and emissions increased from 2014 to 2015 by 2.3% (153.0 MMT CO_2E). Since 1990, GHG emissions have increased in the United States at an average annual rate of 0.2%; however, overall, net emissions in 2015 were 11.5% below 2005 levels (EPA 2017c).

According to California's 2000–2015 GHG emissions inventory (2017 edition), California emitted 440.36 MMT CO_2E in 2015, including emissions resulting from out-of-state electrical generation (CARB 2017a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2015 are presented in Table 4.7-2.

Table 4.7-2
GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	Percent of Total[a]
Transportation	164.63	37%
Industrial uses	91.71	21%
Electricity generation[b]	83.67	19%
Residential and commercial uses	37.92	9%
Agriculture	34.65	8%
High GWP substances	19.05	4%
Recycling and waste	8.73	2%
Total	**440.36**	**100%**

Source: CARB 2017a.
Notes: Emissions reflect the 2015 California GHG inventory.
MMT CO_2E = million metric tons of carbon dioxide equivalent per year
[a] Percentage of total has been rounded, and total may not sum due to rounding.
[b] Includes emissions associated with imported electricity, which account for 33.74 MMT CO_2E annually.

During the 2000 to 2015 period, per-capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 MT per person to 11.3 MT per person in 2015, representing a 19% decrease. In addition, total GHG emissions in 2015 were 1.5 MMT CO_2E less than 2014 emissions (CARB 2017a).

4.7.1.5 Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has

occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could take place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2010).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central, and most notably, Southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by over 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (CNRA 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs). Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO_2, renewable energy and building materials.

The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first Century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health effects that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Transportation. Residents of California rely on airports, seaports, public transportation and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to

train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

4.7.2 Relevant Plans, Policies, and Ordinances

GHG emissions are monitored through the efforts of various international, federal, state, regional, and local government agencies. The agencies work jointly and individually to reduce GHG emissions through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the City of Lincoln are discussed in the following text.

4.7.2.1 Federal

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."

- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January

12, 2017, the EPA finalized its decision to maintain the current greenhouse (GHG) emissions standards for model years 2022–2025 cars and light trucks (EPA 2017a).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

U.N. Framework Convention on Climate Change Pledge. On March 31, 2015, the State Department submitted the U.S. target to cut net GHG emissions to the United Nations Framework Convention on Climate Change (UNFCCC). The submission, referred to as an Intended Nationally Determined Contribution, is a formal statement of the U.S. target, announced in China last year, to reduce our emissions by 26%–28% below 2005 levels by 2025, and to make best efforts to reduce by 28% (C2ES 2016). The target reflects a planning process that examined opportunities under existing regulatory authorities to reduce emissions in 2025 of all GHGs from all sources in every economic sector. Several U.S. laws, as well as existing and proposed regulations thereunder, are relevant to the implementation of the U.S. target, including the Clean Air Act (42 U.S.C. 7401 et seq.), the Energy Policy Act (42 U.S.C. 13201 et seq.), and the Energy Independence and Security Act (42 U.S.C. 17001 et seq.).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and

Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

4.7.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders (EO), assembly bills (AB), senate bills (SB), and other regulations and plans that would directly or indirectly reduce GHG emissions.

State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

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

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over

implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS 17 Cal. Code Regs., Section 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their

planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent global warming potentials identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO_2e to 431 MMT CO_2E (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In January 2017, CARB released the *2017 Climate Change Scoping Plan Update* (2030 Scoping Plan) for public review and comment (CARB 2017b). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2030 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2E per capita by 2030 and no more than 2 MT CO_2E per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 MOU (Under 2 2016) and the Paris Agreement (UNFCCC 2016), which are developed around the scientifically based levels necessary to limit global warming below two degrees Celsius. The 2030 Scoping Plan recognized the benefits of local government GHG planning (e.g., through climate action plans (CAPs)) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project level review where there is a legally adequate CAP.[3]

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB32 and the EOs and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it meets the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent, if it will further the objectives and not obstruct their attainment.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, Code of Federal Regulations (CFR), Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009, July 12, 2010, September 22, 2010, October 28, 2010, November 30, 2010, December 17, 2010, and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO_2E per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2E per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least

[3] *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City & County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. V. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2E. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

CARB's Short-Lived Climate Pollutant Reduction Strategy — SB 605 and SB 1383. SB 605 (September 2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state no later than January 1, 2016. As defined in the statute, short-lived climate pollutant means "an agent that has a relatively short lifetime in the atmosphere, from a few days to a few decades, and a warming influence on the climate that is more potent than that of carbon dioxide" (SB 605). SB 605, however, did not prescribe specific compounds as short-lived climate pollutants or add to the list of GHGs regulated under AB 32. In developing the strategy, CARB must complete an inventory of sources and emissions of short-lived climate pollutants in the state based on available data, identify research needs to address any data gaps, identify existing and potential new control measures to reduce emissions, and prioritize the development of new measures for short-lived climate pollutants that offer co-benefits by improving water quality or reducing other criteria air pollutants that impact community health and benefit disadvantaged communities. CARB released the *Proposed Short-Lived Climate Pollution Reduction Strategy* (SLCP Strategy) in April 2016 for public review and comment. The SLCP Strategy focused on CH_4, black carbon, and fluorinated gases, particularly HFCs, as important short-lived climate pollutants.

Governor Brown signed SB 1383 (Lara) in September 2016. This bill requires CARB to approve and implement a strategy to decrease emissions of short-lived climate pollutants to achieve a reduction in CH_4 by 40%, HFCs by 40%, and anthropogenic black carbon by 50% below 2013 levels by 2030. In response to SB 1383, CARB revised the SLCP Strategy and adopted the *Final Short-Lived Climate Pollutant Reduction Strategy* in March 2017 (CARB 2017c).

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve

outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24 standards are the 2016 Title 24 building energy efficiency standards, which became effective January 1, 2017. The updated standards will further reduce energy used and associated GHG emissions compared to previous standards, such as the 2013 Title 24 standards. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations

- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 80% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) performance for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030.[4]

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Senate Bill 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance

[4] See, e.g., CPUC, California's Zero Net Energy Policies and Initiatives, Sept. 18, 2013, accessed at http://annualmeeting.naseo.org/Data/Sites/2/presentations/Fogel-Getting-to-ZNE-CA-Experience.pdf. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368. SB 1368 (September 2006), required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), was directed to lead this effort.

EO S-21-09 and SBX1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and was

applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals listed above.

SB 350. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

Mobile Sources

AB 1493. AB 1493 (Pavley) (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Heavy Duty Diesel. CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014 to reduce particulate matter (PM) (including black carbon) and oxides of nitrogen (NO_x) emissions from heavy-duty diesel vehicles. The rule requires PM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a MPO is unable to devise an SCS to achieve the GHG reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), a SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

CARB set SB 375 GHG reduction targets for the Sacramento region at 7% below 2005 per capita emissions by 2020 and 16% below 2005 per capita emissions by 2035. In February 2016, the Sacramento Area Council of Governments (SACOG), the designated MPO for the Sacramento region, adopted the *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy* (2016 MTP/SCS) (SACOG 2016). The 2016 MTP/SCS demonstrates that, if implemented, the region will

achieve an 8% per capita GHG reduction in passenger vehicle emissions in 2020 and a 16% reduction in 2035. These reductions meet the GHG targets for SACOG as discussed above.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emissions vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide concern. The bill required electric vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric vehicle charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 (Chesbro)) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness (CalRecycle 2015).

Other State Actions

Senate Bill 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further

recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider 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)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a Lead Agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing 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; and (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)).

EO S-13-08. EO S-13-08 (November 2008) was intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. It directed state agencies to take specified actions to assess and plan for such impacts. It directed the CNRA, in cooperation with the California Department of Water Resources, CEC, California's coastal management agencies, and the Ocean Protection Council, to request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies, were required to conduct a public workshop to gather information relevant to the Sea Level Rise

Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of issuance of the EO the vulnerability of the state's transportation systems to sea-level rise. The Governor's Office of Planning and Research and the CNRA are required to provide land use planning guidance related to sea-level rise and other climate change impacts. The EO also required the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009b). An update to the 2009 report, *Safeguarding California: Reducing Climate Risk*, was issued in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarized key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and Water.

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals, which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than two degrees Celsius by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reaching a per capita annual emissions goal of less than 2 metric tons by 2050. A total of 135 jurisdictions representing 32 countries and 6 continents, including California, have signed or endorsed the Under 2 MOU (Under 2 2016).

4.7.2.3 Local

Placer County Air Pollution Control District

At the time the NOP was released, April 1, 2015, PCAPCD was recommending a GHG threshold of significance developed in collaboration with the Sacramento Metropolitan Air Quality Management District, the Yolo Solano Air Quality Management District, and the Feather River Air Quality Management District (City of Lincoln 2017). The threshold is a two-tiered approach for assessing a project's operational emissions. The first tier consists of comparing a project's annual operational emissions to PCAPCD's recommended mass emission threshold. This

threshold gives lead agencies the ability to conclude that smaller developments would not necessarily make a considerable contribution to the cumulative impact of climate change. The second tier consists of evaluating a project's consistency with California's GHG reduction targets. PCAPCD's recommended methodology for assessing a project's consistency with GHG targets established in AB 32 is the use of GHG efficiency metrics to assess the GHG efficiency of a project on a "service population (SP)" basis (the sum of the number of jobs and the number of residents supported by a project). This metric represents the GHG efficiency needed at the project level to achieve the statewide reduction targets of AB 32.

Placer County

The County has not established GHG reduction goals or policies.

City of Lincoln General Plan

The following goals and policies from the *City of Lincoln 2050 General Plan* are relevant to climate change.

Goal LU-15 To organize new development areas to create vibrant, mixed-use villages characterized by a mix of land uses, pedestrian and transit accessibility, and neighborhood identity.

Policy LU-15.9 Alternative Fuels Vehicle Parking. The City shall prioritized parking within commercial and retail areas for electric vehicles, hybrid vehicles, and alternative fuel vehicles as well as provide electric charging stations.

Goal OSC-3 To encourage energy conservation in new and existing developments throughout the City.

Policy OSC-3.1 Energy Conservation Measures. The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law. New features that may be applied to construction and renovation include:

- Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting / power sources; design orientation; building techniques; etc.).
- Cool roofs.

Policy OSC-3.2 Landscape Improvements for Energy Conservation. The City shall encourage the planting of shade trees along all City streets to reduce radiation heating.

Policy OSC-3.7 Passive and Active Solar Devices. The City shall encourage the use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings.

Policy OSC-3.8 Solar Orientation and Building Design. The City shall encourage work that building and site design take into account the solar orientation of buildings during design and construction.

Policy OSC-3.9 Shade Tree Planting. The City will encourage the planting of shade trees within residential lots to reduce radiation heating and encourage the reduction of greenhouse gases.

Policy OSC-3.10 Shade Tree Parking Lot Requirements. The City will require commercial and retail parking lots will have 50% tree shading within 15 years to reduce radiation and encourage the reduction of greenhouse gases.

Policy OSC-3.11 Energy Efficient Buildings. The City will encourage the development of energy-efficient buildings and communities.

Policy OSC-3.12 Solar Photovoltaic Systems. The City will promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings.

Policy OSC-3.13 Energy Efficient Master Planning. The City will encourage the incorporation of energy-efficient site design such as proper orientation to benefit from passive solar heating and cooling into master planning efforts when feasible.

Policy OSC-3.14 Early Planning for Energy Efficiency. The City will include energy planners and energy efficiency specialists in appropriate pre-application discussions with property owners and developers to identify the potential for solar orientation and energy efficient systems, building practices and materials.

Policy OSC-3.15 California Title 24 Energy Efficiency Standards. The City will explore offering incentives such as density bonus, expedited process, fee reduction/waiver to property owners and developers who exceed California Title 24 energy efficiency standards.

Goal HS-3 To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.

Policy HS-3.4 Transportation Demand Management. The City shall encourage public and private businesses to implement employee use of rideshare programs, public

transportation, NEV's, and/or alternatives to motorized transportation such as bicycling or walking to work.

Policy HS-3.5 Development Requirements. The City shall require developments, where feasible, to be located, designed, and constructed in a manner that would minimize the production of air pollutants and avoid land use conflicts.

Policy HS-3.7 Transportation Management Program. The City shall require as a condition of approval for industrial, commercial, and office projects a Transportation Management Program that is consistent with the City's circulation policies of the General Plan.

Policy HS-3.10 Travel Demand Measures. Coordinating with the PCAPCD, the City shall require large development projects to mitigate air quality impacts. As feasible, mitigations may include, but are not limited to the following:

- Providing bicycle access and bicycle parking facilities,
- Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles (including neighborhood electric vehicles or NEVs), and
- Establishing telecommuting programs or satellite work centers.

Policy HS-3.12 Employment-Intensive Development. The City shall encourage employment-intensive development with a high floor area ratio where adequate community transit services are planned, and discourage such development where adequate community transit service is not planned.

Policy HS-3.13 Location of Support Services. The City shall support the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) at major employment centers for the purpose of reducing midday vehicle trips.

Policy HS-3.14 Parking Control. The City shall provide disincentives for single-occupant vehicle trips through parking supply and pricing controls in areas where supply is limited and alternative transportation modes are available.

Policy HS-3.15 Infill Near Employment. The City shall identify and adopt incentives for planning and implementing infill development projects within urbanized areas near job centers and transportation nodes.

Policy HS-3.17 Street Design. The City shall promote street design that provides an environment which encourages neighborhood electric vehicles, transit use, biking and walking.

Policy HS-3.18 Design for Transportation Alternatives. The City shall encourage all new development to be designed to promote pedestrian and bicycle access and circulation (including the use of NEVs), to the greatest extent feasible.

Policy HS-3.19 Working with Employers. The City shall encourage employers to provide transit subsidies, bicycle facilities, and alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

Policy HS-3.20 Transportation Management Associations. The City shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations.

Sacramento Area Council of Governments Sustainable Communities Strategy

In February 2016, SACOG, adopted the 2016 MTP/SCS, which is a long-range plan for transportation projects within the planning area and focuses on cost-effective operational improvements to preserve the existing and expanded regional transportation system through 2035 (SACOG 2016). The 2016 update to the MTP/SCS focused on refinement of and addressing implementation challenges to the previous (2012) plan. The SACOG Board of Directors has adopted five guiding policy themes, including land use forecast, transportation funding, investment strategy, investment timing, and plan effects which provide direction for the plan update.

4.7.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to greenhouse gases/climate change are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gas emissions would occur if the project would:

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

OPR's Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even

in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document states that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

The City of Lincoln has not established a GHG significance threshold to date. Pursuant to section 15064.4(a) of the CEQA Guidelines, GHG emissions for the proposed project are evaluated based on cumulatively considerable impact to GHG where there is substantial evidence that this project is making a fair share contribution to reducing GHG emissions in a manner that assists in making substantial progress toward meeting 2020 and post-2020 GHG emissions targets.

Consistent with PCAPCD recommendations at the time the NOP was released, a two tiered approach is used. The first tier is a screening level threshold of 1,100 MT CO_2E. Projects below this level are assumed to not have a significant effect on the environment. Projects which exceed this level are analyzed on the basis of an efficiency metric expressed as MT CO_2E/SP/year.

As described in Section 4.7.2, AB 32 established the goal that GHG emissions should be reduced to 1990 levels by 2020. EO B-30-15 was subsequently issued to establish an interim goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on the path towards meeting the 2050 goal. In furtherance of the 2030 goal, the legislature enacted SB 32 in 2016 requiring the state to reduce its emissions 40% below the 1990 level by 2030. The proposed project is anticipated to be built out and fully operational by 2025. Therefore, the analysis conservatively assumes an efficiency threshold of 4.9 MT CO_2E/SP/year which is based on CARB's 1990 emissions inventory, including emission sources from land-use related sectors divided by the state's projected population in 2020. Accordingly, if the proposed project generates fewer than 4.9 MT CO_2E/SP/year in its first year of operations, it would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

4.7.4 Impacts Analysis

4.7.4.1 Methods of Analysis

GHG emissions associated with construction and operation of the proposed project were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1. The construction model inputs are described in more detail in Chapter 4.3 (Air Quality) of this EIR. In summary, the proposed project was assumed to be constructed from 2018 through 2024. In regards to operations, CalEEMod was also used to estimate emissions resulting from buildout of the proposed land uses. The first full year after buildout of the proposed project was assumed to be 2025. The operational analysis

adjusted CalEEMod default trips to match trips provided by DKS for this EIR. The proposed project scenario includes the default 2025 on-road emission factors, updated the PG&E CO_2 intensity factor to meet the 33% renewable portfolio standard by 2020, and revised energy and natural gas use factors per the 2016 Title 24 standards which require a reduction for new residential and nonresidential uses of 28% and 5% over the 2013 standards, respectively (CEC 2015). Additional information and model results for each of the analyses described above are presented in Appendix B.

4.7.4.2 Analysis

Impact 4.7-1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Proposed project GHG emissions associated with temporary construction activity have been quantified using CalEEMod. On-site sources of GHG emissions include off-road equipment, and off-site sources include hauling and vendor trucks and worker vehicles. Emissions from on-site and off-site sources are combined for the purposes of this analysis; a breakdown of emissions by source is provided in Appendix B. Table 4.7-3 presents construction emissions for the proposed project in 2018 through 2024 from on-site and off-site emission sources.

Table 4.7-3
Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2E
	metric tons per year			
2018	2,250.08	0.27	0.00	2,256.87
2019	3,458.44	0.28	0.00	3,465.02
2020	1,609.31	0.12	0.00	1,612.37
2021	848.79	0.12	0.00	891.79
2022	1,625.14	0.12	0.00	1,628.09
2023	1,196.05	0.16	0.00	1,199.98
2024	1,016.14	0.15	0.00	1,019.73
Total	**12,003.95**	**1.22**	**0.00**	**12,073.85**

Notes: See Appendix B for detailed results.
MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

As shown above in Table 4.7-3, estimated annualized project-generated construction emissions would be approximately 402 MT CO_2E over a 30-year project life. However, since there is no established GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis below.

Operations

Operation of the proposed project would result in GHG emissions from vehicular traffic, area sources (e.g., natural gas combustion and landscaping), electrical generation, water supply, and solid waste as described below.

Vehicular Traffic

As provided in the traffic impact analysis completed for the proposed project (DKS 2017), the proposed project is estimated to generate 31,694 daily trips. Emissions associated with project-generated daily traffic were modeled with CalEEMod using weekday trip-generation rates provided in the traffic impact analysis. Because the proposed project includes mixed uses including residential and commercial uses, the traffic analysis calculated that the proposed project would include 4,279 internal trips. To account for internal trips within the CalEEMod model it was assumed that internal trips would be credited to the big box and commercial components of the proposed project. Using the CalEEMod default trip distance of 6.6 miles for commercial-customer (C-C) trips and an approximate internal trip length of 1.3 miles, which was estimated as the furthest point within the proposed project which residents could travel to reach the commercial uses, the CalEEMod input for C-C trip lengths were reduced based on the weighted average for big box and commercial to 5.67 miles and 5.36 miles, respectively. CalEEMod default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances (other than for C-C trip lengths) were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2025 (the first full year of operation) were used to estimate emissions associated with full buildout of the proposed project.

Electrical Generation

The estimation of operational energy emissions was based on CalEEMod land use defaults and total area (i.e., square footage) of the proposed project. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for PG&E as a conservative estimate and adjusted to account for 33% renewable portfolio standard by 2020. As previously discussed, RPS requires energy providers to derive 33% of their electricity from qualified renewable sources by 2020. The proposed project would also be required to comply with the 2016 Title 24 standards. Default values for Title 24 electricity and natural gas intensities were adjusted based on the 2016 standards. Nonresidential and residential buildings constructed in accordance with the 2016 standards would use 5% and 28% less energy, respectively, for lighting, heating, cooling, ventilation, and water heating than the 2013 standards (CEC 2015).

Area Sources

CalEEMod was used to estimate GHG emissions from the project site area sources, which include gasoline-powered landscape maintenance equipment.

Solid Waste

The proposed project would generate solid waste, and therefore result in CO_2E emissions associated with landfill off-gassing. Solid waste generation was derived from the CalEEMod default rates for the proposed land uses and emission estimates associated with solid waste were estimated using CalEEMod. The CalEEMod modeling assumes that the proposed project would meet the Placer County's goal of 50% reduction of waste disposed.

Water Supply and Wastewater

Water supplied to the proposed project requires the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. A 20% reduction in water consumption was incorporated into the CalEEMod model to account for compliance with CALGreen standards.

Table 4.7-4 shows the operational GHG emissions associated with the proposed project.

Table 4.7-4
Operation GHG Emissions Associated with the Proposed Project

Emission Source	CO_2	CH_4	N_2O	CO_2E
	metric tons per year			
Area	244.37	0.01	0.00	245.92
Energy	5,039.00	0.23	0.07	5,065.71
Mobile	23,287.67	0.86	0.00	23,309.06
Solid Waste	104.95	6.20	0.00	260.02
Water and Wastewater	242.18	4.02	0.10	371.47
Amortized Construction Emissions	—	—	—	402.46
Total	**28,918.17**	**11.32**	**0.17**	**29,654.64**
Project Service Population	**—**	**—**	**—**	**3,336**
Service Person/Per Capita GHG Efficiency	**—**	**—**	**—**	8.9
GHG Efficiency Target	—	—	—	*4.9*
Threshold Exceeded?	—	—	—	**Yes**

Source: See Appendix B for detailed results.
Notes: Project emissions include compliance with 2016 Title 24 standards, meeting 33% RPS, meeting the statewide water conservation strategy of 20% (the proposed project would incorporate water efficient landscaping and low-flow water fixtures to help meet the statewide goal), and meeting the Countywide 50% solid waste diversion rate. Project features taken account into the modeling includes improved pedestrian network, providing traffic calming measures, and development of a NEV network.
CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

As shown in Table 4.7-4, the proposed project would result in 29,655 MT CO_2E per year at full buildout including amortized construction emissions. This amount exceeds the 1,100 MT CO_2E first tier threshold. Therefore, the second tier efficiency metric is used to determine the significance of project GHG emissions. The proposed project would have an estimated 1,122 new residents[5] and approximately 2,214 new employees[6] resulting in GHG emissions of approximately 8.9 MT CO_2E/SP/year. The proposed project's estimated GHG emissions would exceed the efficiency significance threshold of 4.9 MT CO_2E/SP/year; therefore, GHG emissions would be considered in a **potentially significant impact**.

Impact 4.7-2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

There are currently no adopted local or regional GHG reduction plans applicable to the proposed project. However, the proposed project would meet goals within the City of Lincoln General Plan. As provided in the *SUD-B Northeast Quadrant Specific Plan*, the proposed project is mixed-use development incorporating residential, office, and retail uses. The proposed project would promote walkability and alternative methods of transportation and would provide people with housing, employment opportunities, retail services, and recreation opportunities within one community. This would help reduce the amount of GHG emissions resulting from the proposed project. Table 4.7-5 discusses how the proposed project would meet with the City's general plan policies.

Table 4.7-5
Compliance with City of Lincoln General Plan

General Plan Policy	General Plan Policy Description	Project/Community Consistency Analysis
Policy LU-1.6	The City will promote the application of land use layouts and community designs that provide residents with transportation choices to walk, ride bicycles, ride transit services, as well as utilize a vehicle, including neighborhood electric vehicles.	The circulation plan for SUD-B Northeast Quadrant (NEQ) provides a comprehensive network of streets, trails, bikeways and neighborhood electric vehicle (NEV) routes. The circulation system not only facilitates efficient automobile travel, but also encourages walking, bicycling and the use of NEVs.
Policy LU-1.11	To promote a high quality of life within the community, the City will in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.	The proposed project designates 22.6 acres as Open Space and 4.0 acres of Parks and Recreation areas that provide for passive outdoor enjoyment.

[5] The proposed project's GHG per service population emissions conservatively assumes use of the lower density of 2.61 persons per household is from the U.S. Census Bureau (2015), compared to the higher estimate of 3.6 persons per household is from the City of Lincoln Municipal Code for calculating park and recreation service populations (City of Lincoln 2008).

[6] The Urban Decay Analysis estimated that the proposed project would result in approximately 2,214 new employees (ALH Urban & Regional Economics 2015).

Table 4.7-5
Compliance with City of Lincoln General Plan

General Plan Policy	General Plan Policy Description	Project/Community Consistency Analysis
Policy LU-11.3	The City shall require that all outdoor light fixtures, including street lighting, externally illuminated signs, advertising displays, and billboards, use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level). Up-lighting of architectural features or landscaping can be allowed in compliance with the California Title 24 Energy Standards (as amended) and based on City design review. Additionally, the City shall continue to improve and maintain proper lighting in park facilities and fields without undue nuisance light and glare spillage on adjoining residential areas. Where public safety would not be compromised, the City shall encourage the use of low intensity lighting for all outdoor light fixtures.	The General Development Plan provides lighting guidelines that minimize glare, obtrusive light and artificial sky glow in outdoor lighting, encourage energy-saving lighting fixtures and maintain public safety.
Policy LU-14.4	The City shall design local streets to not only accommodate traffic, but also to serve as comfortable pedestrian environments. These should include, but not be limited to: • Street tree planting between the street and sidewalk to provide a buffer between the pedestrian and the automobile. • Minimum curb cuts along streets. • Sidewalks on both sides of streets, with the sidewalk separate from the curbface with a landscape strip, where feasible. • Traffic calming devices such as • roundabouts, bulb-outs at intersections, traffic tables, etc. • Encourage the establishment of a tree canopy over residential streets and neighborhoods. A street tree program shall be included with all specific plans.	Streetscape in the Specific Plan area is designed to enhance pedestrian comfort and safety. The collector streets in the Specific Plan area will have a parkway planting area between the street and sidewalk, as well as sidewalks on both sides of the street. The use of roundabouts is encouraged at the terminus of the proposed Gateway Park Drive and Flyway Blvd. For traffic calming and visual enhancement purposes. Shade trees will be provided along the streets, and a plant palette with the recommended plant materials for streets and different land uses is included in the General Development Plan.
Policy T-4.8	Through the implementation of the NEV Plan, the City shall support the use of Neighborhood Electrical Vehicle.	The proposed project will provide on-street striped NEV routes that allow for combined NEV/bicycle use along Nelson Lane. Additionally, NEVs are permitted to travel along streets with a posted speed limit of 35 miles per hour or less within SUD-B NEQ.

Table 4.7-5
Compliance with City of Lincoln General Plan

General Plan Policy	General Plan Policy Description	Project/Community Consistency Analysis
Policy T-5.1	The City shall require bike lanes in the design and construction of major new street and highway improvements, and to establish bike lanes on those city streets wide enough to accommodate bicycles safely.	The proposed project will provide off-street bike paths and on-street bike lanes along select arterial and collector streets in SUD-B NEQ.
Policy T-5.6	The City shall promote pedestrian convenience and safety through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers. Where feasible, trails will be looped and interconnected.	The sidewalks and trails in the proposed project area provide convenient and safe connections between the residential areas, commercial areas, and recreation and open space areas.
Policy T-5.7	The City shall encourage the development of trails and pathways along the edges of creeks and wetland areas. Where feasible, trails will be looped and interconnected.	The proposed project will provide trails along Markham Ravine, Auburn Ravine and within natural open space areas (subject to agency approval) that link to the surrounding residential and commercial development, thereby encouraging public access to the natural features located in SUD-B NEQ.
Policy T-5.9	The City shall encourage specific plans and development plans to include design of pedestrian access that enables residents to walk from their homes to places of work, recreation and shopping.	The sidewalks and trails in the Specific Plan area provide convenient and safe pedestrian connections between the residential areas, commercial areas, recreation and open space areas.
Policy T-5.10	The City shall review site plans to determine if residential, commercial and office land uses are designed for pedestrian access. Future developments shall contain an internal system of trails that link schools, shopping centers, and other public facilities with residences in order to provide pedestrians with sufficient internal access.	All land uses in the proposed project area have been designed to maximize pedestrian access. The proposed sidewalks and trails provide convenient and safe pedestrian connections between the residential areas, commercial areas, recreation and open space areas.
Policy PFS-2.17	The City shall require new development to use the best available technologies (BAT) for water conservation, including, but not limited to water conserving water closets, showerheads, faucets, and water conserving irrigation systems.	The proposed project promotes sustainable building and design strategies to help conserve water, such as incorporating water-conserving irrigation systems, low flush toilets, low water use showerheads, and other conservation measures as feasible.
Policy PFS-3.2	The City shall minimize wastewater flows through water conservation efforts.	Same as analysis for Policy PFS-2.17 above.
Policy PFS-5.2	The City shall promote maximum use of solid waste reduction, recycling, and composting of wastes for a reduction in residential, commercial, and industrial waste disposal.	The General Development Plan provides materials efficiency techniques to encourage recycling and solid waste reduction.
Policy PFS-5.3	The City shall encourage the recycling of construction debris.	The General Development Plan encourages the establishment of a construction waste program.

Table 4.7-5
Compliance with City of Lincoln General Plan

General Plan Policy	General Plan Policy Description	Project/Community Consistency Analysis
Policy OSC-3.1	The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law.	The proposed project is required to meet Title 24, Part 6 of California Energy Code. The General Development Plan also provides sustainable design guidelines that encourage energy-efficient site planning and building design.
Policy OSC-3.9	The City will encourage the planting of shade trees within residential lots to reduce radiation and encourage the reduction of GHGs.	Planting of shade trees is encouraged on residential lots within the proposed project area. A recommended plant palette for SUD-B NEQ is included in the General Development Plan.
Policy OSC-3.10	The City will require commercial and retail parking lots will have 50% tree shading within 15 years to reduce radiation and encourage the reduction of GHGs.	The proposed project will comply with the applicable City requirements on parking lot landscaping, except as otherwise provided for in the Specific Plan, General Development Plan and except as required per the Placer County Airport Land Use Compatibility Plan.
Policy OSC-3.11	The City will encourage the development of energy efficient buildings and communities.	The proposed project is required to meet Title 24, Part 6 of California Energy Code. The General Development Plan also provides sustainable design guidelines that encourage energy-efficient site planning and building design.
Policy HS-3.17	The City shall promote street design that provides an environment which encourages neighborhood electric vehicles, transit use, biking and walking.	The proposed project will provide for pedestrian friendly street design that encourages walking, biking and the use of NEVs to reduce automobile trips.
Policy HS-3.18	The City shall encourage all new development to be designed to promote pedestrian and bicycle access and circulation (including the use of NEVs), to the greatest extent feasible.	The proposed project will provide streets and trails that have been designed to encourage walking, biking and the use of NEVs.

Source: Frayji 2016.

As seen above, the proposed project would meet City of Lincoln policies, including promoting alternative methods of transportation (i.e., use of bicycles, NEVs, and pedestrian walkways), meeting the City's energy efficiency standards, reducing water consumption, and other green building measures.

The SACOG MTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Sacramento region. The MTP/SCS incorporates population growth and local land use forecasts and contains regional transportation system improvements including the following: active transportation (non-motorized transportation—biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance. The MTP/SCS is not

directly applicable to the proposed project because the underlying purpose of the MTP/SCS is to provide direction and guidance by making the best transportation and land use choices for future development, though the proposed project would support the goals and policies of the MTP/SCS. As discussed in Section 4.3, the proposed project would not introduce substantial population and employment growth that is not accounted for under the City's General Plan or MTP/SCS because in developing projections for the region, SACOG grouped SUD-B and plan area Village 5 growth projections together. SUD-B/Village 5 is projected to develop approximately 2,000 new homes and 285 new employees by 2036, with a buildout capacity of 8,318 housing units and 11,402 employees, which is consistent with the proposed project (419 single-family low density detached dwelling units, 971,000 sf commercial, and a 100-room hotel). Therefore, the proposed project would be consistent with the regional growth forecasts in the MTP/SCS.

CARB has addressed the progress with regard to both the 2030 and 2050 goals. It states in the First Update to the Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update states the following:

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions (CARB 2014).

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, EO B-30-15, and EO S-3-05. This is confirmed in the 2030 Scoping Plan, which states:

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197 (CARB 2017).

Regarding consistency with SB 32 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and EO S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for that future year analysis. PCAPCD recommends the use of GHG efficiency metrics in order to assess if large scale projects could meet the state's GHG reduction goals. As provided in Table 4.7-3, project-generated operational GHG emissions would exceed the efficiency threshold of 4.9 MT CO_2E per year.

The proposed project is consistent with the MTP/SCS. However, the project exceed the PCAPCD threshold that is designed to identify projects that may not be consistent with the state's GHG reduction goals in 2030 and 2050. Therefore, the proposed project would potentially conflict with the state's trajectory toward future GHG reductions and would have a **potentially significant impact**.

4.7.5 Mitigation Measures

Mitigation Measure MM-GHG-1 is provided to reduce GHG emissions to the extent feasible. These measures are consistent with recommendations by PCAPCD and CAPCOA, and with the measures identified in the Village 5 Specific Plan EIR.

MM-GHG-1 Greenhouse Gas Emissions Reduction Measures. The following GHG emission reduction measures shall be implemented:

All residential buildings shall:

- Meet or exceed CALGreen Tier 2 requirements in place at the time of Building Permit issuance.
- Be pre-plumbed and structurally engineered for the future installation of a complete solar energy system.
- Include a tankless water heating system, a whole house ceiling fan, and "Energy Star" appliances (stoves, dishwashers, and any other appliances typically included within the initial installation by the builder).
- Include an energy efficient air conditioning unit(s) that exceeds the SEER ratio by a minimum of two points at the time of building permit issuance.
- Include programmable thermostat timers.
- Include exterior outlets on all single-family and multi-family buildings to allow the use of electrically-powered landscape equipment.
- Include wiring for at least one electric car charging station.

- Prior to the issuance of a Building Permit, the floor plans and/or exterior elevations submitted in conjunction with the Building Permit application for each residence within the approved subdivision shall show that each residence shall only utilize low flow water fixtures such as low flow toilets, faucets, showers, etc.
- Prior to approval of Improvement Plans the applicant shall only show energy efficient lighting for all street, parking, and area lighting associated with the project, including all on-site and off-site lighting.

All non-residential buildings shall:

- Be pre-plumbed and structurally engineered for the future installation of a complete solar energy system.
- Install photovoltaic rooftop energy systems on all community buildings and any commercial buildings over 100,000 square feet.
- Use "Energy Star" rated (or greater) roofing materials.
- Use both indoor and outdoor energy efficient lighting that meets or exceeds Title 24 requirements.
- Prior to the issuance of a Building Permit, the floor plans and/or exterior elevations submitted in conjunction with the Building Permit application shall show that the proposed project includes a complete solar water heating system.
- Include an energy efficient heating system and an air conditioning system that exceeds the SEER ratio by a minimum of two points at the time of building permit issuance.
- Only use low flow water fixtures such as low flow toilets, faucets, showers, etc.
- Only use programmable thermostat timers.
- Include enough bike parking facilities to meet peak demand. This will include:
    - Providing secure bicycle racks and/or storage within 200 yards of a building entrance for five percent or more of all Full Time Equivalent (FTE) staff (measured at peak periods) and provide showers and changing facilities in the building, or within 200 yards of a primary staff building entrance, for 0.5% of FTE staff (measured at peak periods), or

  - Provide secure bike racks and/or storage within 200 yards of a public building entrance according to the following guidelines based on project square footage:
    - Up to 5,000 square feet, two or more bicycle racks,
    - 5,001 – 20,000 square feet, three or more bicycle racks,
    - 20,001 – 50,000 square feet, six or more bicycle racks,
    - More than 50,000 square feet, ten or more bicycle racks.
- Prior to approval of Improvement Plans, the applicant shall only show energy efficient lighting for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting.
- Install two 110/208 volt power outlets for every two loading docks.
- Provide preferential parking for carpool, shared, electric, and hydrogen vehicles.
- Include pedestrian-friendly paths and cross walks in all parking lots.
- Pave all parking lots with reflective coatings (albedo = 0.30 or better). This measure is considered feasible if the additional cost is less than 10% of the cost of applying a standard asphalt product.
- Maximize the amount of drought tolerant landscaping by minimizing the amount of turf in all areas where this option is feasible.
- Ensure recycling of construction debris and waste through administration by an on-site recycling coordinator and presence of recycling/separation areas.

4.7.6 Level of Significance after Mitigation

Implementation of MM-GHG-1 would reduce GHG emissions associated with project operations. The emission reductions associated with measures listed in MM-GHG-1 have been quantified in CalEEMod to the extent feasible. Implementation of mitigation measure MM-GHG-1 would reduce GHG emissions associated with project operations. However, approximately 80% of the proposed project's annual GHG emissions are from mobile sources. Consequently, to reduce GHG emissions to a less than significant level, the proposed project would need to reduce mobile GHG emissions by approximately 83% to reduce the amount of GHG emissions generated by the proposed project below the PCAPCD threshold.

In regards to the proposed project conflicting with GHG reduction goals set forth by the State, since the specific path to compliance for future long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional

mitigation measures for the proposed project which could further reduce operational GHG emissions would be speculative and cannot be identified at this time.

Based on the preceding considerations, because the proposed project would result in emissions of 8.9 MT CO_2E/SP/year which is more than the efficiency threshold of 4.9 MT CO_2E after implementation of mitigation measure MM-GHG-1, the proposed project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The proposed project's GHG contribution would be cumulatively considerable and is **significant and unavoidable**.

4.7.7 Cumulative Analysis

The cumulative nature of climate change and the proposed program's potential to contribute to climate change impacts associated with program-generated GHG emissions are evaluated in Section 4.7.4. As explained in Section 4.7.4, GHG impacts are recognized exclusively as cumulative impacts, and there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). The supporting documentation for the 2010 CEQA amendments indicates that the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a), and an environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b). To reduce cumulative GHG emissions, various statewide regulatory measures focusing on different GHG emission sources have been implemented that will ultimately reduce GHG emissions associated with the program and other future new development projects. Examples include the Low Carbon Fuel Standard, which set GHG standards for passenger vehicles, and the cap-and-trade program. Regional measures have been adopted by various agencies (e.g., cities, counties, MPOs) throughout the state to support and enhance the effectiveness of the statewide efforts. Although many of the statewide and regional plans, policies, and regulations would not be specifically applicable to reductions in GHG emissions from the program and would vary in applicability to off-site (non-program-related) cumulative projects, to the extent required by law, the proposed project and other cumulative projects would be required to comply with applicable existing regulations and future regulations adopted in furtherance of statewide and/or regional goals.

To evaluate whether the proposed project would generate GHG emissions that are cumulatively considerable, project-generated GHG emissions for both construction and operation were compared with the efficiency threshold of 4.9 MT CO_2E. As discussed in Section 4.7.4, the proposed project was estimated to generate emissions of approximately 8.9 MT CO_2E/SP/year which exceeds the efficiency threshold of 4.9 MT CO_2E/SP/year used to determine the potential significance of project-generated operational GHG emissions. Because the estimated GHG emissions during

operations would exceed the respective thresholds, the proposed project would result in cumulatively considerable GHG emissions and therefore a **significant and unavoidable** impact.

4.7.8 References

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4.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes the potential adverse effects on human health and the environment due to exposure to hazards that could result from implementation of the SUD-B NE Specific Plan Project (proposed project). Hazards evaluated include those associated with hazardous materials including potential exposure to hazardous materials used, generated, stored, or transported in or adjacent to the project site; and existing identified or suspected soil and/or groundwater contamination. Impacts related to airport safety, wildland fires and emergency access and response plans are also evaluated. Included in the discussion is a summary of applicable hazardous materials laws, regulations, and agencies responsible for their implementation.

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included concerns regarding impacts on the safety of people near aircraft operations due to proximity of the project site to the Lincoln Regional Airport and comments from the Central Valley Regional Water Quality Control Board stating general requirements for protection of quality of state surface and ground waters.

Information contained in this section is based on the Phase I Environmental Site Assessment (ESA) for the Gill Property Site Development (Assessor's Parcel Number 021-262-001) conducted by Matriscope Engineering Laboratories, Inc. in March 2015, the ESA for the Peery-Arrillaga Property conducted by Farshad T. Vakili, P.E., R.E.A., in August 2013, and the Placer County Airport Land Use Compatibility Plan (ALUCP). The City of Lincoln 2050 General Plan (2050 General Plan) and project-specific construction and operation information were also used in this discussion and analysis. Other sources consulted are listed in Section 4.8.8, References.

4.8.1 Existing Conditions

The presence of hazardous materials or other safety hazards is a part of everyday life that could affect residents, workers, and visitors within and adjacent to the proposed project. Some of the activities can pose a risk of exposure to people or the environment due to accidental releases, such as spills, or as a result of soil or groundwater contamination related to past uses. Transportation of hazardous materials through or near the project site could also pose hazards.

As defined in the California Health and Safety Code Section 25501, "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety, or to the environment, if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons, or harmful to the environment if released into the workplace or the environment.

4.8.1.1 Project Site

Historical and Current Uses

The proposed project is located immediately west of the City of Lincoln, within Placer County and consists of a 198.4 acre site that has primarily been used in the past for agricultural purposes. The project site consists of four parcels (APNs 021-262-001, 021-262-034, 021-264-035, and 009-031-028). The project site is surrounded by Nicolaus Road to the north, Nelson Lane to the west, Highway 65 Bypass to the south, and the City of Lincoln to the east.

The project site is undeveloped land that is relatively flat and consists of disturbed non-native annual grassland. There are no structures or buildings at present on the site. Historical photographs show that the project site was used as agricultural land and sometimes vacant land since at least 1952 (Vakili 2013, MatriScope 2015). Markham Ravine bisects the northern portion of the site, and a portion of Auburn Ravine passes through the southeastern side of the project site. Various wetlands are located throughout the project site.

Surrounding Land Uses

The project site is located between the Lincoln Regional Airport and the Highway 65 Bypass along the western edge of the City of Lincoln. The southern boundary of the Lincoln Regional Airport is located approximately one-half mile north of the project site. Due to the proximity of the airport, the project site is located within zones C-1 and C-2 of the airport's Land Use Compatibility Plan. The C-1 zone has a moderate degree of noise and risk and is considered conditionally compatible for residential uses and compatible for local parks. Portions of zone C-1 are located where restrictions may be required on buildings greater than 100 feet high (Federal Aviation Administration 2011). The C-2 zone is outside of the CNEL 55 dB noise contour and safety is a concern only for uses that include a high concentration of people (i.e., schools and hospitals). The C-2 zone is compatible with residential uses.

Other surrounding land uses include rural residential and agricultural/grazing land to the south and west in Placer County, grazing land and two industrial/manufacturing uses to the north within the City of Lincoln, and grazing land, the former wastewater treatment plant (WWTP) site, an industrial/manufacturing facility, and the Brookview neighborhood in the City of Lincoln to the east.

Hazards Associated with Wildland Fires

The California Department of Forestry and Fire Protection (CAL FIRE) has created Fire Hazard Severity Zone Maps to designate levels of fire hazards across the state. The speed and intensity of potential fires within the area, ability of embers to spread and multiply, loading of fuel, topographic conditions, and local climate all culminate to form the fire hazard severity for an

area. These fire hazard severity levels are separated into moderate, high, and very high levels. High severity and very high severity levels are zones lacking adequate wildland and structural fire protection. The project site is not located within a moderate, high, or very high fire hazard severity zone, and is within a Local Responsibility Area (LRA) (CAL FIRE 2007).

Phase I Environmental Site Assessment for Gill Property Site Development

A Phase I Environmental Site Assessment (ESA) was prepared by Mr. Ying-Chi Liao, P.E., G.E., of MatriScope Engineering Laboratories, Inc., on March 27, 2015 for the portion of the project site consisting of Assessor's Parcel Number 021-262-001, also referred to as the Gill Property. This property consists of about 77.7 acres located southeast of Nelson Lane and Nicolaus Road. The site is located in an area developed for rural residential houses and commercial development, but has been uncultivated and vacant from 1893 to the present. There are no buildings or structures on the site. The report was based on a review of federal, state and local public agency records, a review of historical information, review of information provided by the property owner, and a site reconnaissance of the property and its vicinity. The ESA concluded that no Recognized Environmental Conditions (RECs) were observed at the site, although two REC sites were identified within a mile of the property. These sites are classified as "inactive" and "no further action". Due to this, the potential for these sites to impact the project site and other off-site properties is considered very low. Furthermore, there was no documentation of hazardous materials or discharge and no contaminated facilities existing on the property. The report determined that no further action is necessary.

Phase I Environmental Site Assessment for Peery-Arrillaga Property

A Phase I Environmental Site Assessment (ESA) was prepared by Farshad T. Vakili, P.E., R.E.A, on August 17, 2013 for the portion of the project site consisting of Assessor's Parcel Numbers 021-262-034, 021-262-035, and 009-030-028, also referred to as the Peery-Arrillaga Property. This property consists of 114.38 acres of vacant land that has been used for agricultural crops and cattle ranching from 1910 to the present. The report was based on a review of regulatory agency files and a site inspection of the Peery-Arrillaga property. The ESA concluded that there was no documentation or physical evidence of historical or current REC's for the site and no additional environmental issues were found. No radon gas, asbestos, lead based paint, drums, hazardous materials containers, PCB transformers, hazardous materials, aboveground or underground storage tanks, vegetation distress, and soil, groundwater or surface water contamination was found on the property. The property is not listed as a hazardous materials site by any regulatory agency. The land in the vicinity of the site is not mined for natural resources and there are no facilities containing a Leaking Underground Fuel Tank (LUFT) on or within the vicinity of the site. Envirostor listed two sites within 1 mile of the property as areas of concern, but these sites would not impact the project site. The ESA determined that no further action is necessary.

Transportation of Hazardous Materials within and Adjacent to the Plan Area

Highway 65 is a major truck route that borders the southern end of the project site. All classes of hazardous materials excluding some high-level radioactive materials, poisons, and explosives can be transported on major roadways and highways. Section 31303 of the California Vehicle Code and United States Department of Transportation (DOT) regulations provide restrictions on transportation of hazardous materials through residential areas, thoroughfares, or places where crowds are congregated. Local streets that do not fall into these categories may be used for the transportation of hazardous materials. Railways are also a major mode of transportation for hazardous materials. The closest railway is approximately 1.2 miles from the southeast corner of the project site.

4.8.2 Relevant Plans, Policies, and Ordinances

Federal

Hazardous Substances, Materials, and Waste

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Under 40 Code of Federal Regulations (CFR) Part 112, specific facilities must prepare, amend and implement Spill Prevention Control and Countermeasure (SPCC) plans. The SPCC rule is part of the Oil Pollution Prevention regulation, the purpose of which is to prevent oil discharges to navigable waters and adjoining shorelines. The SPCC rule applies to facilities that are engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using or consuming of oil and store oil above or below ground in volumes greater than 1,320 U.S gallons and 42,000 U.S. gallons respectively. The California Environmental Protection Agency (Cal/EPA) has published a fact sheet, dated December 2007, outlining the requirements for preparing and implementing SPCC plans in the state of California.

Hazardous Waste Management

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Transportation by rail is regulated per 49 CFR Part 174. Subpart C covers the requirements for marking and placarding of rail cars and the segregation of hazardous materials. Subpart D covers the requirements for handling of placarded rail cars, including position in the train and maximum allowable speed (50 miles per hour for most hazards substances). Subparts E, F, G, J, and K include requirements for transportation of explosives, gases, flammable liquids, poisonous materials, and radioactive materials, respectively. Safety requirements include inspections at every stop, specific training, and train crew knowledge of the rail car contents and location.

Worker Safety Requirements

OSHA is responsible at the federal level for ensuring worker safety. OSHA sets federal standards for implementing workplace training, exposure limits, and safety procedures for the handling of hazardous substances and hazardous materials (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

State

California Building Code and California Fire Code

Prior to issuance of building permits and during occupancy of the proposed project, the City would be responsible for reviewing plans for facilities proposing to use hazardous materials to ensure that applicable California Building Code and California Fire Code standards are included in project design. These standards address, among other elements, proper storage and secondary containment for hazardous materials and fire-safe construction and materials. Use of appropriate design features would help reduce the potential for accidental releases of hazardous materials that could affect occupants or require emergency response services.

California Hazardous Waste Control Law

The California Hazardous Waste Control Law (HWCL) is administered by Cal/EPA to regulate hazardous wastes. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

The California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, defines hazardous waste as:

> A waste that exhibits the characteristics that may: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed or otherwise managed.

According to 22 CCR, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or that is being stored prior to proper disposal.

California Health and Safety Code

The handling and storage of hazardous materials is regulated on the federal level by the U.S. EPA under CERCLA as amended by SARA. Under SARA Title III, a nationwide emergency planning and response program was established that imposed reporting requirements for businesses which store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

Ammonia is an example of an acutely hazardous material (AHM) that is regulated by the California Office of Emergency Services under the California Accidental Release Program (CalARP), the U.S. EPA under the Risk Management Program (40 CFR 68), and the OSHA under the Process Safety Management Program (OSHA 1910.119). The California Accidental Release Program and Risk Management Program require that all facilities that store, handle, or use AHMs above a minimum quantity, known as the threshold planning quantity, are required to develop a plan and prepare supporting documentation that summarizes the facility's potential risk to the local community and identifies safety measures to reduce potential risks to the public.

In California, the handling and storage of hazardous materials is regulated by Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan. The plan provides information to the local emergency response agency regarding the types and quantities of hazardous materials stored at a facility and provides detailed emergency planning and response procedures in the event of a hazardous materials release. In the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by the California code, facilities are also required to prepare a Risk Management Plan and California Accidental Release Plan, which provides information on the potential impact zone of a worst-case release, and requires plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Health and Safety Code

In California, transportation of hazardous waste is regulated under Chapter 6.5 of the California Health and Safety Code. Under Section 21560, hazardous waste generators must complete a manifest for the waste before it is transported or offered for transportation. A manifest is a shipping document that is signed by the hazardous waste generator and contains the necessary information to be in compliance with all state and federal regulations. The purpose of the manifest is to allow for the waste to be tracked from point of origin through point of disposal and for the generator or regulatory agency to verify that the waste is properly delivered without

incurring any loss along the way. The enforcement agencies for the transportation of hazardous materials regulations are the California Highway Patrol and Caltrans.

California Code of Regulations - Waste Disposal

Waste management units, facilities, and disposal sites in the state of California are regulated under 27 CCR Chapter 3. This chapter establishes criteria by which that all waste management units, facilities, and disposal must abide at the landfill. These criteria cover siting and design, surface and groundwater monitoring, specific criteria for landfills, and closure and post-closure maintenance. Landfill closure and post-closure requirements are covered under Sections 20950–21200 and Sections 21769–21900. These requirements include the development and implementation of a post-closure maintenance plan. Leachate, landfill gas, and groundwater monitoring programs, as well as site security and drainage and erosion control systems, are discussed as part of the post-closure plan.

27 CCR Chapter 3, Section 21190(g) describes post-closure land use regulations for waste disposal sites at landfills. In order to prevent gas migration into buildings, any construction on the landfill property and located within the landfill parcel and within 1,000 feet of the waste boundary must be constructed with specifically enumerated mitigation measures. These obligations do not apply to locations off landfill sites. As CalRecycle has stated, the definition of "disposal site" or "site," "includes the place, location, tract of land, area, or premises in use, intended to be used, or which has been used for the landfill disposal of solid wastes… In practice, this definition means that any property located outside the parcel containing the solid waste is not subject to the postclosure land use requirements of 27 CCR 21190, even if the outside property is within 1,000 feet of the waste footprint…" CalRecycle, LEA Advisory #51, Disposal Site Postclosure Land Use (July 22, 1998).

In addition to these structural measures, Section 21190 mandates that periodic methane gas monitoring be conducted inside all buildings that are within the landfill parcel and within 1,000 feet of the waste boundary and underground utilities in accordance with the Gas Monitoring and Control Requirements established in 27 CCR Chapter 3, Section 20920 et seq. The concentration of methane gas must not exceed 1.25 % by volume (12,500 ppmv) in air within any portion of any on-site structures within 1,000 feet of the waste boundary. 27 CCR Chapter 3, Section 20921(a)(1). As mentioned above, these provisions do not apply to the project site because it is not within the parcel that contains the solid waste, i.e., the landfill.

27 CCR Chapter 3, Section 20530 and 21135 also requires that the landfill operator ensure the adequacy of site security and the protection of public health and safety. These provisions also require that monitoring, control or recovery systems at the landfill be protected from public access. These requirements are enforceable through the California Department of Resources

Recycling and Recovery (CalRecycle**,** acting through the Local Enforcement Agency (LEA), which is the County of Sacramento, Environmental Management Department). The LEA also ensures the adequacy of the monitoring regime for soil gas, under 23 CCR Chapter 3, Section 20905, et seq.

27 CCR Chapter 3, Section 20380, et seq., provides that the RWQCB for the applicable region, the Central Valley Regional Water Quality Control Board (CVRWQCB), shall establish the monitoring program required for operating or closed landfills. These requirements are to be included in the waste discharge requirements issued for the landfill.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the work place. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

Cal/OSHA is the agency responsible for enforcement of the construction safety orders of 8 CCR 1529 related to asbestos removal and cleanup. Section 1529 regulates construction-related asbestos exposure involving demolition of structures, removal of asbestos-containing materials, asbestos clean-up, or excavation activities which may involve exposure to asbestos.

Hazardous Materials Handling

The California Environmental Protection Agency (CalEPA) and the Office of Emergency Services (OES) establish regulations governing the use of hazardous materials in California. Within CalEPA, DTSC has primary regulatory responsibility for hazardous waste management. Enforcement of regulations can be delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. Along with the DTSC, the Regional Water Quality Control Board (RWQCB) is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. The project site is within the jurisdiction of the Central Valley RWQCB. The RWQCB's regulations are contained in Title 27 of the CCR. The DTSC, RWQCB, and/or a local agency (e.g., Placer County Environmental Health Division or a designated Certified Unified Program Agency (CUPA), as discussed below) typically oversees investigation and cleanup of contaminated sites.

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. California Vehicle Code Section 31303 regulates the transport of hazardous materials.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the Governor's Office of Emergency Services (OES), which coordinates the responses of other agencies, including CalEPA, CHP, California Department of Fish and Wildlife (CDFW), Central Valley RWQCB, and Placer County Fire Services.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) protects water quality in California by setting statewide policy. The SWRCB supports the nine Regional Water Quality Control Boards, (RWQCBs), which, within their areas of jurisdiction, protect surface and groundwater from pollutants discharged or threatened to be discharged to the waters of the state. For the Sacramento area, the Central Valley RWQCB (CVRWQCB) maintains jurisdiction within the subject basin. This protection is carried out by the RWQCB through the issuance and enforcement of National Pollutant Discharge Elimination System (NPDES) permits, called Waste Discharge Requirements (WDRs), regulation of leaking underground storage tanks and contaminated properties through the Leaking Underground Storage Tank (LUST) and Spills, Leaks, Investigation, and Cleanup (SLIC) programs respectively. USTs are regulated under Chapter 6.7 of the California Health and Safety Code and 23 CCR Chapter 16. The RWQCBs issue WDRs for operating and closed landfills under 27 CCR Chapters 3, Section 20950, et seq.

Local

The following local/regional regulations pertaining to hazards and hazardous materials would apply to the proposed project.

Placer County Department of Environmental Health Services

The Placer County Department of Environmental Health Services (PCDEHS) is the designated Certified Unified Program Agency (CUPA) for the County and inspects Hazardous Materials Facilities, Groundwater Monitoring Wells, Waste Tires, and Solid Waste. The PCDEHS provides permits for hazardous materials storage and use, monitoring wells, removal services for

leaking underground storage tanks, and permits for the collection, transport, use, or disposal of waste. The County protects public health and the environment from exposure to hazardous wastes through regulation of businesses and industries that generate hazardous waste and education and emergency planning for the public.

Hazardous Materials Management Plan

Hazardous waste within the County is primarily managed on a local level by the PCDEHS. Hazardous Materials Business Plans (HMBP's) are required for businesses that have an inventory that exceeds one or more of the following quantities:

- **Solids:** 500 lbs. or more
- **Liquids:** 55 gallons or more
- **Compressed Gases:** 200 Cubic Feet or more
- **Extremely Hazardous Substances:** Applicable Federal threshold quantities for extremely hazardous substances are specified in 40 CFR Part 355, Appendix A or B
- **Radiological Materials:** Quantities for which an emergency plan is required are specified in 10 CFR Parts 30, 40, and 70

HMBP's provide information to assist in emergency planning, emergency release notification, chemical storage reporting, and toxic chemical release inventory reporting. Having this information aids the public, emergency responding agencies, and local government agencies in reducing risks associated with hazardous chemical situations.

Placer County Local Hazard Mitigation Plan

The 2000 Disaster Mitigation Act set forth a policy that requires local jurisdictions to have a Local Hazard Mitigation Plan (LHMP) that is approved by the Federal Emergency Management Agency (FEMA). The 2016 Placer County LHMP was approved by FEMA in June 2016, and was developed to reduce or remove the long-term risk to people and property from hazards such as fire, flood, and earthquakes. The 2016 LHMP evaluated County risks due to floods, wildfires, drought, and other severe weather events, and planned for actions to reduce the likelihood of such events. The goals and objectives of the LHMP include to: (1) minimize risk and vulnerability of Placer County to the impacts of natural hazards and protect lives and reduce damages and losses to property, economy, public health and safety, and the environment, (2) provide protection for critical facilities, infrastructure, utilities and services from hazard impacts, (3) improve public awareness, education, and preparedness for all hazards, (4) increase communities' capabilities to mitigate losses and to be prepared for, respond to, and recover from a disaster event, and (6) maintain FEMA eligibility/position the communities for grant funding.

Placer County Airport Land Use Compatibility Plan

The Placer County Airport Land Use Compatibility Plan (Placer County ALUCP) was adopted by the Placer County Airport Land Use Commission on February 26, 2014. The Placer County ALUCP contains information regarding airport and adjacent land use development proposals and contains the individual compatibility plan for Placer County's three public-use airports, the Auburn Municipal Airport, Blue Canyon Airport, and Lincoln Regional Airport. The Lincoln Regional Airport is located approximately 0.5 miles north of the project site and portions of the project site are within airport compatibility zones.

The Placer County ALUCP for the Lincoln Regional Airport sets compatibility zone boundaries that represent a composite of four compatibility factors: noise, safety, air-space protection, and overflight concerns (PCTPA 2014).

The proposed SPA is located within compatibility zones C1 and C2. Compatibility zone C1 covers the extended approach/departure corridor, and is affected by moderate degrees of both noise and risk (PCTPA 2014). Cumulative noise levels exceed CNEL 55 dB in portions of compatibility zone C1 and noise from aircraft operations can affect noise-sensitive land uses residences, schools, libraries, and outdoor theaters (PCTPA 2014).

Compatibility zone C2 includes location along the pattern entry routes to the Lincoln Regional Airport and beneath wide patterns flown by large aircraft (PCTPA 2014). This zone lies outside the CNEL 55 dB noise contour. Safety is a concern within compatibility zone C2 only with regard to highly concentrated land uses and particularly risk-sensitive uses, such as schools and hospitals (PCTPA 2014).

Table 4.10-1 shows the permitted land use criteria for compatibility zones C1 and C2. Note that only the land uses included in the proposed project are listed.

Table 4.8-1
Lincoln Regional Airport Land Use Compatibility Policies

	Compatibility Zone C1	Compatibility Zone C2
Criteria		
Maximum Sitewide Average Intensity (people/acre)[1]	150	300
Maximum Single-Acre Intensity (people/acre)[1]	450	1,200
Open Land Requirement	15%	10%
Land Use		
General		
Any use having more than 1 habitable floor	Conditionally Acceptable (limited to ≤3 habitable floors)	Normally Compatible

Table 4.8-1
Lincoln Regional Airport Land Use Compatibility Policies

	Compatibility Zone C1	Compatibility Zone C2
Any use having structures (including poles or antennas) or trees 35 to 150 feet in height	Conditionally Acceptable (Airspace review required for objects >70 feet)	Normally Compatible
Any use having the potential to cause an increase in the attraction of birds or other wildlife	Conditionally Acceptable[2]	Conditionally Acceptable[2]
Any use creating visual or electronic hazards to flight[3]	Incompatible	Incompatible
Outdoor Uses		
Water: flood plains, wetlands, lakes, reservoirs, rivers, detention/retention ponds	Conditionally Acceptable2	Conditionally Acceptable2
Local Parks: neighborhood parks, playgrounds	Normally Compatible	Normally Compatible
Residential Uses		
Single-Family Residential: individual dwellings, townhouses, mobile homes, bed and breakfast inns	Conditionally Acceptable (1 dwelling unit/2 acres, 4 dwelling units/single acre)	Normally Compatible
Commercial, Office, and Service Uses		
Major Retail (capacity >300 people per building): Regional shopping centers, 'big box' retail, supermarket	Conditionally Acceptable (FAR 0.38)	Conditionally Acceptable (FAR 0.76)
Local Retail (≤300 people per building): community/neighborhood shopping centers, grocery stores	Conditionally Acceptable (FAR 0.59)	Normally Compatible
Eating/Drinking Establishments: restaurants, bars, fast-food dining	Conditionally Acceptable (FAR 0.21)	Conditionally Acceptable (FAR 0.41)
Limited Retail/Wholesale: furniture, automobiles, heavy equipment, building materials, hardware, lumber yards, nurseries	Conditionally Acceptable (FAR 0.86)	Conditionally Acceptable (FAR 1.72)
Offices: professional services, doctors, finance, banks, civic; radio, television and recording studios, office space associated with other listed uses	Conditionally Acceptable (FAR 0.74)	Conditionally Acceptable (FAR 1.48)
Personal and Miscellaneous Services: barbers, car washes, print shops	Conditionally Acceptable (FAR 0.69)	Conditionally Acceptable (FAR 1.38)
Fueling facilities: gas stations, trucking and other transportation fueling facilities	Conditionally Acceptable	Normally Compatible
Transportation		
Transportation Routes: road and rail transit lines, rights-of-way, bus stops	Normally Compatible	Normally Compatible
Auto Parking: surface lots, structures	Normally Compatible	Normally Compatible

Notes:

1 All non-residential development shall satisfy both sitewide and single-acre intensity limits.

2 Avoid uses that attract birds or provide mitigation consistent with FAA rules and regulations

3 Specific characteristics to be avoided include: sources of glare (such as from mirrored or other highly reflective structures or building features) or bright lights (including search lights and laser light displays); distracting lights that could be mistaken for airport lights; sources of dust, steam, or smoke that may impair pilots' vision; sources of steam or other emissions that cause thermal plumes or other forms of unstable air; and sources of electrical interference with aircraft communications or navigation.

Source: Placer County Airport Land Use Compatibility Plan, 2014

Lincoln Fire Department

The Lincoln Fire Department (LFD) responds to emergency calls, including hazardous materials incident response. The LFD Community Emergency Response Team further provides emergency response services to support the services of the LFD. The California Department of Forestry (CDF), PCDEHS Hazardous Materials Division, and Placer County Office of Emergency Services also provide hazardous materials incident emergency response within Placer County.

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to hazardous materials, airport safety, and wildland fires.

Goal LU-2 To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.

Policies

LU-2.10 Airport Buffer. Protect existing and planned local air transportation facilities from encroachment by potentially incompatible land uses and require developers to file an aviation easement with the City if a proposed development or expansion of an existing use is located in an area subject to a compatibility zone within the Placer County Airport Land Use Compatibility Plan (ALUCP).

Goal PFS-8 To provide adequate fire and police protection facilities and services to ensure the safety of residents and the protection of property in the city.

Policies

PFS-8.6 Emergency Access. The City shall require all new developments to provide adequate emergency access features, including secondary access points.

Goal HS-1 To minimize the danger of natural and human-made hazards and to protect residents and visitors from the dangers of earthquake, fire, flood, other natural disasters, and man-made dangers.

Policies

HS-1.1 Engineering Analysis of Potential Hazards. The City shall require engineering analysis of new development proposals in areas with possible soil instability, flooding, earthquake faults, or other hazards, and to prohibit development in high danger areas.

Goal HS-4 To minimize the possibility of the loss of life, injury, or damage to property as a result of airport hazards.

Policies

HS-4.1 Airport Land Use Compatibility Plan. The City shall require that development around the Lincoln Regional Airport be consistent with the safety policies and land use compatibility guidelines contained in the adopted Placer County Airport Land Use Compatibility Plan and any subsequent amendments to the Plan

HS-4.2 Compliance with FAA Regulations. The City shall ensure that development within the airport approach and departure zones are in compliance with Part 77 of the Federal Aviation Administration Regulations (FAA regulations that address objects affecting navigable airspaces.

Goal HS-5 To protect residents and property from the use, transport, and disposal of hazardous materials.

Policies

HS-5.1 Transporting Hazardous Materials. The City shall strive to ensure that hazardous materials are used, transported, and disposed within the City in a safe manner and in compliance with local, state, and federal safety standards

HS-5.4 Disclosure of Hazardous Materials. The City shall require the disclosure of hazardous materials with the County Environmental Health Department by those using them within the city or proposing to use them in new industrial or commercial activities.

HS-5.5 Treatment of Industrial Waste. The City will discourage the location of firms in the planning area which require treatment of industrial waste, unless the waste is pre-treated to a secondary stage level as defined by the State of California.

HS-5.6 Hazardous Waste Facility Siting. The City shall ensure that new hazardous waste facilities and those commercial and industrial land uses that use or produce hazardous waste are sited in an appropriate manner.

HS-5.7 Contamination Prevention. The City shall protect soils, surface water and groundwater from contamination.

HS-5.8 Increase Public Awareness. The City will work to educate the public as to the types of household hazardous waste and the proper method of disposal.

HS-5.9 Household Hazardous Waste. The City shall encourage household hazardous waste to be disposed of properly.

HS-5.10 Designated Routes for Hazardous Materials**.** The City shall require that hazardous materials transported within the City be restricted to routes that have been designated for such transport.

HS-5.11 County Hazardous Waste Management Plan. The City shall review all proposed development projects that involve the manufacturing, use, or transporting of hazardous materials to ensure compliance with the County Hazardous Waste Management Plan or equivalent guidance.

HS-5.12 Hazardous Materials Inventory. The City may require, as a component of the environmental review process, a hazardous materials inventory for the site, including an assessment of materials and operations for any applications for land use entitlements.

HS-5.13 Hazardous Materials Studies. The City shall ensure that the proponents of development projects (including new, redevelopment, remodel, or demolition projects) address existing hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies for each identified site as part of the design phase for each project. Particular attention should be paid to land that contained past agricultural uses. Recommendations outlined in the studies will be implemented as part of the construction phase for each project.

HS-5.14 School Siting Hazards. The City may require, as a component of the environmental review process, a hazardous materials inventory for the site, including an assessment of materials and operations for any applications for land use entitlements.

Goal HS-7 To minimize the risk of life and property to from urban and wildland fires.

Policies

HS-7.1 Enforce Code/Ordinances. The City shall enforce the City building code, fire code, and ordinances in regard to fire safety and fire protection.

HS-7.2 Educate Residents of Fire Hazards**.** The City shall educate residents of urban and wildland fire hazards and safety measures.

HS-7.3 Wildland Fire Management Plans. The City shall require the development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.

HS-7.4 Buffer Zones for Fire Protection. The City shall require new development to incorporate additional greenbelts, fuel breaks, fuel reduction and buffer zones around communities to minimize potential fire losses.

HS-7.5 Weed Abatement. The City shall maintain a weed abatement program to ensure clearing of dry brush areas. Weed abatement activities shall be conducted in a manner consistent with all applicable environmental regulations.

Goal HS-9 To ensure the maintenance of the Emergency Response Plan in order to maintain its effectiveness in preparing and responding to a natural or human-made disaster.

Policies

HS-9.1 Emergency Response Plan**.** The City shall continue to update and ensure that the Emergency Response Plan meets current federal, State, and local emergency requirements.

HS-9.2 Coordinate Emergency Response Services with Local Agencies. The City shall continue to coordinate emergency response services with Placer County, other cities within Placer County, special districts, service agencies, voluntary organizations, and state and federal agencies.

HS-9.3 Educate Public on Emergency Response. The City shall conduct training programs for staff in disaster preparedness.

HS-9.4 Coordinate with Placer County. The City will strive to work with other local agencies including Placer County and cities within the County to develop coordinated geographic information systems (GIS) planning for emergency response services.

HS-9.5 Siting of Critical Emergency Responses**.** The City shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, police offices, substations, emergency operations centers and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.

The proposed project's consistency with the 2050 General Plan policies and goals is evaluated in Chapter 4.10, Land Use.

4.8.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would is create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including, where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.4 Impacts Analysis

4.8.4.1 Methods of Analysis

This analysis primarily utilizes information provided by the Phase I ESA for the Gill Property Site Development (Assessor's Parcel Number 021-262-001) conducted by MatriScope Engineering Laboratories, Inc. in 2015 and the Phase 1 ESA for the Peery-Arrillaga Property (Assessor's Parcel Numbers 021-262-034, 021-262-035, 009-030-028) conducted by Farshad T. Vakili, P.E., R.E.A., in 2013. The Placer County ALUCP was also reviewed to determine

potential impacts pertaining to hazardous materials and waste, wildland fires, and airport hazards resulting from the proposed project.

4.8.4.2 Analysis

Impact 4.8-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

The proposed project would involve the construction of residential, commercial and park/open space uses. The project site is currently undeveloped agricultural land along the western edge of the City of Lincoln that has been used primarily for agricultural uses in the past. Common construction activities include site preparation, grading, and building and associated infrastructure construction. These activities would involve the use of heavy equipment, which could utilize relatively small amounts of products containing materials defined as hazardous, such as fuels, solvents, cements and adhesives, paints, cleansers, degreasers, and asphalt mixers. Hazardous materials associated with construction are typically brought to the site in quantities that are not determined hazardous by the manufacturer and that would not result in potential significant hazards to the public or the environment. No acutely hazardous materials would be used during construction of the project. Furthermore, the contractor would be required to ensure that materials handled are used and stored in accordance with existing laws and regulations. Refueling of vehicles and heavy equipment on the project site would be conducted in a controlled area fitted with secondary containment and protective barriers to minimize spills and release hazards. The Storm Water Pollution Prevention Plan (SWPPP) required for the proposed project by the National Pollutant Discharge Elimination System (NPDES) Construction General Permit also identifies best management practices to limit discharge of pollutants into groundwater and watersheds. Furthermore, as the ESA's for the Peery-Arrillaga Property and the Gill Property both determined that no historical or current REC's or additional environmental issues were discovered on the project site, there is no potential for hazardous materials to be uncovered on the site during project construction (Vakili 2013, Matriscope 2015). As the proposed project will follow the protective measures outlined in its SWPPP, utilize very low quantities of hazardous materials during construction, and not uncover any hazardous materials on the project site, the impact resulting from construction is considered ***less than significant.***

Operation

As the proposed project includes operation of residential, commercial, and park uses, land uses associated with the project site would include the transport, use, and disposal of common residential and commercial hazardous materials. These include cleansers, solvents, oils, fuels, adhesives, pesticides, herbicides, and fertilizers. These would not be in quantities substantial

enough to produce an impact on the environment, as they would only be used in small-scale residential or commercial uses and the health hazards associated with these commercial/retail and household hazardous materials are not as serious as hazardous materials involved in industrial processes. Furthermore, there are various regulations regarding the use, storage, and disposal of hazardous materials and wastes. Qualifying businesses would be required to comply with a Hazardous Material Business Plan and Hazardous Materials Management Plan. All local businesses would also be required to follow applicable regulations and guidelines set forth by City, state, and federal agencies.

A major transportation route for hazardous materials near the project site is Highway 65. All classes of hazardous materials excluding some high-level radioactive materials, poisons, and explosives are permitted to be transported along major highways and roadways. The proposed project would inherently increase the number of people near Highway 65, and this could account for increased risk of exposure to various hazardous materials that are being transported along Highway 65 and other major roadways. However, transportation of hazardous materials along state and interstate highways is considered a safer and more efficient mode of transportation for hazardous materials, as it limits the distance travelled by transportation vehicles and is not in close proximity to residential areas. Furthermore, the proposed project would comply with Section 31303 of the California Vehicle Code, which prohibits the transportation of hazardous materials within residential districts and major roads within the project site, as well as near places where crowds could congregate. Rail lines are also a common transportation method for hazardous materials. The nearest railway is approximately 1.2 miles from the southeast corner of the project site and regulations pertaining to the transportation of hazardous materials by rail line would apply.

In the event of a hazardous material spill or incident, the 2016 Placer County LHMP would be utilized to ensure a coordinated and efficient response procedure. City, state, and federal resources would be used to mitigate hazard events and to reduce the likelihood of such events.

As all commercial and other users would be required to comply with manufacturer's directions and local, state and federal regulations pertaining to the transport, use, and disposal of hazardous materials, the impact resulting from project operation would be ***less than significant.***

Impact 4.8-2. The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Construction

The proposed project would involve the construction of residential, commercial and park uses. Project construction would involve the use of limited quantities of hazardous materials to support site preparation, grading, and building and facility construction activities. The potential exposure

of construction workers, employees, or site users to hazardous materials would occur in the following manner: improper handling or use of hazardous materials or hazardous wastes during construction or operation of the project, particularly by untrained personnel; transportation accidents; unsound disposal methods; or fire, explosion, or other emergencies. While amounts of hazardous materials to be used during project construction would be relatively small, improper handling of these materials and accidents could expose the site and its occupants to hazardous material contamination.

In order to reduce the risk of accidental release of hazardous materials used during construction into the environment, several requirements are set forth by local, federal, and state agencies. As described in Section 4.8.2, Relevant Plans, Polices, and Ordinances, the Hazardous and Solid Waste Act, Resource Conservation and Recovery Act of 1976, and Federal Toxic Substances Control Act outline requirements for the generation, transportation, treatment, storage, and disposal of hazardous waste. The U.S. Department of Transportation and Occupational Safety and Health Administration further specify regulations that reduce the likelihood of exposure of hazardous materials to people and the environment. State policies such as the California Building Code, California Hazardous Waste Control Law, and California Health and Safety Code target building design and hazardous waste handling, transportation, and storage safety measures to limit the risk of accidents. The proposed project would also be required to adhere to its SWPPP, which describes measures that can be taken during project construction to control and prevent release of hazardous materials into groundwater. The Placer County LHMP suggests actions that can be taken to reduce the potential of a hazardous material accident and provides guidance for mitigation of hazards if an event is to occur. The proposed project would follow all local, state, and federal regulations regarding hazardous materials and hazardous waste. As no unusual circumstances relate to the proposed project, potential hazard impacts would be ***less than significant.***

Operation

The proposed project would involve the operation of residential, commercial, and park uses. The hazardous materials commonly associated with these uses include cleansers, solvents, oils, fuels, adhesives, pesticides, herbicides, and fertilizers. These materials would be present in relatively small quantities given their uses. All qualifying businesses within the project site would be required to comply with the PCDEHS's Hazardous Materials Management Program and prepare a Hazardous Materials Business Plan. Furthermore, all users of hazardous materials would be required to follow applicable local, state, and federal regulations pertaining to hazardous materials and hazardous waste, as well as the recommendations of the manufacturer. While adherence to these policies would reduce the potential for an accidental release of a hazardous material into the environment, it would not prevent the possibility for this to still occur. The proximity of the project site to Highway 65 also presents concerns involving the accidental release of hazardous materials being transported along this route. As Highway 65 borders the

southern end of the project site, release of hazardous materials along this route could result in hazards to the project site. If such an event occurs, a coordinated emergency response would occur according to the Placer County LHMP, which outlines a plan that organizes local, state, and federal resources to most effectively reduce hazards. No hazardous land uses, such as heavy industrial or manufacturing, are proposed, and no unusual circumstances are present on the site. Therefore, potential hazard impacts would be ***less than significant.***

Impact 4.8-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Creekside Oaks Elementary School is located approximately 0.28 miles to the east of the project site and Glen Edwards Middle School is located approximately 1.0 miles to the east of the project site. Hazardous materials could be used on the project site during project construction and operation. However, as discussed above, these would exist at relatively small quantities and no acutely hazardous materials would occur during project construction. Commercial and other users are required to comply with all local, state, and federal regulations pertaining to the use, transport, storage, and disposal of hazardous materials. Guidelines for the coordination of emergency response efforts included in the Placer County LHMP would be followed if an accidental release of hazardous materials is to occur on the project site during construction or operation. Compliance with existing regulations and requirements would ensure that potential construction and operation-related impacts regarding the use, storage, and hazardous materials would be reduced. As the project site is not within one-quarter mile of an existing or proposed school, and hazardous materials on the project site would be required to be handled in a manner that is compliant with relevant regulations, this impact would be considered ***less than significant.***

Impact 4.8-4. The project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

As discussed in Section 4.8.1.1, Project Site, two Phase I ESAs were prepared for different portions of the project site. A Phase I ESA was prepared in March 2015 for the 77.7 acre portion of the project site known as the Gill Property (Assessor's Parcel Number 021-262-001). The other Phase I ESA was prepared in August 2013 for the 114.38 acre portion of the project site known as the Peery-Arrillaga Property (Assessor's Parcel Numbers 021-262-034, 021-262-035, and 009-030-028). Both ESA's concluded that no current or historical RECs occurred at the sites and that the sites are not listed on any regulatory agency lists as hazardous material sites. Envirostor listed two sites within 1 mile of the property as areas of concern, but as these sites are classified as "inactive" and "no further action", these site have a very low potential to impact the project site. Furthermore, there was no documentation of hazardous materials or discharge and no contaminated facilities existing on the properties. The remainder of the project site that was

not included in these reports consists primarily of existing roadways. Based on the findings of the Phase I ESA's there are no identified sites of past releases of hazardous materials that could substantially impact the project site. Therefore, this impact is ***less than significant.***

Impact 4.8-5. The project could result in a safety hazard for people residing or working in the project area due to an airport land use plan.

The proposed project would include residential, commercial and parks and open space uses within the zones C-1 and C-2 of the Lincoln Regional Airport Land Use Compatibility Plan (ALUCP). See Chapter 4.10, Land Use and Planning, for a full discussion on the proposed project's consistency with the ALUCP. The Lincoln Regional Airport is located about 0.5 miles north of the project site. The Specific Plan projects a maximum of 430 low density residential housing units within the project site that can be transferred between planning areas. These housing units would be single family detached homes bordering the eastern boundary of the project site within the C-2 zone of the airport's land use compatibility plan. The C-2 zone is outside of the CNEL 55 dB noise contour and safety is only a concern for uses that include a high concentration of people (i.e., schools and hospitals). Table 4.8-1 shows the permitted land use criteria for compatibility zones C1 and C2. Note that only the land uses in the proposed project are listed. Single-family residential development is considered normally compatible within Zone C2.

In compatibility zone C1, noise from aircraft operations can affect noise-sensitive land uses such as residences, schools, libraries, and outdoor theaters (PCTPA 2014). Most of the project site within compatibility zone C1 would be reserved for commercial land uses and infrastructure, which are less sensitive to noise and safety issues compared to residential land uses. The Zone C1 compatibility criteria include an average intensity of 150 persons per acre (with a maximum of 450 persons per acre), and an open land requirement of 15%. Commercial development within Zone C1 is conditionally acceptable. For major retail (regional or "big box" development with more than 300 people per building), the development is restricted to an FAR of 0.38. The allowable FAR is 0.59 for local retail, such as neighborhood shops and grocery stores (less than 300 people per building). The proposed project may include a mix of major and local retail, as well as food, gas stations, offices, and self-storage. The maximum planned commercial development, per the draft specific plan, is 971,000 SF of floor space distributed on 69.7 acres, which yields a FAR of 0.32. This is well below the most restrictive standard of 0.38. According the ALUCP, there is an assumption that a land use that complies with the FAR standard will also comply with the intensity (persons/acre) standard (PCTPA 2014). Therefore, the commercial uses of the proposed project are considered consistent with the ALUCP.

The C-1 zone has a moderate degree of noise and risk and is considered conditionally compatible for residential uses and compatible for local parks. Cumulative noise levels can exceed CNEL 55

dB in portions of the zone and noise from individual aircraft operations is disruptive to noise-sensitive land uses. Portions of zone C-1 are located where restrictions may be required on buildings greater than 100 feet high (Federal Aviation Regulations 2011).

For both zones C1 and C2, commercial and residential development should avoid the following: sources of glare (such as from mirrored or other highly reflective structures or building features) or bright lights (including search lights and laser light displays); distracting lights that could be mistaken for airport lights; sources of dust, steam, or smoke that may impair pilots' vision; sources of steam or other emissions that cause thermal plumes or other forms of unstable air; and sources of electrical interference with aircraft communications or navigation. The proposed land uses do not include industrial, resource, or energy development that could cause air emissions, thermal plumes, or electrical interference. However, highly reflective building materials or bright lights could represent a hazard to air traffic. This is a ***potentially significant impact***. Mitigation Measure AES-1 (see Section 4.1, Aesthetics) would ensure that safety hazards related to light and glare within the ALUCP are reduced.

The proposed project would require the construction of water quality detention basins to meet storm water quality and peak run-off demands. Such facilities are allowed within the C1 and C2 zones with the following provision:

No proposed use shall be allowed that would create an increased attraction for wildlife and that is inconsistent with FAA rules and regulations including, but not limited to, FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports and Advisory Circular 150/5200-34A, Construction or Establishment of Landfills near Public Airports. Of particular concern are landfills and certain recreational or agricultural uses that attract large flocks of birds which pose bird strike hazards to aircraft in flight. See Policy 3.5.3(a)(6). (Placer County 2014)

Improperly designed detention ponds, which maintain standing water and provide suitable habitat for migratory birds, could result in a ***potentially significant impact***. This impact can be avoided through proper design in compliance with FAA guidance. This requirement is incorporated into Mitigation Measure LU-1 (See section 4.10, Land Use).

Impact 4.8-6. The project would not result in a safety hazard for people residing or working in the project area due to a nearby private airstrip.

The proposed project is not located within the vicinity of a private airstrip that would expose people residing or working on the project site to safety hazards. ***No impact*** would occur.

Impact 4.8-7. The project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The City of Lincoln is included in the coordinated plan for hazard mitigation and prevention for Placer County known as the LHMP. The Placer County LHMP followed the planning process prescribed by FEMA by forming a hazard mitigation planning committee (HMPC) which conducted a risk assessment and identified key hazards within the County, evaluated the County's vulnerability to such hazards, and assessed the capabilities in place to mitigate them. These hazards are outlined in the LHMP alongside methods to better reduce and avoid these hazards on a coordinated, County-wide basis. Annex C of the 2016 LHMP includes specific hazard mitigation planning elements for the City of Lincoln. The City's 2006 Emergency Operations Plan (EOP) also provides specific City-level guidelines to plan for disaster and emergency response and mitigation. During project operation, implementation of County and City emergency response plans would not be impaired and emergency access throughout the project site would be adequately provided. The project site is accessible from the existing area transportation network and is proposed to be compatible with future expansion plans on area roadways. Project construction may require some temporary lane closures on Nelson Lane and Nicolaus Road for roadway improvements, which would be coordinated with City and County emergency services. Complete closures of these roadways are not anticipated. The potential impact would be ***less than significant.***

Impact 4.8-8. The project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including, where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The project site consists of undeveloped agricultural land that primarily includes disturbed non-native annual grassland and some oak woodland. The project site has been used as land for dry crop farming and grazing land in the past. Surrounding land uses include the Lincoln Regional Airport, rural residential and agricultural/grazing land, industrial/manufacturing uses, and the Brookview neighborhood. The proposed project involves the construction of residential, commercial, and park uses on the project site, as well as designating approximately 22.6 acres of the project site as Open Space. This Open Space land includes 10.4 acres at Markham Ravine, 3.9 acres at Auburn Ravine, a 1.1 acre trail between the two neighborhood parks, and 7.2 acres in landscaped corridors and drainage features (dual use detention ponds, swales, etc.). As most of this open space would be surrounding wetland or irrigated features, the potential for wildland fire at these areas is reduced. Furthermore, the development of the project site would reduce the amount of grassland on the property and contribute to minimizing fire hazards by increasing the amount of irrigated land. The project site could still be exposed to wildfire hazards due to surrounding undeveloped grasslands. This risk can easily be reduced by keeping landscaping well-irrigated, using flame-retardant building materials, and ensuring buildings are consistent

with current codes. CAL FIRE provides wildfire suppression services to Placer County if a wildfire is to occur and the City of Lincoln Fire Department (LFD) would provide fire protection services for the project site (See Section 4.13, Public Services, for a full discussion on fire protection services). As adequate fire suppression services provided by CAL FIRE and LFD would be available to support the project site, and the project site would primarily consist of developed, irrigated land, the impact would be ***less than significant.***

4.8.5 Mitigation Measures

The potential impacts analyzed above would **less than significant.** Therefore, mitigation measures are not required.

4.8.6 Cumulative Analysis

The cumulative analysis for the effects of the proposed project related to hazardous materials, airport hazards, and wildland fires is based on the buildout of the City of Lincoln 2050 General Plan as well as the area within and surrounding the compatibility zones affected by the Lincoln Regional Airport Land Use Compatibility Plan. As no private airstrips exist within the vicinity of the proposed project, cumulative impacts related to hazards from private airstrips are not evaluated.

As discussed in Impact 4.8-1, hazardous materials would be used in small quantities during project construction and operation. Projects in the vicinity of the proposed project include the Village 5 Specific Plan project and the Independence at Lincoln project. These two projects were found to have a less than significant impact on hazards resulting from the routine transport, use, or disposal of hazardous materials in their respective EIR's, as use of hazardous materials would be limited (City of Lincoln 2016a, City of Lincoln 2016b). Furthermore, projects within the City of Lincoln would be expected to follow local, state, and federal regulations pertaining to the use, transportation, storage, and disposal of hazardous materials. Most of the transportation of hazardous materials would occur on major roadways, Highway 65, and rail lines. This transportation currently occurs and would continue to occur in these areas, and the proposed project would not substantially increase transportation of hazardous materials in the vicinity of the project site. As projected land uses in the vicinity of the project site discussed in the 2050 General Plan would not account for a large increase in the use and disposal of hazardous materials, this would cause a less than significant cumulative impact.

As discussed in Impact 4.8-2, the proposed project would involve small quantities of hazardous materials during project construction and operation. Although commercial and other users would be required to follow manufacturer recommendations and local, state, and federal regulations pertaining to the use, transport, storage, and disposal of hazardous materials, this would not completely prevent the potential for an upset or accident condition that would release these materials into the environment. The potential for accidental release of hazardous materials would

be the same for proposed projects in the vicinity of the project site. Furthermore, as hazardous materials would continue to be transported along Highway 65 and major roadways surrounding the project site, it is still possible that accidental release of these hazardous materials could occur and impact the project site and the surrounding area. Accidental release could also result from unintended situations at the rail line approximately 1.2 miles from the southeast corner of the project site. These releases would have the potential to occur regardless of the presence of the project site. As the project site and proposed projects within its area would not account for a substantial increase in the use of hazardous materials in this zone, a significant addition to the risk of upset and accident conditions would not occur. Furthermore, both the City's Emergency Operations Plan and Placer County LHMP provide an organized, coordinated and methodical strategy for emergency response in the case that hazardous materials are released. Thus, a less than significant cumulative impact would occur.

No schools are located within one-quarter mile of the project site at present. The proposed project would use minimal quantities of common construction, household, and commercial hazardous materials and users of these materials would be required to follow all relevant local, state, and federal regulatory requirements regarding the use, transport, storage, and disposal of hazardous materials. The Village 5 Specific Plan project calls for the addition of five new schools within its project site. The Village 5 Specific Plan Area consists of 4,787 acres located immediately to the west and southwest of the SUD-B site. The Village 5 Specific Plan Area is about 1 mile from the SUD-B NEQ project site at its nearest end (western). Therefore, none of the new schools proposed by the Village 5 Specific Plan project would be within one-quarter mile of the SUD-B NEQ project site. Furthermore, the Village 5 EIR and Independence and Lincoln EIR conclude that hazardous materials used on both sites would not account for a substantial increase in hazards to persons on or off site (City of Lincoln 2016a, City of Lincoln 2016b). The 2050 General Plan buildout would not account for a substantial increase in the exposure of persons to hazardous materials or emissions. As users of hazardous materials within the SUD-B NEQ project site and within proposed projects under the 2050 General Plan would be required to follow relevant regulations regarding the use, transportation, storage, and disposal of hazardous materials, and no schools within one-quarter mile of the project site are expected to be impacted by hazardous materials or emissions due to the proposed project, a less than significant cumulative impact would occur.

As discussed in Impact 4.8-4, the project site is not listed on any regulatory agency list for known hazardous materials releases. Furthermore, there was no documentation of hazardous materials or discharge and no contaminated facilities existing on the project site. Due to the site-specific nature of documented releases of hazardous materials, this impact is generally considered not to combine to become cumulatively considerable. Therefore, a less than significant cumulative impact would occur.

As discussed in Impact 4.8-5, the project site would be located within ALUCP Compatibility Zones C1 and C2 of the City of Lincoln Regional Airport. Proposed projects included in the 2050 General Plan that would develop within the ALUCP Compatibility Zones include Village 3, Special Use District A (SUD-A), Village 4, and Village 5. As the majority of these areas currently serve as agricultural land that contain wildlife attractants, the development of these areas would inherently reduce wildlife attractants that could pose a threat to aircrafts. Although the proposed project could potentially create wildlife attractants by constructing water quality detention basins (See Impact 4.8-5), the project would be required to follow Mitigation Measure LU-1, which would reduce the potential for attracting wildlife that would create air traffic hazards. Furthermore, the development of surrounding lands that contained wildlife attractants would ultimately reduce wildlife hazards within the area. Therefore, the proposed project's introduction of wildlife attractants such as detention basins would be minimal compared to the overall reduction in regional wildlife attractants with buildout of the 2050 General Plan.

On May 14, 2014, the ALUC determined that the 2050 General Plan is consistent with the adopted ALUCP (Placer County ALUC 2015). The ALUC and the ALUCP have no authority over existing land uses or approved development regardless of whether the uses are compatible with airport activities, as long as the current use of these lands remains the same. However, new development would be required to be compatible with the ALUCP. As development proposed by the 2050 General Plan would be compatible with the adopted Placer County ALUCP and would decrease hazards to aircraft within the area, a less than significant cumulative impact would occur.

The project site would be served by the existing area transportation network and would be compatible with future expansion plans on area roadways. However, project construction could result in the interference with the City's emergency response plan by creating temporary lane closures, increased traffic, and impaired roadway conditions. The Independence at Lincoln project, may have overlapping roadway construction on Nicolaus Road. However, this divided roadway would not require full closure, and temporary lane closures or reductions would be coordinated through the City encroachment process. The potential cumulative impact would be less than significant.

As discussed in Section 4.8-1, the project site is not designated as being within a moderate, high, or very high fire hazard severity zone by CAL FIRE. The City of Lincoln is not located within any fire hazard severity zone and is located in a Local Responsibility Area (CAL FIRE 2007). The nearest fire hazard zone is the moderate fire hazard severity zone to the east of the City located within a State Responsibility Area (CAL FIRE 2007). The Lincoln Fire Department serves the project site and the City, and is supplemented by fire suppression services provided by CAL FIRE. Furthermore, the Placer County Fire Department, Roseville Fire Department, and Rocklin Fire Department have the capacity to serve the region surrounding the project site. As the proposed project and projects proposed in the 2050 General Plan would not be located in a

designated fire hazard severity zone and would receive adequate protection in the event of a wildfire, this would be a less than significant cumulative impact.

Overall, the project would result not contribute to a significant cumulative hazards or hazardous materials impact. Cumulative impacts would be ***less than significant***.

4.8.7 References

CAL FIRE (California Department of Forestry and Fire Protection). 2007. Fire Hazard Severity Zones in SRA–Placer County: November 7, 2007. Accessed March 29, 2017. http://frap.fire.ca.gov/webdata/maps/placer/fhszs_map.31.pdf.

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City of Lincoln 2016a. *Village 5 & Special Use District B Specific Plan Draft Environmental Impact Report.* Draft. SCH no. 2014052071. Prepared by ESA. Sacramento, California: ESA. August 2016.

City of Lincoln 2016b. *Independence at Lincoln Development Project Draft Environmental Impact Report.* Draft. Prepared by Ascent Environmental, Inc. Sacramento, California: Ascent Environmental, Inc. September 2016.

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Placer County ALUC. 2015. Letter received from Placer County ALUC on April 29, 2015. April 2015.

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Matriscope (Matriscope Engineering Laboratories, Inc). 2015. *Phase I Environmental Site Assessment for Gill Property Site Development.* Prepared by Mr. Ying-Chi Liao, P.E., G.E. Sacramento, California: MatriScope Engineering Laboratories, Inc. March 2015.

4.9 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrological and water quality conditions within the proposed Special Use District B (SUD-B) Northeast Quadrant Specific Plan (proposed project or proposed plan) area, and analyzes the potential environmental effects to water quality, drainage, flooding, and groundwater that may occur. The primary sources of information used in this section consist of the following project-specific technical studies:

- *SUD-B Northeast Quadrant Specific Plan Master Drainage Study. Draft*. Prepared by Frayji Design Group, Inc. November 2016. (Appendix F to the EIR)
- *SUD*-B *Northeast Quadrant SB 610 Water Supply Assessment. Draft*. Prepared by Tully & Young. January 2017. (Appendix I to the EIR)

Supplementary information on water resources was obtained from the C*ity of Lincoln General Plan* and associated background reports (City of Lincoln 2008, Civil Engineering Solutions 2006), as well as public data, maps and reports from resources agencies including as the State Water Resources Control Board (SWRCB), the Central Valley Regional Water Quality Control Board (CVRWQCB), the California Department of Water Resources (DWR), and the Federal Emergency Management Agency (FEMA). These and other sources consulted are listed in Section 4.9.8, References.

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included a comment from the Central Valley Flood Protection Board (CVFPB) asserting board jurisdiction, and a comment from Caltrans indicating a hydrologic and hydraulic analysis must show no increase in runoff to State Highway facilities. In addition, commenters are also concerned about impacts to wetland, wetland-dependent wildlife, and flooding issues. These comments are addressed in Section 4.9.4, Impacts Analysis.

4.9.1 Existing Conditions

The following section describes baseline physical environmental conditions related to hydrology and water quality. The study area for surface water resources consists of the watersheds associated with Markham Ravine and Auburn Ravine, including downstream surface waters. The study area for groundwater resources consists of the DWR-defined groundwater basin underlying the project area and the City of Lincoln.

4.9.1.1 Physiography and Climate

Elevations on the project site vary from a high of about 135 feet above mean sea level (amsl) near the project's eastern boundary to a low of approximately 105 feet amsl where Markham

Ravine crosses the project's western boundary (USGS 2016). This elevation difference translates to an average slope of less than 1% and appears flat or nearly flat to the naked eye.

The project area lies within the Mediterranean subtropical climate zone that is typical of Central California. Winters are typically cool and wet. Summers are typically hot and dry. Annual rainfall in the region averages 24 inches and occurs primarily during late fall and on into the spring (November through April) (EcoLogic Engineering, 1998 as cited in City of Lincoln 2008). The habitat types and land uses in the project area primarily consist of non-native annual grassland, with oak woodland and riparian features occupying a narrow corridor along Auburn Ravine, and riparian features along Markham Ravine. A combination of dry farming and flood-irrigation has occurred on the project area at various times in the past for the purpose of hay production.

4.9.1.2 Surface Water Resources

The following discussion addresses the watershed designations applicable to the project site; describes the associated creeks and downstream receiving waters; and summarizes the available data on surface water quality.

Watersheds and Watercourses

A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The word watershed is sometimes used interchangeably with drainage basin or catchment, and can often be identified differently for the same site, depending on the scale of interest. Watersheds are usually bordered and separated from other watersheds by mountain ridges or other naturally elevated areas, but can sometimes contain administrative boundaries if defined within the context of a planning document.

Regionally, watersheds within the project area are identified based on the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD) (USGS 2016). The WBD delineates watersheds according to hydrologic units (HUs), which are nested within one another according to the scale of interest. USGS identifies HUs by name and by hydrologic unit code (HUC), which gets longer as the watershed boundaries get more detailed. For example, at a statewide scale, HUs consist of large regions and sub-regions draining to a common outlet. At this scale, the project area is within the 20,124 square-mile "Lower Sacramento" basin (HUC 180201), which is geographically defined by all areas draining to the Sacramento River between Shasta Dam and the delta. At a regional scale, HUs consist of subbasins and watersheds; and at a local scale, watersheds are further divided into sub-watersheds. Table 4.9-1 lists the subbasin, watersheds and subwatersheds defined by the USGS WBD for the project area.

Table 4.9-1
Watersheds Intersected by the Proposed Project

Basin	Watershed (HUC10 Code / size)	Sub-watershed (HUC12 Code / size)	Project Area Within Watershed
Upper Coon-Upper Auburn, (434 mi^2)	Pleasant Grove Creek-Cross Canal (1802016103, 125 mi^2)	Markham Ravine (180201610301 / 21,298 acres)	Gill Property and Western parcel of the Peery Arrillaga Property (164 Acres)
	Auburn Ravine (1802016101, 64 mi^2)	Dutch Ravine-Auburn Ravine (180201610102 / 26,359 acres)	Eastern parcel of the Peery Arrillaga Property (34 Acres)

Source: USGS 2016.
Notes: HUC = hydrologic unit code; mi^2 = square miles

In managing water resources, the SWRCB classifies watersheds in a hierarchical system similar to the USGS Watershed Boundary Dataset, but with watershed names and boundaries that are designated by DWR. These geographic boundaries are likewise watershed based, but are typically referred to as hydrologic basins and are defined in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (otherwise known as the Basin Plan) (Central Valley RWQCB 2016).[1] These generally constitute the geographic basis around which many surface water quality problems and goals/objectives are defined, and consist of surface water HUs, hydrologic areas (HAs), and hydrologic subareas (HSAs). The proposed project is in the "Valley-American" HU (HU Code 519.00), the Coon-American HA (HA Code 519.20), and Pleasant Grove HSA (HSA Code 519.22) (Central Valley RWQCB 2016):

The aforementioned basins and watersheds designated by the USGS WBD, and CVRWQCB are based on low-resolution topographical data and used for the purpose of regional planning. It should be noted that the proposed project's Drainage Master Plan (Appendix F) relies on a site-specific delineation of over 20 drainage areas (or drainage "sheds") to evaluate pre- and post-project peak flow rates and volumes (further described in Section 4.9.1.3). These are determined, based in part, on higher-resolution topographic data and knowledge of the engineered drainage networks and facilities present within the area (i.e., storm drains, culverts, swales, and adjacent planned development).

Surface Water Features

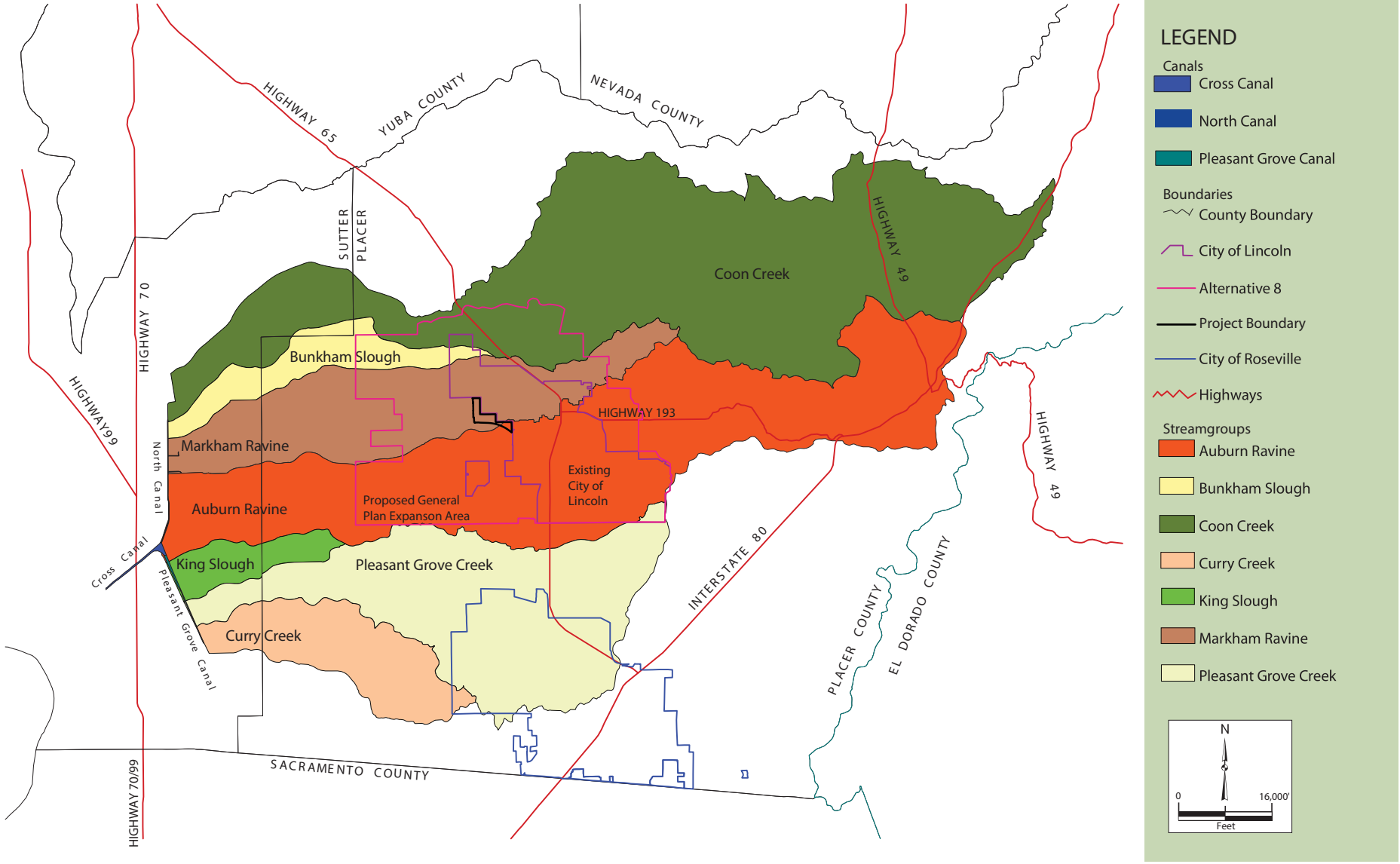
Streams in the project region include Auburn Ravine, Orchard Creek, Ingram Slough, Markham Ravine, and Pleasant Grove Creek, all of which originate east of Lincoln and flow westward. The project area is crossed by Auburn Ravine and Markham Ravine. Under existing conditions, stormwater that is not infiltrated into the soil moves as sheet flow towards Markham and Auburn

[1] The Basin Plan for each region serves as the regulatory reference for meeting both state and federal requirements for water quality control. It designates beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving those objectives.

Ravines, as well as to the west of the site. Runoff from the eastern parcel of the Peery-Arrillaga Property (approximately 34 acres) flows toward Auburn Ravine, and runoff from the Gill Property and the western parcel of the Peery-Arrillaga Property (approximately 164 acres) flows toward Markham Ravine (or to the west and eventually to Markham Ravine). Both Auburn and Markham Ravine watersheds are part of the larger Natomas Cross Canal watershed of northwestern Placer County and southeastern Sutter County, as shown in Figure 4.9-1. The Auburn and Markham Ravine watersheds drain westerly into the North Canal, to the Natomas Cross Canal, and then to the Sacramento River.

Markham Ravine bisects the northern portion of the project site, while a small portion of Auburn Ravine traverses the southeastern portion of the project site. Oak woodland and riparian habitat are present near the ravines. Markham and Auburn Ravines are further described below:

- **Auburn Ravine**: Auburn Ravine, a perennial stream, crosses the southeastern end of the project and then under State Route 65 (SR-65). Auburn Ravine within project area flows year-round due to supplemental waters added by Nevada Irrigation District (NID), which are delivered to downstream agricultural users. Adjacent to Auburn Ravine is a basin that was previously used as storage for irrigation waters for use on site and empties into Auburn Ravine through an existing 12-inch drainage pipe. The 12-inch drainage pipe was placed by Caltrans when the SR-65 bypass was constructed to drain the storage pond and it has a one-way flapper valve on the downstream side to prevent high flows from backing up into the basin.
- **Markham Ravine**: Markham Ravine, an intermittent stream, crosses under Nicolaus Road, through the northern portion of the project and then west under Nelson Lane. A portion of the existing drainage flows west from the project area and crosses under Nelson Lane through culvert crossings, through several poorly defined channels to meet at SR-65 approximately half a mile west of the project area. The proposed project would use the existing culverts in Nelson to maintain flows for existing vegetation with larger flows diverted directly to Markham Ravine via a proposed storm drain along Nelson Lane. SR-65 travels along the southern boundary of the project site, a part of the southern commercial and residential parcels flows into existing and proposed pipes crossing into the Caltrans Right-of-Way, then along the existing drainage ditch west that runs parallel to SR-65 and into Markham Ravine.



SOURCE: City of Lincoln (2008)

FIGURE 4.9-1
Regional Watersheds

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All streams in the City are small, have well-defined channels, and historically had only seasonal flows prior to the development of mining canals and other structures used to convey water for agricultural production and hydropower generation (Civil Engineering Solutions 2006). Typically, stream flows are lowest during the late summer months. The project area accepts only a small amount of off-site flow from the existing subdivision to the west and north of the proposed residential sites. The proposed Lewis home residential site north and west of the project also flows north into Markham Ravine and through the north side of the project area.

Surface Water Quality

Several water bodies downstream of the project site—namely the Natomas Cross Canal and the Sacramento River—are designated as "impaired" under Section 303(d) of the federal Clean Water Act (CWA) (Table 4.9-2, CWA Section 303(d) Listings for Project Receiving Waters). Being impaired (also known as "water quality-limited") means that a water body is "not reasonably expected to attain or maintain water quality standards" without additional regulation. The law requires that the U.S. Environmental Protection Agency (EPA) develop total maximum daily loads (TMDLs) for each impaired water body in the nation (described further below in Section 4.9.2). The TMDLs specify the maximum amount of a pollutant a water body can receive and still meet water quality standards. A TMDL may also include a plan for bringing an impaired water body back within standards. The most recently approved Section 303(d) List of Water Quality Limited Segments lists a mercury impairment for the Natomas Cross Canal and a number of impairments for the Sacramento River. None of the water bodies listed as impaired under CWA Section 303(d) occur within the project site, and the TMDLs that has been developed for downstream waters (i.e., mercury and diazanon) address pollutants that would not be generated by the proposed project.

In more general terms however, surface water quality is influenced by a variety of factors including the physical and chemical characteristics of the watershed, hydrologic and climatic factors, and the quality of inputs of waters and wastes that discharge to the surface water. During fall low-flow conditions to Auburn Ravine and other streams in the Planning Area, water quality conditions of high importance to aquatic organisms include water temperature, dissolved oxygen, and turbidity. Water quality conditions of concern for human activities (e.g., recreational water-contact activities, etc.) or other beneficial uses (e.g., water supply, etc.) are levels of drinking water pollutants, toxic constituents, pathogenic organisms, odors, and nuisance algae forming conditions.

Overall, the quality of water in local streams is generally good. Previous studies have confirmed that the temperature and dissolved oxygen support a cold-water fishery in Auburn Ravine (City of Lincoln 2008). However, dissolved oxygen values demonstrated a decline along the lower reaches of Auburn Ravine below the developed portions of the City. Additionally, turbidity and coliform bacteria factors increased as water flowed through urban areas. These changes may

likely reflect the influences of urban runoff, agricultural activities, septic tanks, and other factors (City of Lincoln 2008). Hydromodification[2] impacts of urban development can include excessive velocity (and associated turbidity) in storm runoff, scouring of stream banks, and/or mobilization of non-point source pollutants associated with development (e.g., trash, grease/oils, exterior washing/cleaning products, fertilizers/pesticides, pet waste, etc.). These water quality issues are an ongoing concern and cumulative result of watershed urbanization.

Table 4.9-2
CWA Section 303(d) Listings for Project Receiving Waters

Water Body	Pollutants	TMDL Status	Potential Sources
Natomas Cross Canal	Mercury	Requires TMDL / 2021	Unknown
Sacramento River (Knights Landing to the Delta)	Chlordane	Requires TMDL / 2021	Unknown
	DDT	Requires TMDL / 2021	Unknown
	Diazanon	Approved / 2003	Unknown
	Dieldrin	Requires TMDL / 2022	Unknown
	Mercury	Requires TMDL / 2012	Abandoned Mines
	Unknown Toxicity	Requires TMDL / 2019	Unknown

Sources: SWRCB 2016.

4.9.1.3 Peak Flows and Flood Hazards

Regulatory Flood Zones

Floodplains are illustrated on flood insurance rate maps (FIRMs) produced by FEMA, which show areas of potential flooding and water depths. The floodplain is most often referred to as the area that is inundated by a 100-year flood event. A 100-year flood event has a 1% chance of being equaled or exceeded in any given year. An area within a designated 100-year floodplain may have substantially less protection and be susceptible to flooding on a regular basis; therefore, the 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program (NFIP). The only areas in the project site with a 100-year floodplain designated by FEMA are Markham and Auburn Ravines, which are mapped as Zone A. Zone A designation means that Markham and Auburn Ravine creek corridors are subject to inundation by the 1 percent annual chance flood event (i.e., 100-year flood), but that FEMA has not yet incorporated detailed hydraulic analysis necessary to determine precise base flood elevations, cross sections, or flood depths. Such flood zones have typically been mapped from low-resolution topographic data, and shows implausible overlap of the inundation extents with and areas of higher elevation and steep terrain.

[2] Hydromodification is defined as changes in channel form associated with alterations in flow and sediment due to past or proposed future land-use alteration that affect watershed processes.

However, the preliminary Flood Insurance Study (FIS) for the project area is presently being updated to include new elevations for "Pleasant Grove Creek and its Tributaries in Placer County" project (Appendix F). The update includes amendments to the hydrology and hydraulic models for Auburn Ravine, which provides new/updated base flood elevations for the project area along Auburn Ravine. Although these have not yet been incorporated into FEMA's effective FIRMs to date, the update is expected to occur in the near future. The Master Drainage Study for the proposed project incorporates the updated information and modeling in its depiction of FEMA flood zones and its evaluation and design of proposed drainage features (i.e., pipes, swales, detention basins and outfalls). The 100-year flood zones that cross the project site are depicted in Figure 4.9-2.

Flooding History

Approximately 30 square miles of area are tributary to Auburn Ravine east of the City Limits, with an estimated peak 100-year flowrate of 14,500 cubic feet per second. The City has recorded several flooding events in the recent past involving structures along the Auburn Ravine corridor and its tributaries in the City of Lincoln (City of Lincoln 2008). In 1986, 1995 and 1997, the Auburn Ravine bridge structures at SR-65, and SR-193 were overtopped. The existing bridge at the Joiner Parkway crossing of Auburn Ravine did not flood in these events and would not be expected to flood in an event less than the 500-year. Downstream of the City of Lincoln, Flooding was also noted at the Moore Road and Nelson Lane crossings. Several smaller private crossings overtop frequently (City of Lincoln 2008). The New Year's Eve storm event of 2005/2006 did not result in overtopping of any of the main bridge structures along the ravine (SR-193, SR-65 and Joiner Parkway). However, the Moore Road and Nelson Lane crossings of Auburn Ravine were reported as overtopped. The storm was estimated to be a 10-year event for Auburn Ravine and a lesser event in the tributaries (City of Lincoln 2008).

Flooding within Markham Ravine is known to occur mostly in the rural areas of the City, where culvert and bridge crossings do not provide adequate capacity (City of Lincoln 2008). West of SR-65, flooding has occurred at the low areas of Nicolaus Road (not at the bridge location). At Nelson Lane, flooding is expected annually (City of Lincoln 2008). The SR-65 Bridge is expected to overtop in storm events greater than the 10-year, and the Union Pacific Railroad Bridge is only expected to be overtopped in a 50-year or greater event. Other private crossings of the Ravine are expected to overtop annually.

Observations of past flood events therefore, appear to indicate that Nelson Lane which forms the western boundary of the proposed project is subject to periodic flooding during intense storm events.

Hydrologic Modeling

The proposed project's Master Drainage Study, included as Appendix F, used industry-standard hydrologic analysis software (HEC-1[3]) and prior watershed modeling for adjacent projects (i.e., the Lincoln Hills, Lincoln crossing, Twelve Bridges, Village 1, and Nelson Lane Roadway Improvements and Bridge Replacement Project) to develop a comprehensive hydrologic model for Auburn Ravine and Markham Ravine (Kinematic Wave), in accordance with the Placer County Flood Control and Water conservation District "Stormwater Management Manual (SWMM). Two separate models were developed to characterize runoff into Auburn Ravine and Markham Ravine respectively, for storms of various recurrence intervals (2-year, 10-year, 100-year, 200-year, and 500-year).

A summary of model inputs and variables is provided below and described in more detail in Appendix F:

- **Drainage Basin Delineation:** Sub-watersheds are used to characterize the flow network, land cover, rainfall, and lag time, so that peak flows can be accurately modeled. The portion of the project site (and upstream areas draining into the site) within the Markham Ravine watershed was divided into 17 sub-watersheds, and the portion of the project site (and upstream areas draining into the site) within the Auburn Ravine watershed was divided into 7 sub-watersheds. These sub-watersheds were delineated based on terrain data and in consideration of modifications from existing roadways, agricultural and public use operations.
- **Rainfall Depth and Distribution:** The watershed models used for the proposed project include more than 1 square mile of area, and therefore, the effects of spatial distribution of a storm may have an impact on the computed peak flow rates. "Storm centering" uses those spatial distributions to calculate their impact on peak flow rates. Per SWMM, a tool called "PDP2" was used to compute precipitation values across varies storm directions/distributions, and the highest value in the range was used in the model.
- **Curve Number:** The curve number is a coefficient that reduces the total precipitation to runoff potential, considering factors such as evaporation, absorption, transpiration, and surface storage (the higher the curve number value, the higher the runoff potential). Curve numbers are determined based on a combination of soil type and vegetation cover, and are typically area-weighted within each sub-watershed to determine a single weighted curve number (or infiltration) value.

[3] HEC-1 is a hydrologic model produced by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers that is designed to describe the physical properties of river basins, the meteorology that occurs on them, and the resulting runoff and streamflow that are produced.

- **Lag Time/Flow Routing:** These parameters are important in characterizing how and when peak flow rates within each sub-watershed contribute and combine into downstream drainages. Calculations of sub-watershed characteristics such as flow length, average slope, and Manning's n value (a measure of channel roughness) are used to incorporate lag time into the HEC-1 software.

The peak flow rates to Markham Ravine and Auburn Ravine under existing conditions are shown in Table 4.9-3. Existing 10- and 100-year flow within the portion of Auburn Ravine that crosses the project area is 5,907 and 12,102 cubic feet per second (cfs), respectively (Appendix F). Existing 10- and 100-year flow to the portion of Markham Ravine that crosses the project area is 1,169 and 2,777 cubic feet per second (cfs), respectively (Appendix F)

Table 4.9-3
Pre-Project Peak Flow Rates for Markham and Auburn Ravine

Node	Description	2-year (cfs)	10-year (cfs)	100-year (cfs)
Markham Ravine				
MA2B2A	Areas East of SUD-B NEQ	15	35	68
MA2B2	Areas East of SUD-B NEQ	160	325	586
MA2B3	Areas East of SUD-B NEQ	162	327	590
MA2B2C	Combine	272	687	1261
COMB	Combine	396	968	1778
NICHOL	Nicholas Road	395	963	1761
MA2C5	Markham Ravine	397	967	1766
MA2C1	Open Space	1	3	8
MA2C2	Open Space	1	3	6
YCMA2N	Combine	398	970	1774
MA2C6	Open Space	399	974	1779
NELSON	Nelson Lane	399	969	1772
MA2C12	South of SR 65	8	37	88
MA2C9X	North of SR 65	1	2	4
MA2CMB	Combine	9	39	93
MA2C8X	North of SR 65	1	4	10
MA2C10	State Route 65	4	19	44
MA2CMC	Combine	13	57	135
MA2C9	Agricultural	4	16	38
MA2C8	Agricultural	14	28	67
MA2C7	Open Space	2	8	20
YCMA2S	Combine	423	1036	1896
MARR09	Route Flow to Dowd Road	376	836	1453
MA2C14	Shed West of SUD-B NEQ	106	436	944
MA2CC	Combine	478	1169	2116
MARR11	Route to Pleasant Grove Road	472	1147	2071

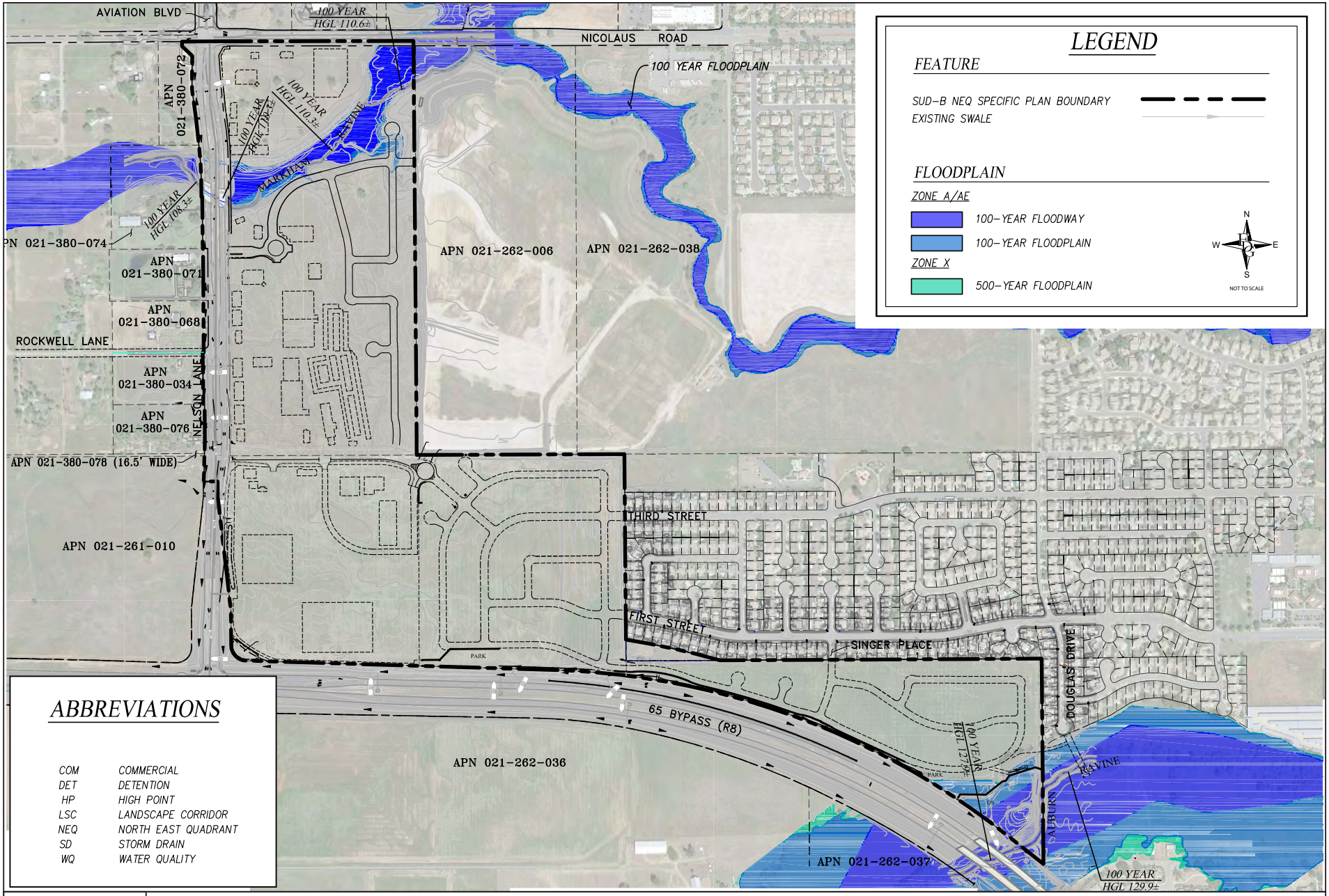
Table 4.9-3
Pre-Project Peak Flow Rates for Markham and Auburn Ravine

Node	Description	2-year (cfs)	10-year (cfs)	100-year (cfs)
Auburn Ravine				
A10A10	South of Orchard Parcel	6	13	26
10A10C	Combine	2264	5943	10007
A10A11	South of Orchard Parcel	18	39	79
A10A50	Residential North of Orchard	12	29	57
A10A52	Orchard, Open Space and Residential	33	79	155
A10A51	Agricultural	8	21	43
A10A5N	Open Space	9	24	49
COMBP	Combine	41	102	203
A10A53	Agricultural and SR 65	55	132	252
A10A54	Agricultural south of SR 65	61	147	284
10A12C	Combine	2267	5952	10031
10A11R	Route to near SR 65 Crossing	2206	5904	9965
A10A13	State Route 65	10	21	41
A10A14	West Areas of Three D Project	16	34	69
10A14C	Combine	2208	5907	9970

Source: Appendix F, Table II.F.1A1.

Other Flood Hazards

Due to the location of the project site (i.e., not near a coast, adjacent to a large body of water, in hilly terrain, or downstream of a major reservoir), it is not subject to other types of flooding including tsunami, seiche, mudflow, or inundation from dam or levee failure.



SOURCE: Frayji Design Group, LLC (2016)

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FIGURE 4.9-2

FEMA Special Flood Hazard Areas

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4.9.1.4 Groundwater Resources

The proposed project is located within the North American River Groundwater Sub-Basin (Sub-Basin) underlying western Placer County. DWR designates groundwater basins for the purpose of monitoring and sustainably managing groundwater resources; the Sub-Basin is designated as Basin Number 5-21.64 and is a part of the larger Sacramento Valley Groundwater Basin (DWR 2006). The basin has a surface area of 548 square miles and is bounded by the Bear River to the north, the Feather River to the west, the American River to the south, and the sierra foothills to the east (DWR 2006). The upper unconfined aquifer system consists of the Riverbank (formerly known as Victor) and Turlock Lake/Laguna (formerly known as Fair Oaks-Laguna) formations; the lower semi-confined aquifer system consists primarily of the Mehrten formation. These two systems constitute the major water producing aquifers in the region. They are composed of sand, silt, and clay, inter-bedded with coarse-grained stream channel deposits that store water. The information below is derived from the Western Placer County Groundwater Management Plan and recent groundwater monitoring data (MWH 2007, DWR 2017a).

The City primarily uses treated surface water delivered by PCWA, and relies on groundwater for emergency outages and as a backup water supply source during daily and peak demand periods. The City also provides recycled water from its wastewater treatment recycling facility (WWTRF) for nearby agricultural uses, and is working on expanding the use of recycled water to include non-potable commercial, industrial, and public landscaping needs. Based on a network groundwater wells for which DWR collects depth to water data, the depth to water in Fall 2016 in the vicinity of the project site ranges between 50 and 70 feet below the ground surface. Regionally, the groundwater gradient is to the southwest, but locally may be more to the south or southeast, based on recent groundwater level trends (DWR 2017a).

Recharge to the Sub-basin system occurs along active river and stream channels where extensive sand and gravel deposits exist, particularly along the Feather, Bear, American, and Sacramento River channels. Additional recharge occurs along the eastern boundary of the Sub-Basin within western Placer County at the transition point from the consolidated rocks of the Sierra Nevada to the alluvial deposited basin sediments (where the semi-confined Mehrten formation is exposed at the ground surface). This typically occurs through fractured granitic and metavolcanic rock that makes up the Sierra Nevada foothills. Other sources of recharge within the area include deep percolation associated with applied irrigation water and precipitation, as well as from smaller streams that bi-sect the region (i.e., Auburn Ravine and Coon Creek) (MWH 2007).

The groundwater quality in the upper aquifer system is regarded as superior to that of the lower aquifer system. The upper aquifer is preferred over the lower aquifer principally because the lower aquifer system (specifically the pre-Mehrten formation) contains higher concentrations of iron and manganese, and in some cases arsenic. Water from the upper aquifer generally does not

require treatment (other than disinfection). The lower aquifer system also has higher concentrations of total dissolved solids (TDS, a measure of salinity) than the upper aquifer, although it typically meets standards as a potable water supply. In general, at depths of approximately 1,200 feet or greater (actual depth varies throughout the basin), the TDS concentration can exceed 2,000 milligrams per liter (mg/L). At such concentrations, the groundwater is considered non-potable without treatment (MWH 2007).

4.9.2 Relevant Plans, Policies, and Ordinances

The regulatory framework related to hydrology and water quality is extensive because it addresses issues related to the environment (i.e., maintaining high quality waters for water-dependent species and activities), public health (e.g., ensuring adequate drinking water quality), and public safety (e.g., avoiding flood damage). Impacts pertaining to the provision of potable and non-potable water supplies, including applicable regulations, are addressed in Section 4.17, Utilities and Service Systems.

4.9.2.1 Federal

Clean Water Act

The Clean Water Act (CWA), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality (33 U.S.C. 1251 et seq.). The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA establishes basic guidelines for regulating discharges of both point and non-point sources[4] of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA. Relevant sections of the act are as follows:

- **Sections 303 and 304** provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. California is required to establish total maximum daily loads (TMDLs) for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. Once a water body is placed on the CWA Section 303(d) List of Water Quality Limited Segments, it remains on the list until a TMDL is adopted and the water quality standards are attained, or there is sufficient data to demonstrate that existing conditions warrant delisting from the Section 303(d) list. The water quality impairments relevant to the Project are shown in Table 4.9-2, and the basin

[4] Point source discharges are those emanating from a pipe or discrete location/process, such as an industrial process or wastewater discharge. Non-point source pollutants are those that originate from numerous diffuse sources and land uses, and which can accumulate in stormwater runoff or in groundwater.

planning process that establishes beneficial uses and associated water quality objectives are further described in Section 4.9.2.2.

- **Section 401 (Water Quality Certification)** requires an applicant for any federal permit that proposes an activity which may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. This process is known as the Water Quality Certification process. For projects in the City of Lincoln and Placer County, the Central Valley RWQCB issues CWA Section 401 permits. The proposed project would require a Section 401 water quality certification which would also be required in conjunction with the CWA Section 404 permit.
- **Section 402 (National Pollutant Discharge Elimination System)** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the SWRCB and the nine RWQCBs, who have several programs that implement individual and general permits related to construction activities, stormwater runoff quality, and various kinds of non-stormwater discharges. These general permits are further described in Section 4.9.2.2.
- **Section 404** (**Discharge of Dredged or Fill Material into Waters of the United States)** establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the USACE and the EPA. EIR Section 4.4, Biological Resources, indicates waters of the United States will be impacted by the proposed development, including vernal pools, seasonal wetlands, an irrigation pond, and various swales, drainages, and ditches. Therefore, the proposed project would require a CWA Section 404, discussed in greater detail in Section 4.4.

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level this includes the EPA, the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the major federal land management agencies such as the U.S. Forest Service and the Bureau of Land Management. At the state level, with the exception of tribal lands, the California EPA and its sub-agencies, including the State Water Resources Control Board (SWRCB), have been delegated primary responsibility for administering and enforcing the CWA in California. At the local level, the Central Valley Regional Water Quality Control Board (CVRWQCB) and Placer County and the City of Lincoln (as operators of a municipal storm drain system) have both implementation and enforcement responsibilities under the CWA.

Federal Antidegradation Policy

The federal antidegradation policy (40 CFR §131.12) of the federal CWA is designed to protect water quality and water resources. The policy requires states to develop statewide antidegradation policies and identify methods for implementing them. State antidegradation

policies and implementation measures much include the following provisions: (1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. State permitting actions must be consistent with the federal Antidegradation Policy.

National Flood Insurance Act

The National Flood Insurance Act of 1968 Act established the National Flood Insurance Program (NFIP) to provide flood insurance within communities that would adopt floodplain management programs to mitigate future flood losses. The Act also required the identification of all floodplain areas within the United States and the establishment of flood-risk zones within those areas. The Federal Emergency Management Agency (FEMA) is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing Flood Insurance Rate Maps (FIRMs) that delineate the areas of known special flood hazards and their risk applicable to the community. FEMA FIRMs are used as part of state and community floodplain management regulations, as well as for insurers to calculate flood insurance premiums. They are also used for emergency management, land use and water resources planning, and by federal agencies. It is the responsibility of state and local agencies to implement regulations, ordinances, and policies in compliance with FEMA requirements to adequately address floodplain management issues and attempt to prevent loss of life and property, health and safety hazards, and other adverse effects due to flooding.

The National Flood Insurance Reform Act of 1994 resulted in major changes to the NFIP. The Act provides tools to make NFIP more effective in achieving its goals of reducing the risk of flood damage to properties and reducing federal expenditures for uninsured properties damaged by flood. The Act requires mitigation insurance and establishes a grant program for state and community flood mitigation planning projects.

4.9.2.2 State

The following state regulations pertaining to hydrology and water quality would apply to the proposed project.

Porter-Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (codified in the California Water Code, Section 13000 et seq.) is the primary water quality control law for California. Whereas the CWA applies to all waters of the United States, the Porter–Cologne Act applies to waters of the state[5], which includes isolated wetlands and groundwater in addition to federal waters. The Porter-Cologne Act grants the SWRCB and the nine RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. The Porter-Cologne Act also grants the SWRCB and the nine RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum products.

The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. California Water Code Section 13260 subdivision (a) requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the state, shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as groundwater and isolated wetlands), Waste Discharge Requirements (WDRs) are required and are issued exclusively under state law. WDRs typically require many of the same best management practices and pollution control technologies as required by NPDES-derived permits.

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Anti-Degradation Policy applies to all waters of the state, not just surface waters. The policy requires that, with limited exceptions, whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource.

[5] "Waters of the state" are defined in the Porter–Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Water Quality Control Plan for the Sacramento and San Joaquin River Basins

The California legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality, including the Porter–Cologne Act and portions of the CWA, to the SWRCB and its nine RWQCBs. The Central Valley RWQCB implements the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code Sections 13240–13247). The Porter–Cologne Act also provides the RWQCBs with authority to include within their basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The Basin Plan is continually being updated to include amendments related to implementation of TMDLs, revisions of programs and policies within the Central Valley RWQCB region, and changes to beneficial use designations and associate water quality objectives. The Basin Plan is the guiding document that establishes water quality standards for the region.

The Basin Plan for each region provides quantitative and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies and groundwater basins within the Sacramento and San Joaquin River Basin. Specific criteria are provided for the larger, designated water bodies within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters, and ground waters. In general, the narrative criteria require that degradation of water quality does not occur due to increases in pollutant loads that will adversely impact the designated beneficial uses of a water body. The beneficial uses that have the potential to be affected by the proposed project are defined for the Sacramento River from the Colusa Basin Drain to the I-Street Bridge in Sacramento. The beneficial uses applicable to the river include (1) municipal and domestic supply (MUN), (2) agricultural irrigation (AGR), (3) water contact and non-water contact recreation (REC-1 and REC-2), (4) warm and cold freshwater habitat (WARM and COLD), (5) fish migration and spawning (MIGR and SPWN), (6) wildlife habitat (WILD), and (7) navigation (NAV). Because Auburn and Markham Ravines discharge into the Cross Canal, which then discharges into the Sacramento River, these beneficial uses and associated water quality objectives also apply to those waters. The Basin Plan lists also groundwater quality objectives for bacteria, chemical constituents, pesticides, radioactivity, salinity, tastes and odors, and toxicity.

General NPDES Permits and WDRs

To enable efficient permitting under both the CWA and the Porter–Cologne Act, the SWRCB and the RWQCBs run permit programs that group similar types of activities that have similar threats to water quality. These “general permit” programs include the Phase II Small Municipal

Separate Storm Sewer System (MS4)[6] Permit, the construction general permit, and other general permits for low-threat discharges. The Construction Stormwater Program and the Small MS4 Permit are administered by the SWRCB, while other general WDRs are administered by the CVRWQCB. Point source discharges or other activities that threaten water quality that are not covered under a general permit must seek individual NPDES permits and/or WDRs, depending on the type, location and destination of the discharge. For these types of discharges, the initial step in the process is to submit a "Report of Waste Discharge" to the CVRWQCB, who then determines the appropriate permitting pathway.

Table 4.9-4, State and Regional Water Quality-Related Permits and Approvals, lists the water-quality-related permits that would apply to certain actions conducted under the project, each of which is further described below.

Table 4.9-4
State and Regional Water Quality-Related Permits and Approvals

Program/Activity	Order Number/ NPDES Number	Permit Name	Affected Area
Construction stormwater program	2009-0009-DWQ/ CAS000002, as amended	NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)	Statewide
Phase II Small Municipal Separate Storm Sewer System (MS4) Program	SWRCB Water Quality Order 2013-0001-DWQ/ CAS000004, as amended	Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit)	All Regulated Small MS4 systems.
Temporary/Low Volume Dewatering	Central Valley RWQCB Order No. R5-2013-0074/ CAG995001	Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality	Central Valley.

Notes: NPDES = National Pollutant Discharge Elimination System; MS4 = municipal separate storm sewer system; WDR = Waste Discharge Requirement

Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended). For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and

[6] A small MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that serve populations of fewer than 100,000 persons.

implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify water quality BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the SWRCB.

To receive coverage under the Construction General Permit, the project applicant must submit a Notice of Intent and permit registration documents to the SWRCB. Permit registration documents include completing a construction site risk assessment to determine appropriate coverage level; detailed site maps showing disturbance area, drainage area, and BMP types/locations; the SWPPP; and where applicable, post-construction water balance calculations and active treatment systems design documentation.

Phase II Small Municipal Separate Storm Sewer System (MS4) Permit (SWRCB Order No. 2013-0001-DWQ, as amended). The SWRCB has designated the City of Lincoln as a Traditional Small MS4. For stormwater discharges from small MS4s, the SWRCB has adopted Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit) (Water Quality Order 2013-0001-DWQ). MS4 permits were issued in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. As part of Phase II, the SWRCB adopted a general permit for the discharge of stormwater from small MS4s (Water Quality Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities serving less than 100,000 people. SWRCB updated and revised the Small MS4 Permit under Water Quality Order 2013-0001-DWQ on February 5, 2013, which became effective on July 1, 2013 for a 5-year permit term.

The Small MS4 Permit consists of several program elements: Program Management, Public Involvement/Participation, Illicit Discharge Detection and Elimination, Construction Site Storm Water Runoff Control, Pollution Prevention/Good Housekeeping for Permittee Operations, Post Construction Storm Water Management for New Development and Re-development, Water Quality Monitoring Requirements, Program Effectiveness Assessment, and Annual Reporting. Besides requiring implementation of construction site BMPs and performance criteria and design guidelines for development within the small MS4s service area, the Small MS4 Permit also requires operators to map their outfalls, properly maintain the storm drain system, educate the public on pollution prevention, and monitor and report on the quality of MS4 discharges to receiving waters, so that the effectiveness of the program can be evaluated. Collectively, the program elements are designed to ensure discharges from the storm drain system do not contain pollutant loads at levels that violate water quality standards and basin plan objectives and policies (such as a TMDL for a CWA

Section 303(d) impaired water body). Implementation of the program elements are the responsibility of the small MS4 operator, which is usually either a city, county, community services district, or special district.

Of particular relevance to the proposed project is that the Small MS4 Permit requires regulated projects[7] to implement post-construction measures in the form of site design, source control, stormwater treatment measures, and baseline hydromodification management measures to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP).[8] These include:

- **Source Control Measures**: Source control measures seek to avoid introduction of water quality pollution/degradation altogether. Source control strategies include strategies such as covering refuse/trash areas, properly managing outdoor storage of equipment/ materials, minimizing use of pesticides and fertilizers in landscaping, using sumps or special area drains to send non-stormwater discharges to the sewer, ensuring regular grounds maintenance, etc.
- **Site Design Measures**: Site design measures require early assessment and evaluation of how site conditions, such as soils, vegetation, and flow paths, will influence the placement of buildings and paved surfaces. The evaluation is used to meet the goals of capturing and treating runoff and maximizing opportunities to mimic natural hydrology. Options for site design measures include preserving trees, buffering natural water features, disconnecting impervious surfaces, and using green roofs or porous pavement.
- **Treatment Control Measures**: Treatment control measures retain, treat and/or infiltrate the site runoff produced under normal circumstances, controlling both the quality and quantity of stormwater released to the stormwater conveyance system and natural receiving waters. In most situations, this means implementing structural BMPs (e.g., infiltration, bioretention, and/or rainfall harvest and re-use) to address the volume and rate of runoff produced by 85th percentile storm[9] (i.e., design capture volume). The Small MS4 Permit requires regulated projects to prioritize stormwater capture (e.g., infiltration and/or harvest and re-use) unless site conditions (e.g., low-permeability soils) make it infeasible

[7] Regulated Projects are defined in Section E.12.c of Water Quality Order 2013-0001-DWQ, and include all projects that create and/or replace 5,000 square feet or more of impervious surface, not including: detached single-family home projects that are not part of a larger plan of development; interior remodels; routine maintenance or repair within the existing footprint; or linear underground/overhead projects.

[8] The Maximum Extent Practical standard involves applying BMPs that are effective in reducing the discharge of pollutants in stormwater runoff. The Maximum Extent Practical requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive.

[9] The 85th percentile storm represents a value of rainfall, in inches, such that 85% of the observed 24-hour rainfall totals within the historical record will be less than that value.

- **Hydromodification Measures**: Hydromodification measures are required for projects that create or replace one or more acres of impervious surfacing, so that post-project runoff shall not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm. If the project creates or replaces less than 1 acre of impervious surfaces and demonstrates that post-project flows from the site are less than pre-project flows, then no hydromodification measures from Section E.12.e.(ii)(f) from the Phase II Small MS4 General Permit are required.
- **Operation and Maintenance Requirements**: The Small MS4 Permit requires that maintenance agreements stay in place with each property (executed and then recorded with the City or County Clerk) to ensure permanent treatment control measures developed on site are properly maintained and/or repaired in accordance with the stormwater quality control plan.

The aforementioned site design, treatment control, and hydromodification measures are often collectively referred to as "Low Impact Development" standards (or LID design). Details about the Small MS4 Permit are further described in the Project's Post Construction Storm Water Quality Plan (Appendix A of EIR Appendix F).

General Order for Dewatering and Other Low-Threat Discharges to Surface Waters (CVRWQCB Order R5-2013-0074, as amended). The CVRWQCB has adopted a General Order for short-term discharges of small volumes of wastewater from certain construction-related activities. Discharges may be covered provided they are either (1) 4 months or less in duration or (2) the average dry weather discharge does not exceed 0.25 mgd. Construction dewatering and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the order. To receive coverage, the discharger must submit a Notice of Intent to the RWQCB and describe the activity with sufficient detail to demonstrate that discharge would comply with the discharge prohibitions, effluent limitations, and receiving water limitations outlined in the order. In no case shall the discharge impair beneficial uses or violate water quality standards or cause a possible nuisance condition.

The project site could have shallow/perched groundwater. Therefore, securing coverage under this order could be required in the event dewatering discharges would be necessary during foundation excavations, utility trenching, or other site construction activities, and if such discharged could reach a nearby creek or drainage. As part of obtaining the Notice of Intent, dischargers must sample and analyze the discharge for specific priority pollutants, and dewatering discharge concentrations must meet the Screening Levels in the General Order for the discharge to be covered under the order. If the discharge is made to land (e.g., to a temporary infiltration/percolation basin on-site), the applicant would need to apply for coverage under the Statewide General Waste Discharge Requirements for Discharges to Land

with a Low Threat to Water Quality (SWRCB Order No. 2003-0003-DWQ) or equivalent. The intent and procedures for coverage under this permit is similar as described above.

California Department of Transportation MS4 Permit. This permit may be relevant to the project's off-site circulation improvements on roadways under California Department of Transportation (Caltrans) authority. More specifically, stormwater discharges from any state highway improvement project would be regulated under the Statewide Caltrans NPDES Permit, Order No. 2012-0011-DWQ, effective July 1, 2013. This permit regulates stormwater discharges from all Caltrans-owned MS4s and maintenance facilities, but does not regulate discharges from Caltrans construction activities (which are regulated under the Construction General Permit). The permit contains specific requirements for new development and redevelopment projects within the Caltrans right-of-way implemented by both Caltrans and outside, "non-department" parties. These requirements include implementation of pollution prevention BMPs during project planning and design, post-construction stormwater treatment controls, and hydromodification control measures, as well as O&M of post-construction BMPs.

California Department of Fish and Wildlife Lake or Streambed Alteration Agreement

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires the proponent of a project that may impact a river, stream, or lake to notify CDFW before beginning the project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

If CDFW determines that the proposed project may substantially adversely affect a river, stream, or lake and associated fish and wildlife resources, a Lake or Streambed Alteration Agreement would be required. If an agreement is required, CDFW would conduct an on-site inspection, and submit a draft agreement to the project applicant. The agreement would include all reasonable conditions necessary to protect those resource and must comply with CEQA.

Cobey–Alquist Floodplain Management Act of 1965

Under the Cobey–Alquist Floodplain Management Act, local governments are encouraged to plan, adopt, and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. This Act also identifies requirements that jurisdictions must meet in order to receive state financial assistance for flood control. The Act supports restrictive general plan policies and zoning provisions with respect to floodplain management. Policies and programs providing for protection and prevention of community flood hazards should be incorporated into the Safety Element of the jurisdiction's General Plan. Further, floodways and floodplain

boundaries should be designated and a consistent land use designation given to affected lands in the General Plan Land Use Element (including its diagram).

California Sustainable Groundwater Act

The Sustainable Groundwater Management Act (SGMA) is a package of three bills (AB 1739, Senate Bill (SB) 1168, and SB 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. The SGMA establishes minimum standards for sustainable groundwater management, roles and responsibilities for local agencies that manage groundwater resources, as well as priorities and timelines to achieve sustainable groundwater management within 20 years of adoption of a Groundwater Sustainability Plan. Central to the SGMA is the identification of critically over-drafted basins and the prioritization of groundwater basins, the establishment of Groundwater Sustainability Agencies (GSAs), and the preparation and implementation of Groundwater Sustainability Plans (GSPs) for medium priority, high priority and critically overdrafted basins. GSAs must be formed by June 30, 2017; and GSPs must consider all beneficial uses and users of groundwater in the basin, as well as include measureable objectives and interim milestones that ensure basin sustainability. A basin may be managed by a single GSP or multiple coordinated GSPs.

At the state level, DWR has the primary role in the implementation, administration, and oversight of the SGMA, with the SWRCB stepping in should a local agency be found to not be managing groundwater in a sustainable manner. DWR recently approved regulations and guidelines for the implementation of the SGMA. The Sacramento Valley Groundwater Basin, North American subbasin (DWR Basin No. 5-21.64) is a high priority basin and will eventually be managed under a GSP. A GSA has not yet been formed for the portion of the subbasin underlying the proposed project. Medium and high priority basins which are not critically over drafted must be managed under a GSP by January 31, 2022. Until a GSP is adopted by a GSA, the existing groundwater management plans applicable to the area would still govern (described in Section 4.9.2.3, Local).

SBx7-7 Urban Water Management Plans

SBx7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package. It seeks to implement water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SBx7-7 as an individual or as a region in collaboration with other water suppliers.

Under the regional compliance option, the retail water supplier still has to report the water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 Urban Water Management Plans.

Central Valley Flood Protection Board (CVFPB)

The Central Valley Flood Protection Board (CVFPB) is the State regulatory agency responsible for ensuring that appropriate standards are met for the construction, maintenance, and protection of the flood control system that protects life, property, and wildlife habitat in California's vast and diverse Central Valley from the devastating effects of flooding. CVFPB issues encroachment permits and works with other agencies to improve the flood protection structures, enforces removal of problematic encroachments, and keeps watch over the Central Valley's continually improving flood management system.

A CVFPB Permit is required for every proposal or plan of work, including the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment or works of any kind, and including the planting, excavation, or removal of vegetation, and any repair or maintenance that involves cutting into the levee, wholly or in part within any area for which there is an Adopted Plan of Flood Control, as defined by California Code of Regulations (CCR) Title 23, Division 1, must be approved by the CVFPB prior to commencement of work. In general, if the proposed work is located within the State Plan of Flood Control, within 300 feet of a Designated Floodway (DF) that has been adopted by the CVFPB, or within 30 feet from the banks of a CVFPB Regulated Stream per CCR, Title 23, Section 112, Table 8,1, a permit would be required. Both Auburn and Markham Ravines are regulated stream, but neither are designated floodways (DWR 2017b).

Auburn Ravine is a regulated stream within Placer County per CCR, Title 23, Section 112, Table 8.1, therefore, the proposed project may be required to obtain an encroachment permit from the CVPFPB for work affecting Auburn Ravine.

4.9.2.3 Local

The following local/regional regulations pertaining to hydrology and water quality would apply to the proposed project.

General Plan

The Public Facilities & Services Element of the City of Lincoln General Plan provides objectives, policies, and programs regarding stormwater drainage, including the following applicable to proposed development:

GOAL PFS-1 **General.** To ensure that adequate public services and facilities are provided to meet the needs of residents of the city.

Policy PFS-1.3 **Conditions of Approval.** During the development review process, the City shall not approve new development unless the following conditions are met:

- The applicant can demonstrate that all necessary infrastructure will be installed or adequately financed;
- Infrastructure improvements are consistent with City infrastructure plans; and
- Infrastructure improvements incorporate a range of feasible measures that can be implemented to reduce public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required improvement.

PFS-1.4 **Compliance with Federal and State Standards for Surface Water Protection.** The City shall comply with the requirements of the Clean Water Act and other regulations with the intent of minimizing the discharge of pollutants to surface waters.

GOAL PFS-4 **Stormwater Drainage.** To ensure provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.

Policy PFS-4.2 **Development Requirements.** The City shall encourage project designs that minimize drainage concentrations and impervious coverage and avoid floodplain areas and, where feasible, be designed to provide a natural water course appearance.

Policy PFS-4.6 **Pre-Project Conditions.** The City will require new development to provide storm-water detention sufficient to limit outflow per Figure 7-1 of the City's Stormwater Management Manual (February 1994), or as revised. Master Drainage Plans shall be designed to require new development to provide, or contribute towards, stormwater detention to reduce post-development peak flow from a 100 year event to pre-development flow rate less 10% of the difference between the estimated pre-development and the post-development unmitigated peak flow rates. The Master Drainage Plan shall identify appropriate locations to achieve such post-development flows. This criterion is principally designed to address the 100-year event with appropriate consideration given for the feasibility of mitigating 2-year and 10-year events.

Policy PFS-4.7 **Stormwater Runoff.** The City shall require new development to provide stormwater-retention sufficient for the incremental runoff from an eight-day 100 year storm.

Policy PFS-4.8 **Discharge of Urban Pollutants.** The City shall require appropriate runoff control measures as part of future development proposals to minimize discharge of urban pollutants (such as oil and grease) into area drainages.

Policy PFS-4.9 **100-year Floodplain.** The City shall discourage development or major fill or structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by FEMA. Requests for fill and improvements within the floodplain may be approved by the City based upon a detailed hydraulic volumetric analysis prepared to evaluate impacts and provide for any mitigation measures to be provided as a part of the development to the satisfaction of the City Engineer / Public Works Director. Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.

Policy PFS-4.10 **Erosion Control Measures.** The City shall require adequate provision of erosion control measures as part of new development to minimize sedimentation of streams and drainage channels.

Policy PFS-4.11 **Stormwater Management Manual.** The City shall require drainage designs and practices to be in accordance with the Stormwater Management manual of the Placer County Flood Control District unless alternative methods are approved by the City Engineer.

Policy PFS-4.12 **Drainage Management Plan Costs.** The City shall require that the cost to develop new or modify existing Drainage Management Plans be allocated to applicants proposing development within the City's Sphere of Influence.

Policy PFS-4.14 **Bird Attraction.** New drainage facilities near the Lincoln Airport influence area will be designed and maintained to avoid attraction and concentration of birds above existing conditions at the project site.

Furthermore, the Open Space & Conservation Element of the City of Lincoln General Plan provides objectives, policies, and programs regarding water resources, including the following applicable to proposed development:

GOAL OSC-4 **Water Resources.** To preserve and enhance local streams, creeks, and aquifers.

Policy OSC-4.3 **Protect Surface Water and Groundwater.** The City shall ensure that new development projects do not degrade surface water and groundwater.

Policy OSC-4.4 **Protection and Management of Flood Plains.** The City shall encourage the protection of 100 year floodplains and where appropriate, obtain public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

Policy OSC-4.5 **Use of Reclaimed Water.** The City shall encourage the use of reclaimed water, in place of treated potable water for landscaping and other suitable applications.

Policy OSC-4.6 **Best Management Practices.** The City shall continue to require the use of feasible and practical best management practices (BMPs) to protect surface water and groundwater from the adverse effects of construction activities and urban runoff. Additionally, The City shall require, as part of its Storm Water NPDES Permit and ordinances, to implement the Pollution Prevention Plan (SWPPP) during construction activities for any improvement projects, new development and redevelopment projects for reducing pollutants to the maximum extent practicable.

Finally, the Health and Safety Element of the City of Lincoln General Plan provides objectives, policies, and programs regarding Flood Hazards, including the following applicable to proposed development:

GOAL HS-6 **Flood Hazards.** To minimize the risk of life and property of the City's residents from flood hazards.

Policy HS-6.3 **Master Drainage Plans.** The City shall require master drainage plans as a condition of approval for large development projects.

Policy HS-6.4 **New Residential Construction.** The City shall require new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards.

Policy HS-6.5 **Stream Channels.** The City shall prohibit development along stream channels that would reduce the stream capacity, increase erosion, or cause deterioration of the channel.

City of Lincoln Municipal Code

Section 8.60 – Post-Construction Storm Water Runoff Control

This City of Lincoln has adopted Chapter 8.6 of the Municipal Code, which pertains to post-construction storm water runoff control. It establishes the City's requirement to comply with the NPDES Permit for the City's storm sewer system (Small MS4 Permit), and establishes stormwater quality design, permitting, management and maintenance requirements for new development and redevelopment projects. The ordinance incorporates the requirement for the development and a storm water quality plan (SWQP) for regulated projects (including the proposed project), requires implementation of stormwater quality best management practices and low-impact development designs consistent with the City's Storm Water Management Plan, and establishes administrative review, approval and inspection authority over project-specific post-construction SWQPs. Design standards include performance criteria as outlined in the Small MS4 permits (described in greater detail above), including the requirement to not exceed pre-development discharge rates to the storm drain system and to minimize to the extent practicable discharge of pollutants to the storm drain system. The ordinance also requires project applicants to submit an operations and maintenance plan for approval by the city to outline how it intends to ensure the long-term functionality and effectiveness of storm water quality BMPs and low impact designs proposed in the SWQP.

Chapter 13.30 – Construction Storm Water Runoff Control

Section 13.30.100 requires development disturbing more than one acre to receive coverage under the SWRCB's current construction general permit. To obtain coverage under the permit, the applicant must prepare and submit a SWPPP to the City prior to issuance of a grading permit or encroachment permit. Section 13.30.100 also requires applicants to prepare an erosion and sedimentation control plan that identifies the BMPs that will be implemented throughout construction to control pollutant discharges. The erosion and sedimentation control plan must comply with the requirements of Municipal Code Chapter 13.30 as well as the City of Lincoln Department of Public Works' Design Criteria and Procedures Manual, and it must be prepared and submitted concurrently with the grading plan.

The erosion and sedimentation control plan identifies the receiving waters for the project, the project's risk level for stormwater pollutant discharge, drainage facility and BMP sizing information, the quantity and locations of storm water run-on locations, and the location of discharge, sampling, and monitoring points. The rationale for selecting or rejecting BMPs, including soil loss calculations, must be included in the erosion and sedimentation control plan.

Section 15.04.200 – California Building Code, Appendix J Amended—Excavation and Grading

Section 15.04.200 adopts and amends the California Building Code standards for excavation and grading. The ordinance ensures that proper administrative and engineering practices are implemented to minimize on-site and off-site hazards associated with grading. The City requires projects performing any grading over ten cubic yards to obtain a grading permit from the City Engineer. This section requires adherence to the standards set forth in the City of Lincoln Department of Public Works' Design Criteria and Procedures Manual.

Section 15.32 – Flood Damage Prevention

The City's floodplain management regulations are included in Section 15.32 of the Municipal Code, and are based on the California Model Floodplain Management Ordinance for Non Coastal Communities, dated December 2006. The ordinance establishes a floodplain administrator who reviews projects within special flood hazard zones to ensure that development would not expose persons or structures to an unacceptable flood risk or adversely affect the capacity of a floodway. Any modifications within the FEMA mapped floodplain of Creek or Ravine is subject this ordinance, the requirements of the "Storm Water Management Manual", and the design standards of the City of Lincoln.

Section 17.28.330 – Lot Drainage and Erosion Control

Section 17.28.330 stipulates that lots shall be graded to provide adequate drainage, and that erosion control measures must be implemented.

City of Lincoln Department of Public Works Design Criteria and Procedures Manual

The Design Criteria and Procedures Manual establishes the City's standards for the preparation, submittal, and approval of development plans. The Manual includes specifications for proposed drainage systems and grading plans. Applicants are required to prepare an erosion and sedimentation control plan to be submitted concurrently with improvement and/or grading plans. The erosion and sedimentation control plan must include a revegetation plan, a runoff/drainage control plan, and the phasing of erosion control measures. The Manual provides standard conditions that should be included on the erosion and sedimentation control plan, including timing and methods for soil stabilization, natural drainage protection measures, and requirements for construction staging. As specified in the Manual, the proposed Specific Plan would establish the City's authority for enforcement of grading standards (City of Lincoln 2004).

West Placer County Storm Water Quality Design Manual

The City has coverage under the Phase II Small MS4 General Permit that was adopted by the State Water Resources Control Board (Order No. 2013-0001 DWQ, effective July 1, 2013). The

Permit requires the City to have a stormwater program that controls the discharge of pollutants into the City's storm drainage system and our waterways. The City's Stormwater Program is multi-faceted and includes the following components:

- Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction
- Pollution Prevention and Housekeeping
- Post Construction
- Program Effectiveness and Assessment

The *West Placer County Storm Water Quality Design Manual* is the region's guidance document for the development and implementation of LID design standards to reduce runoff, treat storm water, and provide baseline hydromodification management. The manual is a regulatory compliance tool that addresses the requirements of the Small MS4 Permit, and provides developers of regulated projects with a compliance map, template and guidance for the development of project specific storm water quality plans (SWQP). The proposed project is within the area governed by the Small MS4 Permit and thus is required by the City of Lincoln to develop and submit a project-specific SWQP.

4.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on or off site.

4. Substantially alter the existing drainage patter of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
6. Otherwise substantially degrade water quality.
7. Place housing within a 100-year flood hazard areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
10. Result in inundation by seiche, tsunami, or mudflow.

As described in Section 4.9.1, because of the location of the proposed project (i.e., not near a coast, adjacent to a large body of water, in hilly terrain, or downstream of a major reservoir), it is not subject to other types of flooding including tsunami, seiche, mudflow, or inundation from dam or levee failure. These impacts are therefore not discussed further.

4.9.4 Impacts Analysis

4.9.4.1 Methods of Analysis

Hydrology and water quality impacts were evaluated in the Master Drainage Study and the Post-Construction Storm Water Quality Plan for the proposed project (Appendix F of this EIR). The impact analysis below considers compliance with regulations pertaining to water quality and implementation of the City's standard conditions of approval for subdivisions as part of the proposed project (described in Section 3.6 and 4.9.2.3). Impact determinations are made based on both the magnitude of project-related change from existing conditions, as well as the effectiveness of proposed drainage designs and stormwater quality BMPs, as described in Appendix F, in addressing the applicable criteria in Appendix G of the CEQA Guidelines.

4.9.4.2 Analysis

Impact 4.9-1: The project would potentially violate water quality standards or waste discharge requirements.

The SWRCB and the RWQCB are responsible for ensuring implementation and compliance with the provisions of the federal and state Clean Water Act and the NPDES permit. The City of

Lincoln maintains its compliance with the Small MS4 Permit by requiring developers to comply with the West Placer County Storm Water Quality Design Manual, the City of Lincoln Stormwater Management Plan, as well as ordinances in the City's Municipal Code. Stormwater quality BMPs would be required during construction in accordance with SWRCB Construction General Permit (SWRCB Order No. 2009-0009-DWQ/ CAS000002, as amended) and Section 13.3 of the City's Municipal Code (Construction Storm Water Runoff Control). Post-construction BMPs would need to be incorporated into the project design and operations in accordance with the Small MS4 Permit (SWRCB Water Quality Order 2013-0001-DWQ/ CAS000004, as amended) and Section 8.6 of the City's Municipal Code (Post-Construction Storm Water Runoff Control).

All non-stormwater discharges would be sent to the City's municipal sewer system, and thus would not violate waste discharge requirements. The project does not propose any on-site treatment of sanitary sewage or alternative means of wastewater disposal (e.g., septic systems). Per Section 8.6 of the City's Municipal Code (Sewage Facility Regulations), wastewater from certain food service and service-commercial facilities with elevated concentrations of fats oils, or greases; high suspended solids or biochemical oxygen demand; highly acidic or basic waters; or other hazardous substances would require a permit from the City. The permit requires pre-treatment (e.g., grease, oil and sand interceptors) prior to discharge to the sanitary sewer system. Proposed commercial uses, if they include facilities such as restaurants, gas stations, automotive services, etc., would be required to show adequate pre-treatment systems have been installed prior to occupancy and approval of a sewer connection permit. This process ensures that the City of Lincoln's Wastewater Treatment and Reclamation Facility (operated by the Department of Public Works under a separate NPDES Permit), can continue to provide adequate treatment and meet the water quality standards and limits within its NPDES Permit. See Section 4.17 for discussion of utilities/service systems impacts.

The following discussion addresses stormwater quality impacts during both construction and operations.

Construction

Construction of the project would result in earth disturbing activities such as site clearing and grading for construction of roads, parking areas, building pads, and park areas. Disturbed areas exposed to rainfall could lead to an increase in erosion and the discharge of sediment to receiving waters resulting in a degradation of water quality. Additional pollutants can be introduced during construction from vehicular use, construction materials, and construction waste products. Pollutants typically present on construction sites include petroleum products and heavy metals from equipment, and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Construction activities could result in water

quality degradation if runoff entering receiving waters contains pollutants in sufficient quantities to exceed water quality objectives defined in the Basin Plan or TMDLs established under CWA Section 303(d). Impacts from construction-related activities would generally be short term and of limited duration.

Because implementation of the proposed project would collectively require construction activities resulting in a land disturbance of more than 1 acre, the project applicant is required to obtain coverage under the Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended), which pertains to pollution from grading and project construction. Coverage under the Construction General Permit requires a qualified individual (as defined by the SWRCB) to prepare a Stormwater Pollution Prevention Plan (SWPPP) to address the potential for construction-related activities to contribute to pollutants within the project's receiving waterways. The SWPPP must describe the type, location and function of stormwater BMPs to be implemented, and must demonstrate that the combination of BMPs selected are adequate to meet the discharge prohibitions, effluent standards, and receiving water limitations contained in the Construction General Permit.

The following list includes examples of construction water quality BMPs that are standard for most construction sites subject to the Construction General Permit:

- Silt fences and/or fiber rolls installed along limits of work and/or the project construction site;
- Stockpile containment and exposed soil stabilization structures (e.g., visqueen, fiber rolls, gravel bags and/or hydroseed);
- Runoff control devices (e.g., fiber rolls, gravel bag barriers/chevrons, etc.) used during construction phases conducted during the rainy season;
- Wind erosion (dust) controls;
- Tracking controls at the site entrance, including regular street sweeping and tire washes for equipment;
- Establishment of vehicle fueling and maintenance areas and material storage areas that are either covered or are designed to control runoff;
- Proper waste/trash management; and
- Regular inspections and maintenance of BMPs.

These BMPs would be refined and/or added to, as necessary, by a qualitied SWPPP professional to meet the performance standards in the Construction General Permit.

To obtain coverage under the Construction General Permit, the project applicant or its construction contractor must submit to the SWRCB a Notice of Intent and associated permit

registration documents, including a SWPPP and site plan, and must obtain a Waste Discharge Identification Number. As a standard condition of approval, the project applicant is also required to provide the SWPPP for review by the City Engineer in conjunction with the submittal of the Improvement Plans, Grading Plans, and Final Map. In addition, all earthwork, grading, trenching, backfilling and compaction operations must be conducted in accordance with the Section 13.3 (Construction Storm Water Runoff Control), Section 15.04.200 (California Building Code, Appendix J Amended—Excavation and Grading), Section 17.28.330 (Lot Drainage and Erosion Control) and other applicable sections of the City's Municipal Code.

The BMPs required for coverage under the Construction General Permit and the erosion control provisions contained in City ordinances would require measures to prevent construction-related contaminants from reaching impaired surface waters and contributing to water quality impacts within Auburn Ravine, Markham Ravine, and/or the Sacramento River and downstream receiving waters. Compliance with the Construction General Permit and City ordinances governing construction runoff control would result in the implementation of feasible and effective means of eliminating or substantially reducing construction-related pollutants in stormwater runoff. For these reasons, water quality impacts resulting from construction-related activities and ground disturbances would be **less than significant.**

Operation and Maintenance

Implementation of the proposed project would convert the existing agricultural lands to urban uses. The increase in impervious area created by the proposed project, as well as on-site activities and uses, could alter the types and levels of pollutants that could be present in project site runoff associated with project operation. Runoff from building rooftops, walkways, parking lots, and landscaped areas can contain nonpoint source pollutants such as oil, grease, heavy metals, pesticides, herbicides, fertilizers, and sediment. Concentrations of pollutants carried in urban runoff are extremely variable, depending on factors such as the following:

- Volume of runoff reaching the storm drains;
- Time since the last rainfall;
- Relative mix of land uses and densities; and
- Degree to which street cleaning occurs.

As described above, the project area flows into two different watersheds, with the majority of the project site flowing into the Markham Ravine watershed, with the southeast portions of the project (i.e., the eastern-most parcel of the Peery-Arrillaga Property) flowing into the Auburn Ravine watershed. The Phase I Environmental Site Assessment conducted for the project site did not report any documentation or physical evidence of historical or current recognized

environmental conditions on the site, which means that runoff under current conditions is not expected to contain significant sources of water quality pollutants. However, the past agricultural uses of the site include agricultural crops and cattle ranching from 1910 to the present, which means that low levels of residual nutrients/fertilizers may remain within site soils. Given surface soils are exposed over the entire site, stormwater runoff may contain levels of sediment and/or nutrients characteristic of agricultural land uses.

Where roads, driveways, commercial uses, and residences are proposed, the surface soils that are now exposed to stormwater runoff would be stripped and replaced with engineered fills that meet geotechnical specifications and would become impervious (covered by proposed new development). At full build-out, the project is anticipated to consist of up to 4,757,928 square feet (109 acres) of impervious surfaces (Appendix F). Given the proposed project area is 198 acres in size, this results in a proposed total imperviousness of approximately 55%. The distribution of impervious surfaces would change substantially based on the proposed land uses, with commercial uses having the highest degree of impervious surfaces and open space uses having the least. The project's Drainage Master Plan modeled proposed land uses as having the following percentages of impervious cover: 90% for commercial, 40% for low density residential, 5% for parks, 0% for open space, and 85% for roadways.

The new site configuration would reduce the exposure of soils containing nutrients/fertilizers to stormwater runoff, and would likely reduce the turbidity levels of runoff when compared to the current agricultural use due to reduction in exposed soils. However, it would also introduce new uses and activities that have the potential to degrade the quality of stormwater runoff. The primary pollutants of concern for a low-density residential uses are associated with landscaping and landscape maintenance (e.g., sediment, improper/excessive use of pesticides, and/or fertilizers/nutrients), outdoor cleaning and maintenance activities, and/or improper waste management (e.g., fugitive litter/trash). Concerns for commercial land uses are similar but more intense, and also include uncovered parking areas and delivery loading/unloading areas (e.g., trash, leaking fuels, or fluids), and use/transport of waste and/or hazardous materials. Collectively, these uses and activities can result in an increase in "non-point" sources of pollutants within stormwater runoff. Furthermore, the increase in impervious surfaces also increases the velocity and volume of runoff and accelerates the arrival times of peak flows to area creeks and drainages. This could cause in-stream impacts from excessive erosion or channel scour that would otherwise not occur from any given storm event (i.e., hydromodification impacts).

The aforementioned impacts to Auburn and Markham Ravine would be tempered when considering the size of the project compared to the size of the watershed for each waterway (shown in Table 4.9-1). For example, the area contribution of the proposed project to Markham Ravine is less than 1% of the watershed. Nevertheless, because the cumulative effects of past projects have resulted in substantial water quality problems in the region's major waterways, and

because water quality problems are generally cumulative in nature, the City's ordinances and approval process, the Small MS4 Permit, and drainage design standards require developers to design and maintain projects in a manner that reduces pollutant concentrations within stormwater discharges to the maximum extent practicable.

Accordingly, the proposed project's Master Drainage Study and SWQP, included as Appendix F, has provided the analysis necessary to compare pre- and post-development peak flows and provide basin sizing criteria based on the results. Using methods described in Section 4.9.1.3, the proposed project was divided into numerous drainage areas under both pre- and post-development conditions and hydrologic models were run to compare how proposed land uses would increase runoff rates under various storm scenarios, including the 2-, 10-, and 100-year storm events. The results show that without inclusion of water quality basins and other BMPs, runoff would increase substantially compared to existing conditions. To provide the necessary retention and treatment, the project has been designed with a system of stormwater inlets, collector drains, trunk lines, 7 water quality basins and two vegetated swales to provide the necessary level of treatment for the project's six stormwater outfalls. The project's drainage management areas, water quality basins and outfalls are shown in Figure 4.9-3. The water quality basins and have been located and sized to capture the required water quality design volume, as determined based on the standards contained in the Small MS4 Permit and the West Placer County Storm Water Quality Design Manual (Appendix F). The required storage volume for these basins is 14.8 acre-feet, as shown in Table 4.9-5.

Table 4.9-5
Required Attenuation Creation Area (100-Year)

Location Name	Description	Pre-Project Net 100-year Storage (acre-feet)	Pre-Project Net 100-year Storage (acre-feet)	Required Storage (acre-feet)
Auburn Ravine				
DB1	Detention Basin to the south of the Peery eastern residential property	5.6	5.6	0
Markham Ravine				
DB2	Detention Basin to the south of the Peery western residential property	0	3.6	3.6
DB3	Detention Basin to the northwest of the Peery western residential property	0	0.6	0.6
DB4	Detention Basin to the northwest corner of the Peery commercial property	0	0.8	0.8
DB5	Detention Basin adjacent to Nelson Lane and the Peery commercial property	0	1.5	1.5
DB6	Detention Basin in the center of the northern portion of the Gill property	0	5.3	5.3
DB7	Detention Basin in the south of the Gill northern commercial property	0	3	3

Total On-site Storage Change	**14.8**

Source: Appendix F (Frayji Design Group 2016)

It is important that stormwater quality basins not completely cut off flow from the site so that the project does not excessively reduce the natural flows that support flora and fauna within the riparian corridors of Auburn Ravine and Markham Ravine. In addition to providing retention and treatment for peak storm event, the drainage design also includes provision for such "maintenance" flows, which involves post-treatment diversion of flow to the existing culvert crossings under Nelson Lane. This feature would ensure that normal and low-flows that currently support the riparian corridor are not totally eliminated by the project's water quality basins.

Furthermore, the proposed project's SWQP requires the implementation of several source control measures intended to prevent or reduce the potential for release of pollutants to stormwater runoff (outlined in Form 3-3 of Appendix F). These include requiring storage of materials indoors with proper seals and/or secondary containment; following manufacturer recommendations for use of outdoor pesticide use; plumbing interior floor drains, loading bays and other areas that may collect anything other than storm water runoff (e.g., wash water, sumps, fuel dispensing areas, HVAC drain lines, etc.) to the sanitary sewer system; and proper enclosure and management of trash bins. In addition, the SWQP calculates the water quality flow volume (ft^3), the water quality flow rate (cfs), and the hydromodification targets that would be achieved for each drainage management area outlined on-site. Applicable LID Measures by development type are shown in Table 4.9-6.

Table 4.9-6
Applicable LID Measures by Development Type

LID Measure Descriptions	Benefits Description	Development Land Use Type which is applicable to LID Measure
Disconnected roof drains	Water running off of the impervious roof system is treated by biological filtration, and the runoff gains an opportunity to partially infiltrate.	Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Public/Quasi Public, Parks
Pervious or partially paved driveways & porous pavement areas, and soil confinement *	Pavement alternatives offer the opportunity for partial or complete infiltration of runoff.	Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Public/Quasi Public, Park Roadway
Separated sidewalks & Pavement Disconnection and eliminated pavement	Runoff from the impervious sidewalk, driveway, and pavement areas can be treated and infiltrated in landscape areas before entering the gutter pan and storm drain systems. (including residential walkways) In some areas of the development, un-necessary pavement may also be eliminated for stormwater benefit.	Low Density Residential, Medium Density Residential, High Density Residential Commercial, Public/Quasi Public, Park, Roadway

Table 4.9-6
Applicable LID Measures by Development Type

LID Measure Descriptions	Benefits Description	Development Land Use Type which is applicable to LID Measure
Tree Planting and Canopy Preservation	The creation and preservation of tree canopy reduces the rate and amount of total runoff which enters the storm drain systems.	Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Public/Quasi Public Park, Roadway
Soil amendments in landscaped areas and storm water planters.	The addition of organic material to impervious soils can add voids which can absorb runoff preventing it from entering storm drain systems. In residential areas, this may include amending a landscape strip adjacent to the street or pavement areas where large amounts of runoff can be intercepted from the lots. In commercial areas this is likely to be limited to stormwater planter areas. At roadways this will be used where roadway flows are diverted into the landscape areas.	Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Public/Quasi Public, Park Roadway
Stream Buffer **	Sheet flows can be discharged into the stream corridors (at the surface overbank) directly providing significant treatment and infiltration opportunity prior to entering the streams.	High Density Residential **, Commercial **, Park **, Public/Quasi Public **
Vegetated Swales	*** Discharge of runoff into vegetated swales provides additional treatment in the in the treatment train, and opportunities for additional infiltration of runoff waters	Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Public/Quasi Public Park, Roadway
Stormwater Retention	These measures remove stormwater from the system, and trap constituents at the stormwater retention location such that it is not discharged.	These are used in combination with detention basins in this project. They are applicable

Notes:
* The use of pervious pavement and other infiltration oriented paving systems are dependent on infiltration capacity of the underlying soils, and may not be used everywhere. Geotechnical investigations are necessary to support the use of these systems.
** Opportunities for the use of this measure and land use combination are extremely limited within the proposed project area
*** There are two vegetated swales proposed.
Source: Appendix F (Frayji Design Group 2016)

The Master Drainage Study and preliminary SWQP demonstrates that overall drainage patterns will not be substantially altered, and adequately provides volume and flow reduction targets that water quality BMPs, including basins, must achieve. However, the proposed project's impacts with regard to water quality standards and waste discharge requirements remains **potentially significant** because the SQMP included in Appendix F is preliminary in nature and does not identify the exact type, location or design of water quality BMPs and LID features to a sufficient level of detail to ensure impacts would be substantially reduced or avoided. With implementation of Mitigation Measure HYD-1, parcel developers would be required to submit parcel-level SQMPs that identify water quality BMPs and LID designs that are the specific to design-level grading and building plans, and customized for the proposed land use (e.g., commercial or

residential). In addition, to address particularly sensitive locations along Auburn and Markham Ravine, where standard water quality measures might not suffice, implementation of MM-BIO-12 includes additional measures to ensure work in proximity to the ravines do not adversely affect their riparian corridors. This includes seasonal work windows, avoidance measures, additional erosion controls, and post-construction stabilization measures.

For these reasons, the impacts of operation and maintenance of the proposed project on stormwater quality would be **less than significant with mitigation**.

Impact 4.4-2: The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

The proposed project is located within the 548 square-mile North American River Groundwater Sub-Basin (DWR Sub-Basin No. 5-21.64) underlying western Placer County. Impacts of the project on groundwater resources include (a) the potential for construction of impervious surfaces to interfere with groundwater recharge on-site that otherwise could occur on an undeveloped site, and (b) the potential for the project's water demands to indirectly deplete or lower the level of groundwater aquifers relied upon by other users. On-site groundwater wells are not proposed as a means of supplying the project's water demands, so there would be no localized impacts related to local lowering of the water table. Indirect impacts related to consumptive use of groundwater would be limited to the wells that supply the City's municipal water system.

Groundwater Recharge

At full build-out, the project is anticipated to consist of up to 4,757,928 square feet (109 acres) of impervious surfaces (Appendix F). Given the proposed project area is 198 acres in size, this results in a proposed total imperviousness of approximately 55%. As discussed under Impact 4.9-1, the project proposes seven water quality basins and two vegetated swales to retain and treat the increase in runoff that the impervious surfaces would cause. In addition, parcel level LID features would be incorporated to further reduce the amount of water that is translated into runoff (as opposed to ponding and percolating into the underlying groundwater table). According to the *Western Placer County Groundwater Management Plan* (MWH 2007), recharge to the underlying basin occurs along active river and stream channels where extensive sand and gravel deposits exist, particularly along the Feather, Bear, American, and Sacramento River channels. Additional recharge occurs along the eastern boundary of the Sub-Basin within western Placer County at the transition point from the consolidated rocks of the Sierra Nevada to the alluvial deposited basin sediments (where the semi-confined Mehrten formation is exposed at the ground

surface) (MWH 2007). Some recharge occurs from deep percolation of rainfall in agricultural areas, but is a small contributor when compared to the aforementioned sources.

Given the proposed project is not located within an area that is a primary contributor to groundwater recharge, that the project proposes LID designs which would encourage percolation of runoff, and that it makes up less than 0.1% of the surface area of the North American River Groundwater Sub-Basin, the impacts of the proposed project on groundwater recharge would be negligible, and **less than significant**.

Aquifer Depletion / Groundwater Levels

To the extent municipal water service provided by the City of Lincoln comes from groundwater wells, the proposed project's water demands could have an indirect effect on groundwater within the North American River Groundwater Sub-Basin.

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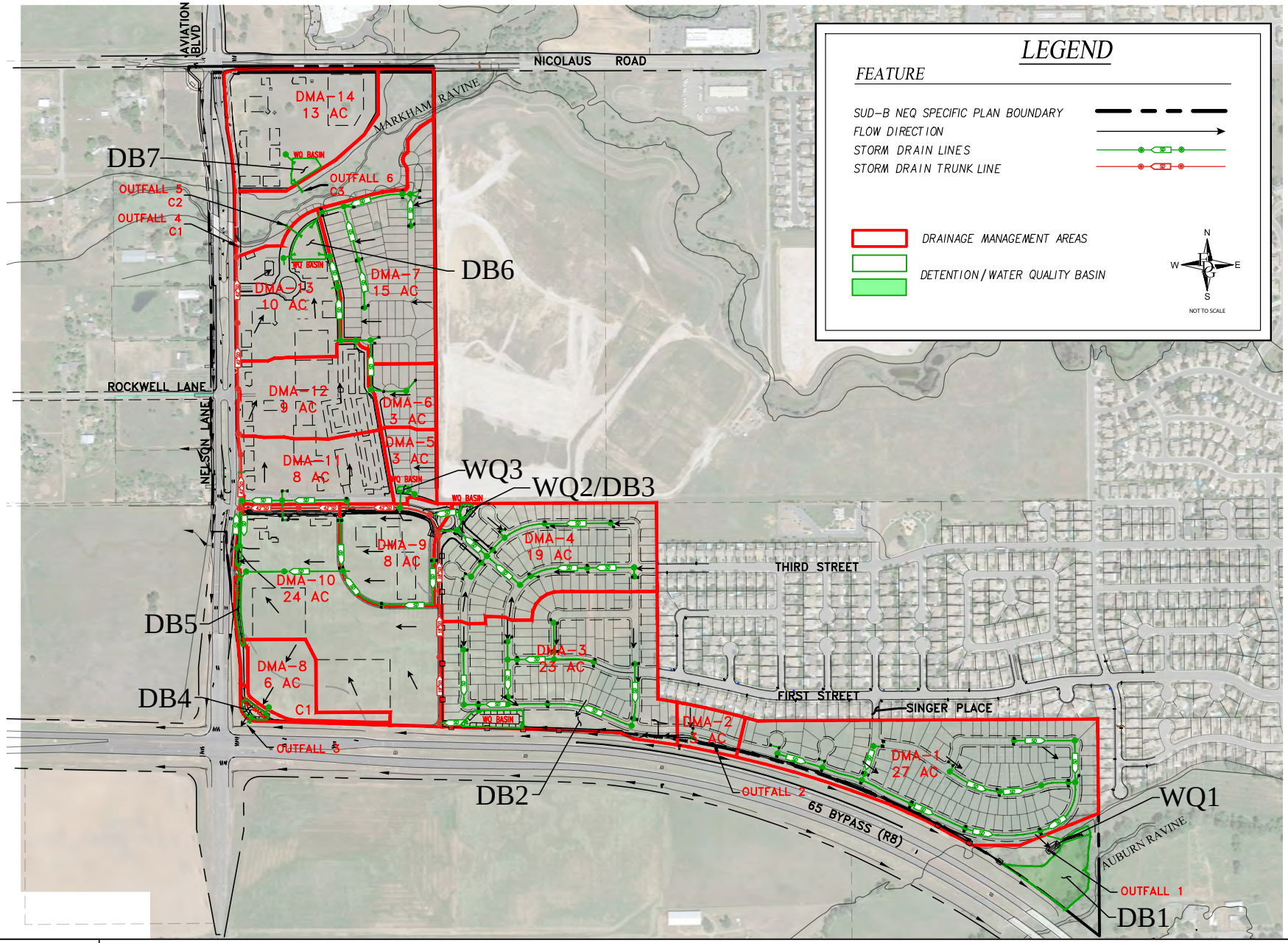

SOURCE: Frayji Design Group, LLC (2016)

FIGURE 4.9-3

Proposed Drainage Management Area

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The project's Draft Water Supply Assessment (WSA) (prepared per Senate Bill 610), estimates the project would have a total water demand of 317 acre-feet per year at full build-out (Tully & Young 2017, included as Appendix I of the EIR). The City's primary source of water is treated surface water from the PCWA, with groundwater consisting of up to 10% of the supply in normal years. The City relies on five groundwater wells with a combined capacity of about 3 million gallons per day (assuming 8.5 hours/day of operation) to supplement the primary surface water source from PCWA, and considers these wells an important backup source of water during extended drought periods. It is expected that the wells can provide up to 30% of the City's service area demand in the event of a drought (Tully & Young 2017).

In the context of the City's water service area, while increased demands associated with urban development are expected, the conversion of agricultural uses to urban uses is expected to decrease overall demands on the groundwater basin (Tully & Young 2017). This is because the water demands from irrigation are generally much higher on a per-acre basis than urban water demands, and are supplied in many cases by private groundwater wells that are un-metered. The project could indirectly require about 32 acre-feet of groundwater during normal years (based on 10% groundwater in municipal water supply), and up to 95 acre-feet of groundwater in drought periods (based on 30% groundwater in municipal water supply). The WSA estimates that the proposed project in combination with planned growth within the City of Lincoln would account for an increase in groundwater pumping by approximately 1,100 acre-feet by 2040 (Tully & Young 2017). Within the City's service area, the project-related increase in groundwater use would be counter balanced or exceeded by concurrent reductions in agricultural groundwater use. Groundwater elevations for the past 25 years have not decreased considerably in western Placer County, and have actually risen in several locations.

Furthermore, the North American River Groundwater Sub-Basin is managed under several groundwater management plans, including the *City of Lincoln Groundwater Management Plan* and the *Western Placer County Groundwater Management Plan* (MWH 2007). The City's mission for groundwater, as established in its groundwater management plan, is to "ensure a viable resource for use by the City (Lincoln) to meet backup, emergency and peak demands without adversely affecting adjacent areas." With assistance from an AB303 grant from the DWR, the City installed five new multi-completion monitoring wells in 2005 to aid in basin management activities. The Lincoln *Groundwater Management Plan* contains the following Basin Management Objectives (BMOs) (MWH 2007):

- Maintain groundwater elevations at a level that would ensure an adequate groundwater supply for backup, emergency and peak demands, without causing significant adverse impacts to adjacent areas.
- Preserve overall groundwater quality by stabilizing existing groundwater contaminant migration, avoiding known contaminated areas, and protecting recharge areas.

- Ensure that the direction of groundwater flow continues its southwesterly flow pattern despite additional groundwater extraction or other potential influences.

With the implementation of the 2014 Sustainable Groundwater Management Act (SGMA), groundwater usage would be further monitored and managed in a manner that seeks sustainable groundwater use by 2042. The Sacramento Valley Groundwater Basin, North American subbasin (DWR Basin No. 5-21.64) is a high priority basin that must be managed under a groundwater sustainability plan per SGMA. Medium and high priority basins which are not critically overdrafted must be managed under a Groundwater Sustainability Plan by January 31, 2022.

Given the replacement of agricultural land uses with urban uses would result in an overall decrease in groundwater use within the City's service area, and given the City actively manages groundwater resources, limiting extraction to 10% under normal years, and 30% under drought scenarios, the proposed project is not expected to have significant indirect impacts on aquifer depletion or groundwater levels. The impact would be **less than significant**.

Impact 4.9-3: The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on- or off-site.

The proposed project does not include any structures or fill that would alter the course of Markham or Auburn Ravines. As described under Impact 4.9-1, the proposed project has maintained the general drainage pattern of the area in terms of keeping the same areas flowing to the same ravines (i.e., there are no substantial changes between the pre- and prost-project watershed area draining to each stream).

Though the project would not change the overall drainage pattern of the site or area or alter the course of a stream or river, the impervious surfaces proposed would increase the volume and velocity of stormwater runoff if the proposed project was not designed with water quality basins. In this regard, the analysis under Impact 4.9-1 is equally applicable to this impact and the impact is **potentially significant**. The analysis concludes that to ensure LID designs are implemented and that hydromodification standards are met, Mitigation Measure HYD-1 is required. Therefore, for the same reasons discussed under Impact 4.9-1, the impact would be **less than significant with mitigation**.

Impact 4.9-4: The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Because alterations of drainage patterns can result in both erosion or siltation as well as flooding on- or off-site, the analysis associated with the criterion is the same as that provided above for Impact 4.9-3, with one exception related to off-site flooding from the cumulative effects of

development within the watershed area of the Cross Canal (this area is shown in Figure 4.9-1). The Cross Canal Watershed Study identified that development within its watersheds worsen a flooding problem within Sutter County by increasing the runoff volume (CH2MHILL 1992-1994 as cited in Appendix F). The City of Lincoln has implemented a public facilities fee to collect funds and to ultimately build a mitigation facility, currently partially constructed at the Lakeview Farms site, northwest of proposed project. The land use impact for the 8-day, 100-year event was calculated as being 29.70 acre-feet (Appendix F). This impact will be mitigated at the City of Lincoln's Lakeview Farms Facility, once completed. The Lakeview Farms Facility was partially completed with the SR-65 Bypass project and the remainder should be completed by the City of Lincoln once funds are collected for construction. Because the city collects fees from project developers necessary to mitigate this potential impact, the proposed project's impact on flooding in Sutter County along the Cross Canal would be less than significant. Overall, the impact would be **less than significant with mitigation**, since implementation of Mitigation Measure HYD-1 is required to ensure water quality and drainage standards (including hydromodification) are met.

Impact 4.9-5: The project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The proposed project would significantly increase the amount of impervious cover on the project site, which would cause a significant increase in runoff rates compared to existing rates. As discussed under Impact 4.9-1, the post-project drainage system would collect storm runoff from the development and pass it through water quality BMPs and basins before the flows pass through outfalls and into existing drainage ways. As described in Appendix F, all storm drain pipes associated with the project would be designed to meet drainage standards outlined in Section 10 of the City of Lincoln Design Criteria and Procedures Manual, which states that the size of storm drain pipes and basins must be adequate to avoid flooding of (1) any vehicle lane within arterial roads, and (2) the center 12 feet of major collector streets in a 100-year storm. In addition, residential lots must have pads elevated at least 2 feet above the 100-year base flood elevation, and non-residential projects must have finished floor elevations at least 2 feet above the 100-year base flood elevation. Storm drain pipes and basins would be sized accordingly to satisfy these requirements.

With one exception, runoff from the proposed project boundary outfalls directly into Markham Ravine and Auburn Ravine, which are soft bottomed creeks and not a planned stormwater drainage system. However, one group of outfalls on Markham Ravine is located south of the project and currently flows into the Caltrans SR-65 Right-of-Way. Two existing outfall pipes, a 12" Corrugated Metal Pipe (CMP) and a 18" Reinforced Concrete Pipe (RCP), along with one proposed outfall pipe would carry project flows to the existing drainage ditch along the north side of SR-65, then along that ditch for approximately one mile which ultimately outfalls into

Markham Ravine. These outflows from the proposed project would be treated prior to entering the existing Caltrans ditch and the calculations for this treatment are included in Appendix F. The post-project outfalls which flow into the existing Caltrans ditch would not increase the post-project flows relative to pre-project conditions.

There are no reasons, other than those already discussed under Impact 4.9-1, that the proposed project would substantial add to sources of polluted runoff. Therefore, because the proposed project would not exceed the capacity of the existing or planned stormwater drainage system, the impact would be **less than significant**.

Impact 4.9-6: The project would not otherwise substantially degrade water quality.

There are no reasons, other than those already discussed under Impact 4.9-1, that the proposed project would substantially degrade water quality. The project would have **no impact** with regard to this criterion.

Impact 4.9-7: The project would not place housing within a 100-year flood hazard areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

The proposed project includes residential lots that overlap the Special Flood Hazard Area as mapped by FEMA along Markham Ravine. This includes residential lots 4, 5 and 6 located on the northern-most residential cul-de-sac. However, Section 10 of the City of Lincoln Design Criteria and Procedures Manual requires that all residential lots adjacent to a designated floodplain have pad elevations a minimum of two feet above the 100- year flood plain and that non-residential projects shall have finish floor elevations a minimum of two feet above the 100-year flood plain. As indicated in Appendix F, the proposed project would comply with these requirements. Based on the pre-project 100-year floodplain map in Appendix F, the base flood elevation along Markham Creek within the project is between 110.3 and 110.6 feet amsl, whereas the grading plan shows that the finished elevation of the lots would be 121.5 feet amsl (Appendix F). Therefore, the impact with regard to this criterion would be **less than significant**.

Impact 4.9-8: The project could place within a 100-year flood hazard area structures which would impede or redirect flood flows.

The proposed project would not place structures other than drainage features (which facilitate rather than impede flood flows) within the 100-year floodplain of Auburn Ravine.

However, the northern residential roadway that follows the south side of Markham Ravine, and the southern portion of the commercial lot north of Markham Ravine would require the placement of engineered fill on the outer fringes of the 100-year flood zone. Based on review of preliminary

grading plans, the depth of this fill could be up to 10 feet in places, but would not intersect or affect the normal flow path of Markham Ravine. These encroachments onto the floodplain of Markham Ravine would not impede or redirect flood flows, but could slightly constrict the cross sectional area through which such flows would pass, and result in an increase in the base flood elevation. It is unlikely it would do so to such a degree that it would substantially affect the depth or extent of floodwaters, or newly place private property, private structures, or public facilities within the floodplain. However, this impact is considered **potentially significant** because final improvement plans are required to model the expected impacts.

Implementation of Mitigation Measure HYD-2 requires the project applicant to further evaluate floodplain impacts as a condition of map approval, and requires submittal of a Letter of Map Revision to FEMA if the floodplain depth or limits would change as a result of the project. In addition, the CVFPB has jurisdiction, therefore, the project applicant would be required to obtain an encroachment permit prior to conducting work. Accordingly, the impacts of proposed project with regard to this criterion would be **less than significant with mitigation**.

Impact 4.9-9: The project would not expose people or structures to a significant risk of loss,

4.9.5 Mitigation Measures

The following mitigation measure(s) would reduce the potential for impacts on hydrology and water quality by ensuring that…. Implementation of the following mitigation measure(s) would reduce impacts to a **less-than-significant level.**

HYD-1 **Storm Water Quality Plan:** Through all phases of construction, development, and operation of the proposed project, the project applicant or designee, homeowners' association (HOA), and/or project contractor, as applicable, shall conduct planning, design, construction, and maintenance activities consistent with the performance criteria, design standards, and water quality best management practices contained in the project's Master Drainage Study and Storm Water Quality Plan (SWQP) (Appendix F). For each phase of development, a project-specific SWQP shall be developed and approved by the City of Lincoln to show parcel-level source control measures, structural treatment controls, and low-impact development (LID) designs, refined as necessary from the master SWQP. This includes meeting or exceeding the requirements of the Small Municipal Separate Storm Sewer System (MS4) Permit (SWRCB Order 2013-0001-DWQ, as amended), Section 8.6 of the City's Municipal Code (Post-Construction Storm Water Runoff Control), and the *West Placer County Storm Water Quality Design Manual*.

The developers, their contractors, and the planned community's governance entities shall be required to select, size, and maintain the LID designs and

implement water quality best management practices (BMPs) to address the following, consistent with Appendix F:

- *Post-Construction Source Control BMPs***:** Source control BMPs shall be incorporated into site development plans and maintenance operations to avoid pollutant generating sources and activities. Examples include ensuring the protection of waste and hazardous materials from contact with stormwater, minimizing the use of pesticides and fertilizers through integrated pest management and landscape design, ensuring vehicle maintenance occurs indoors or in covered areas, and plumbing interior floor drains to the sewer system.
- *LID Treatment BMPs*: Site preservation practices coupled with small-scale distributed treatment measures that rely on vegetation and soils, or systems that mimic the treatment obtained by soils and vegetation and soils, shall comprise the LID control approach. LID BMPs include strategies such as stream setbacks, tree and natural landscape preservation, disconnection of impervious surfaces, green roofs, porous pavement, vegetated swales, and infiltration/bioretention swales/basins. LID BMPs shall be sized to treat the volume of stormwater runoff produced from the 85th percentile, 24-hour storm event (water quality design volume), and on-site LID retention BMPs shall be selected to retain the water quality design volume to the extent feasible. If it is infeasible to retain all or part of the water quality design volume, LID biotreatment BMPs shall be used and shall be sized to capture and treat the remaining portion of the water quality design volume. LID BMPs may be located on site or at one of the water quality basins shown in Appendix F. The hydromodification performance standard shall be achieved through on-site or regional LID BMPs, on-site or regional flow control facilities, or a combination thereof.
- *Stormwater Facility Operation and Maintenance*: Depending on the type and location of stormwater quality BMPs, either the commercial land lessor or HOA shall be responsible for maintenance of all LID, treatment, and hydromodification control facilities. Maintenance responsibility shall be documented in the project's conditions, covenants, and restrictions. The commercial leases or HOAs shall also prepare a written operations and maintenance plan that identifies the anticipated inspection/monitoring and maintenance activities and frequencies for each BMP, including coordination requirements with City of Lincoln.

Prior to the vesting of subdivision maps and issuance of building permits, the City of Lincoln shall verify that all applicable water quality measures have been integrated into applicable plans and maintenance agreements in accordance with Appendix F, the MS4 Permit, and City ordinances pertaining to stormwater quality.

HYD-2 **Floodplain Modifications.** Prior to issuance of grading and building permits, parcel-level drainage studies shall be submitted to the City of Lincoln Public Works Department for review and approval. Structures and fill within the fringes of the Markham Ravine floodplain shall be considered in a detailed hydraulic analysis for their impacts on FEMA base flood elevations and flood extents. Final maps and improvements plans shall not be approved by the City if the analysis shows the project would increase base flood elevations more than 1 foot or otherwise place private property or public facilities at additional risk of flooding in a 100-year storm. In addition, the applicant shall process through FEMA a new Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) in order to map the new floodplain based on the future development and all of the proposed improvements such as bridges and drainage outfalls. FEMA shall be provided with detailed hydraulic analyses, Base Flood Elevation Data and revised floodplain maps showing the new floodplain and floodway limits. The applicant shall also coordinate with the Central Valley Flood Protection Board to obtain a permit prior to City approval of improvement plans.

HYD-3 **Implement Mitigation Measure BIO-12.** Refer to Section 4.4.

4.9.6 Level of Significance After Mitigation

Implementation of the above mitigation measures would reduce potential impacts on water quality and floodplains to **less-than-significant levels.**

4.9.7 Cumulative Analysis

Impact 4.9-9. The effects of the proposed project, when considered with other projects in the region, could result in a cumulative impact to hydrology and water quality.

Cumulative impacts from development of the project were analyzed in the City's General Plan EIR. The General Plan EIR found that changes to hydrology and water quality as a result of urban development could result in a **potentially significant** impact. Policies adopted in the General Plan and the City's municipal code address the evaluation of development to ensure adequate drainage facilities, the requirement for impact fees to fund storm drain improvements, and provision of storm drain master plans to guide development approvals, and ensure evaluation of drainage patterns, of flood risks, and of the facilities needed to protect water quality and

maintain drainage systems. The proposed project and other potential cumulative projects in the vicinity of the project site, including growth resulting from build-out of the City's General Plan, would be required to comply with the NPDES General Permit for Discharges of Storm Water Discharge Associated with Construction Activities issued by the State Water Resources Control Board. This permit requires projects to implement measures to prevent impacts, individual and cumulative, to water quality during construction. In addition, projects would also be required to comply with the City's NPDES stormwater permit from the Central Valley RWQCB and the associated Stormwater Quality Management Plan, which prevent impacts to water quality after construction of a project. As discussed in the impact analysis above, the proposed detention basins have been designed to address flood control and water quality considerations for the project. Therefore, the potential for cumulative impacts to water quality is less than significant.

The proposed project and other potential projects that could contribute to cumulative impacts would also be subject to local, state, and federal regulations designed to minimize individual and cumulative impacts related to stormwater runoff rates and flooding. Implementation of mitigation measures HYD-1, HYD-2, and HYD-3 would reduce the project's contribution to a level **less than significant with mitigation**.

Mitigation Measures

Implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3.

4.9.8 References

Central Valley RWQCB (California Regional Water Quality Control Board). 2016. *Water Quality Control Plan for the Tulare Lake Basin*. Second edition. Revised July 2016 with Approved Amendments.

City of Lincoln 2008. *City of Lincoln General Plan*. Background Report. March 2008.

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MWH 2007. *Western Placer County Groundwater Management Plan*. Prepared in cooperation between the City of Roseville, Placer County Water Agency, the City of Lincoln, and California American Water. November 2007.

SWRCB (State Water Resources Control Board). 2012. "Final 2012 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)"

USGS (U.S. Geological Survey) 2016. The National Map. National Hydrography Dataset Viewer. Accessed at http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd on 3/9/2016.

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4.10 LAND USE AND PLANNING

This section describes the land use and planning issues present in the project area and discusses applicable federal, state, and regional regulations pertaining to land use and planning. This section evaluates the potential effects on land uses associated with development of the SUD-B Northeast Quadrant Specific Plan (proposed project).

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included concerns regarding impacts related to compatibility with surrounding land uses in regards to density and lot size. Comments received from the Placer County Airport Land Use Commission identified that the proposed Specific Plan area is within compatibility zones C1 and C2 of the Placer County Airport Land Use Compatibility Plan and would have to comply with ALUCP intensity requirements and other restrictions on land use. The Placer County Facility Services Department and the Western Placer Waste Management Authority indicated that the proximity and compatibility of the proposed project with the Wastewater Treatment and Reclamation Facility, the Materials Recovery Facility (MRF) and Western Regional Sanitary Landfill should be analyzed.

Information contained in this section is based on reviews of the planning documents governing the proposed Specific Plan area and adjacent areas, primarily the City of Lincoln General Plan 2050 (General Plan). Other sources consulted are listed in Section 4.10.8, References.

4.10.1 Existing Conditions

This section describes the existing land uses on the project site as well as the surrounding land use designations and zoning.

4.10.1.1 Existing Land Uses

The 198.4-acre proposed Specific Plan area (SPA) is located in Placer County immediately west of the City of Lincoln, within the City's Sphere of Influence (SOI). The proposed SPA is bordered by Nicolaus Road to the north, Nelson Lane to the west, Highway 65 Bypass to the south, and the City of Lincoln, including the former Wastewater Treatment Plant, to the east (see **Figure 2-2**).

The proposed SPA is comprised of four parcels that historically have been used for agricultural purposes. The SPA consists of two separate ownerships, the northernmost parcel (APN 021-262-01) is owned by Gill Property Development ("Gill"), while the three southern parcels (APN 021-262-034, 021-264-035, and 009-031-028) are owned by the Peery and Arrillaga trusts ("Peery"). Only parcel 009-031-028, a 1.0 acre parcel, is located within the City limits. The other parcels are outside of the City limits but within the City SOI.

The project site is undeveloped land that is relatively flat and consists of disturbed non-native annual grassland with no structures or buildings present. The Peery property has been used primarily for dry crop farming (i.e., hay). Markham Ravine bisects the northern portion of the site, while a small portion of Auburn Ravine makes up the southeastern boundary of the project site. Oak woodland and riparian habitat are present near the ravines. Various wetlands including seasonal drainages and other wetland resources are present throughout the proposed SPA.

4.10.1.2 Surrounding Land Uses

The proposed SPA is located between the Lincoln Regional Airport and the Highway 65 Bypass along the western edge of the City of Lincoln, as shown in Figure 2-2. Rural residential and agricultural/grazing land is located to the south and west in unincorporated Placer County. Low intensity industrial/manufacturing uses are located north of the SPA, within the City of Lincoln. The former wastewater treatment plant (WWTP) site is located immediately northwest of the SPA. A residential neighborhood, "Park Estates," is located east of the SPA within the City of Lincoln.

The southern boundary of the Lincoln Regional Airport is located approximately one-half mile north of the project site, and the airport land use compatibility planning zone extends onto a portion of the SPA.

The City of Lincoln Wastewater Treatment and Reclamation Plant, on Fiddyment Road, is located approximately 1.75 miles south of the SPA. The County Materials Recovery Facility (landfill) is located 3 miles south of the SPA.

Proposed Adjacent Land Uses

The City has received an application for development of a residential project, Independence at Lincoln, on the site of the former WWTP, northeast of the SPA. In addition, the proposed Highway 65/Nelson Lane interchange, a joint Caltrans City project, is located adjacent to the southwest corner of the project site. Construction of this project has not yet begun, but is anticipated to be completed by 2025.

4.10.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations pertaining to land use and planning that would apply to the proposed project.

State

Although the State of California has no land use jurisdiction over the project site, the following state regulations pertaining to land use and planning would apply to the proposed project.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Act) establishes procedures for changes of organization within local government, including annexations to a City. The Act grants local agency formation commissions (LAFCOs) the power to act on local agency boundary changes in the interest of encouraging the orderly formation and development of local agencies. LAFCO involvement is intended to discourage urban sprawl, preserve open space and agricultural lands, and ensure the efficient provision of government services.

California Government Code Section 65450, et seq.

California Government Code Sections 65450 through 65457 govern the content and consistency of specific plans with the adopted general plan of the jurisdiction within which it is located. Specific plans shall include text and a diagram(s) which include the following in detail: (1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan; The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan; Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable; and a program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out these components and facilities.

SB 375

Senate Bill No. 375, also known as the Sustainable Communities and Climate Protection Act of 2008, was passed on September 30, 2008 establishing requirements related greenhouse gas emissions from passenger vehicles. SB 375 requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use and housing policies to plan for achievement of the emissions target for their region.

SACOG is the MPO responsible for developing the federally required Metropolitan Transportation Plan (MTP) and the SCS in coordination with the 22 cities, six counties, and

other partner agencies in the greater Sacramento region. The MTP is a long-range plan for transportation in the region built on the 2004 Blueprint framework. SACOG updated the MTP/SCS in February 2016.

SB 375 was adopted with the goal of reducing greenhouse gas emissions from cars and light trucks. SB 375 is intended to facilitate the development of communities that provide sensible and coordinated housing and transportation choices. The SCS is a plan to meet the region's greenhouse gas emissions reduction target, while taking into account regional housing needs, transportation demands, and protection of resource and farm lands based on the best forecast of likely land use patterns provided in coordination with SACOG's partner agencies.

Local

The following local/regional regulations pertaining to land use and planning would apply to the proposed project.

SACOG 2016 MTP/SCS

The 2016 MTP/SCS was adopted by the SACOG Board on February 18, 2016. The plan covers the period from 2012 to 2036 and is an update to the 2012 plan. This MTP/SCS provides the regional plan for transportation investments, integrated with projected land use, and funding constraints the region can reasonably expect to see through 2036. The plan takes an integrated approach to transportation and land use, and the resulting impacts to air quality, with a focus on implementation and maintenance of the existing transportation system. The 2016 MTP/SCS provides increased transportation options, while also reducing congestion, greenhouse gas emissions, and distances traveled between jobs and housing.

Placer County General Plan

The Gill property is designated by the Placer County General Plan as Rural Residential – 1 to 10-acre minimum. The Peery property, except for the small parcel within the City limits, is designated by Placer County as Agricultural/Timberland – 80 acre minimum.

Placer County Zoning Ordinance

The Gill property is zoned as a Farm-Building combining zone, 5-acre minimum. The two unincorporated Peery parcels in are zoned Farm-Building, 80-acre minimum. These zoning designations permit farm buildings at the indicated minimum parcel sizes. Special purpose districts identify specific areas within the vicinity of mineral extraction operations, airports, sewage treatment plants, and/or waste disposal facilities (Placer County Municipal Code 17.52).

Placer County Local Agency Formation Commission (LAFCO)

LAFCOs, among other responsibilities, review proposals and regulate changes related to changes to the boundary lines of existing local agencies, including cities. LAFCOs oversee these changes in the interest of discouraging urban sprawl, preserving open space and agricultural lands, and ensuring the efficient provision of government services. Because the proposed project would require the annexation of the proposed Specific Plan area into the City, Placer County LAFCO is responsible for evaluating the proposed project and approving the proposed annexation. Relevant policies that have been adopted by the Placer County LAFCO include (Placer County LAFCO n.d.):

Policy I-A Recognizing that the general purpose of government is to serve its citizens and that the purpose of LAFCO is to promote orderly and efficient forms of government, the consideration of service questions related to jurisdictional changes is paramount. Reflected in the following policies is the Commission's concern: (1) that through service information be made available, (2) that each affected agency be made aware of the impacts of a jurisdictional change, and (3) that as development occurs a complete range of necessary services is accessible.

1. The plan for service provision submitted as part of an application for the jurisdictional change shall include the following information: (1) an enumeration and description of the services to be extended to the affected territory; (2) the level and range of those services: (3) an indication of when those services can feasibly be extended to the affected territory; (4) an indication of any improvement or upgrading of structures, roads, sewer or water facilities, or other conditions the local agency would impose or require within the affected territory if the change of organization or reorganization is completed; and (5) information with respect to how those services would be financed.

   In addition to the foregoing information, the following information will be required as part of each plan for service:

   a. A list of the existing services available to the affected area, and the agencies providing those services

   b. A list of services available through the affected agency or agencies

   c. A comparison of the existing and proposed service levels and the effects of the proposed change on service in adjacent areas

   d. A description of all special local taxes, assessments, fees, and outstanding bonds that will potentially affect the proposal area

   e. Identification of any resource shortages or facility inadequacies presently experienced or anticipated by the affected agency

2. All proposals involving jurisdictional change will include a plan for services. Those proposals initiated by resolution of the affected agency shall include the plan for service with the application. When proposals are initiated by petition, the Commission's staff shall notify the affected agency and request a plan for service. In cases where the proposed jurisdictional change involves a reorganization, the plan for service shall address all of the affected agencies.

Policy I-B The Commission finds that a community approach to service provision is beneficial in that it facilitates the eventual consolidation of local agencies, it clarifies and simplifies service delivery, it assure\s the most complete ranges of services available to a developing area, and it helps define and empower a community. The Commission shall encourage a community approach to service provision by encouraging the coterminous development of local agency boundaries within the area.

Service provision shall be viewed on a community basis. Annexation to a city shall generally be accompanied by simultaneous annexation to the special districts that serve that community. Likewise, when possible, annexation to a special district that serves a city shall include annexation to that adjacent city.

Policy II While the Commission is prohibited from imposing any conditions "which would directly regulate land use density or intensity, property development, or subdivision requirements," the Commission is required to consider land use and related data in their review. While prezoning is required, the Commission may not specify how a particular area should be zoned or developed.

The premature conversion of farmland and open space to other uses is discouraged by the Cortese-Knox-Hertzberg Act. In the pursuit of this goal, the Commission has authority to modify the proposal's boundaries or to deny an untimely proposal. Information regarding land use designations and existing and proposed land uses assists the Commission in its determinations as to the appropriateness of a proposal's timing and boundaries.

1. The commission encourages all agencies within the County to adopt and exercise development policies that promote orderly development and logical boundaries and protect productive agricultural lands and significant open space areas, including riparian areas.
2. Unless the subject area is substantially developed to its ultimate use, annexation to a city or special district will be linked to a proposal to develop

and not be speculative in nature. Development plans, including a timetable, will be required as part of the LAFCO application for annexation.

3. Generally annexation of farmlands shall not be permitted when significant areas of non-productive farmland are already available. Development of vacant land within a city or district should be developed prior to fringe areas.

Policy III-A

1. The Commission encourages the urbanization of certain lands over others and hereby establishes a priority list for urbanization:
   a. Vacant or underdeveloped land within the existing boundaries of a city
   b. Vacant or underdeveloped land within the adopted sphere of influence of a city
   c. Vacant or underdeveloped land outside of the adopted sphere of influence for a city
2. The commission will consider the following factors in determining local growth patterns in reviewing proposals for annexation to a city or expansion of a city's sphere of influence:
   a. Adjacency with existing and planned growth pattern of the city
   b. Projected growth demand and relationship to remaining lands to be developed within the city and its existing sphere
   c. Ability of the city to provide and fund needed services (utilities, transportation, public safety, recreation, libraries) to the levels defined by the city's general plan
   d. Pending or anticipated development applications to the County for areas within a city's existing sphere
3. The Commission discourages urban level development in unincorporated areas adjacent to city boundaries.

Policy III-C

1. To allow for the evaluation of projected growth demand and its relationship to remaining lands to be developed within the city, proposals for annexations to a city or reorganizations including annexation to a city (except unincorporated islands and minor adjustments) shall be accompanied by the following:
   a. A market absorption study analyzing proposed uses in relation to similar uses within the city.
   b. Analysis of alternative project sites located elsewhere within the city or its existing sphere. This analysis shall be included as an alternative in the

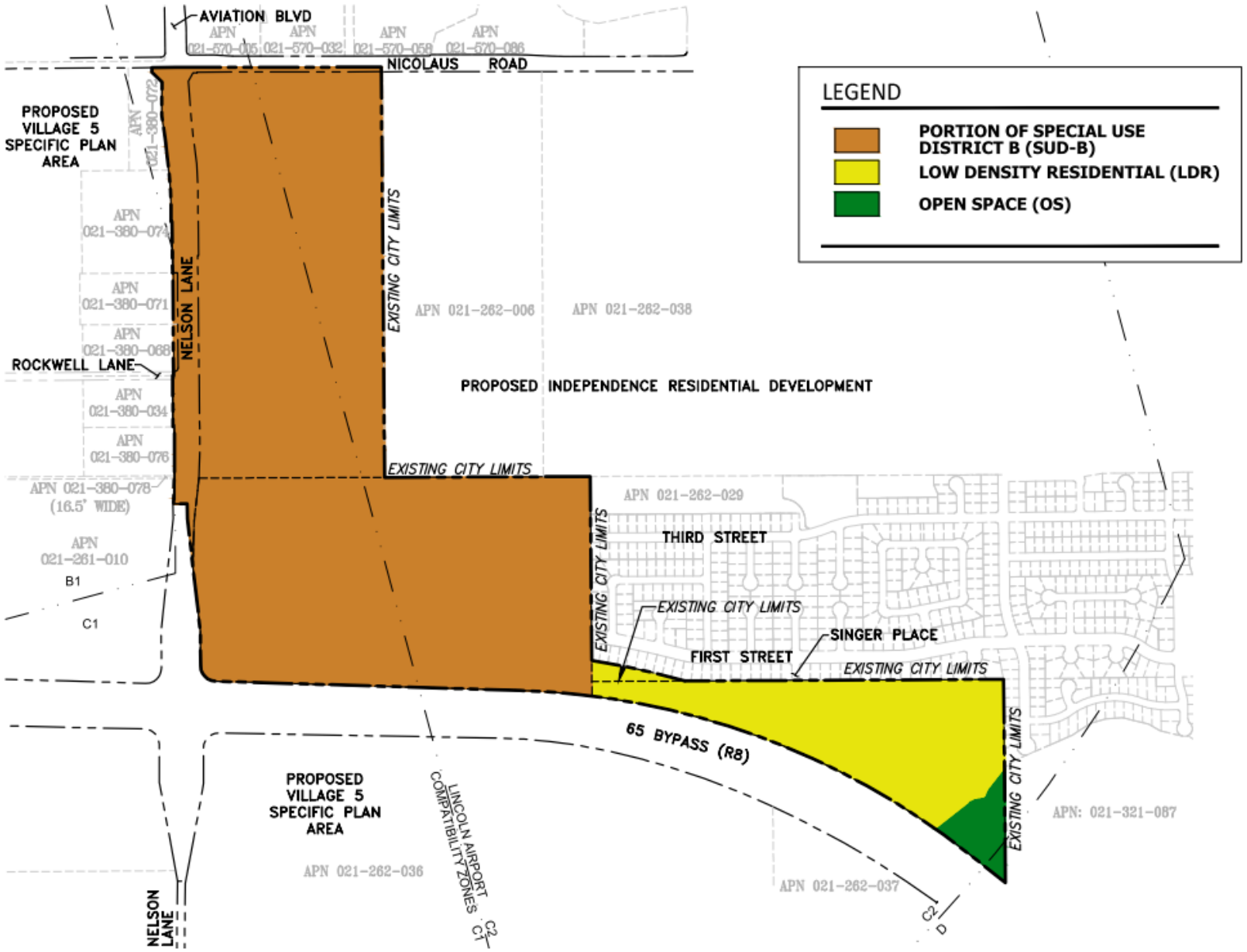
environmental document prepared for the proposed annexation or reorganization including annexation. If such alternative sites are determined not to be feasible as defined by CEQA, the environmental document shall include a discussion of these reasons and relevant data used to make determinations. LAFCO staff shall be afforded the opportunity to comment on the adequacy of the alternatives analysis prior to certification of the environmental document.

2. Unless special circumstances can be demonstrated, city annexations or reorganizations including city annexations shall be discouraged if there are feasible alternative sites for the annexation proposal already within the city.
3. All city annexations shall be pre-zoned. No subsequent change may be made to the general plan or zoning for the annexed territory that is not in conformance to the pre-zoning designations for a period of two years after completion of the annexation.

Placer County Airport Land Use Compatibility Plan

The Placer County Airport Land Use Compatibility Plan (ALUCP) for the Lincoln Regional Airport sets compatibility zone boundaries that represent a composite of four compatibility factors: noise, safety, air-space protection, and overflight concerns (PCTPA 2014).

The proposed SPA is located within compatibility zones C1 and C2 (see Figure 4.10-2). Compatibility zone C1 covers the extended approach/departure corridor, and is affected by moderate degrees of both noise and risk (PCTPA 2014). Cumulative noise levels exceed CNEL 55 dB in portions of compatibility zone C1 and noise from aircraft operations can affect noise-sensitive land uses residences, schools, libraries, and outdoor theaters (PCTPA 2014).



SOURCE: Frayji Design Group, Inc. (2017)

FIGURE 4.10-1

Current City of Lincoln General Plan Land Use

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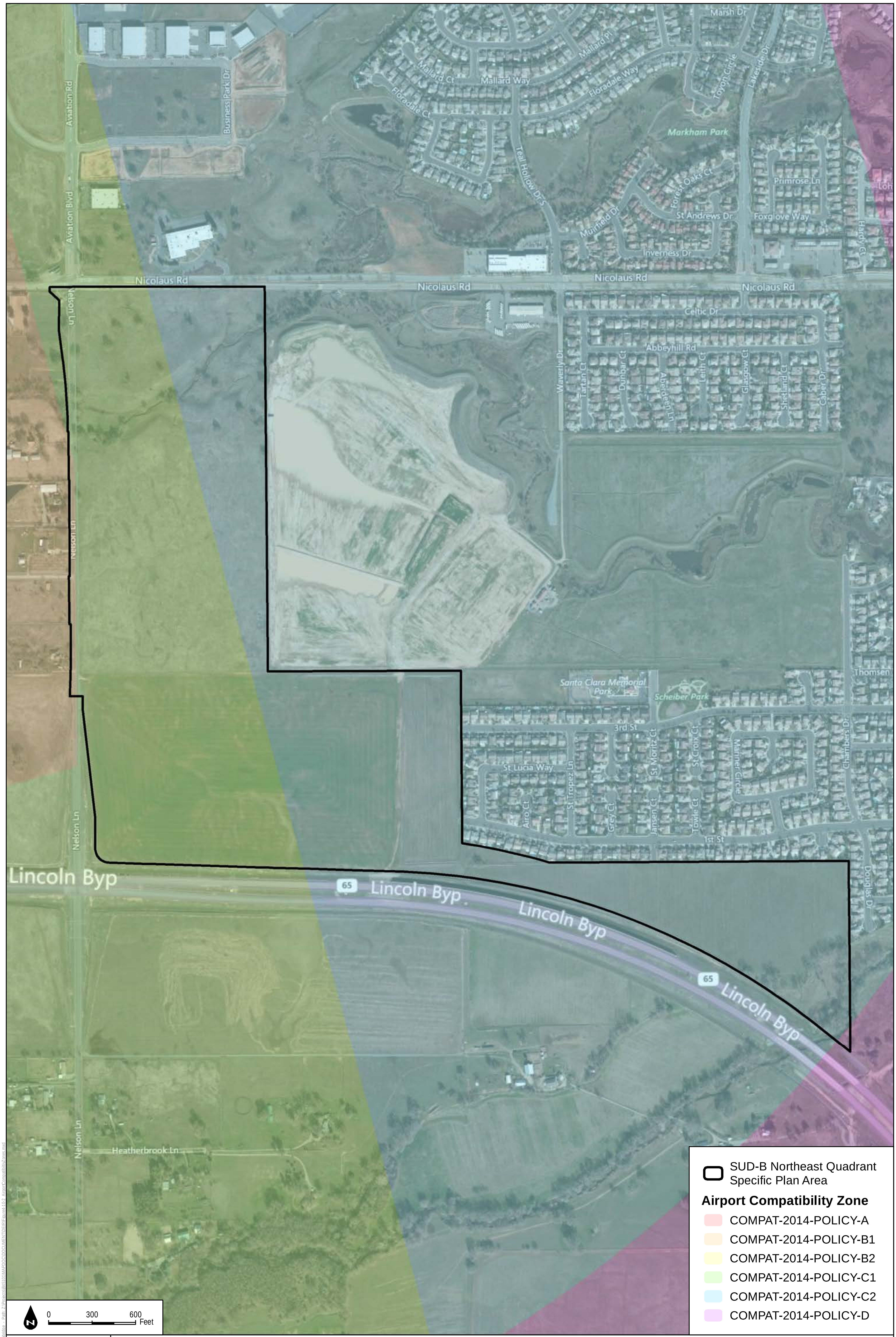

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SOURCE: Bing Maps (Accessed 2017); City of Lincoln (2017)

FIGURE 4.10-2

Airport Land Use Compatibility Plan

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Compatibility zone C2 includes location along the pattern entry routes to the Lincoln Regional Airport and beneath wide patterns flown by large aircraft (PCTPA 2014). This zone lies outside the CNEL 55 dB noise contour. Safety is a concern within compatibility zone C2 only with regard to highly concentrated land uses and particularly risk-sensitive uses, such as schools and hospitals (PCTPA 2014).

Table 4.10-1 shows the permitted land use criteria for compatibility zones C1 and C2. Note that only the land uses proposed in the SPA are listed.

Table 4.10-1
Lincoln Regional Airport Land Use Compatibility Policies

	Compatibility Zone C1	Compatibility Zone C2
Criteria		
Maximum Sitewide Average Intensity (people/acre)[1]	150	300
Maximum Single-Acre Intensity (people/acre)[1]	450	1,200
Open Land Requirement	15%	10%
Land Use		
General		
Any use having more than 1 habitable floor	Conditionally Acceptable (limited to ≤3 habitable floors)	Normally Compatible
Any use having structures (including poles or antennas) or trees 35 to 150 feet in height	Conditionally Acceptable (Airspace review required for objects >70 feet)	Normally Compatible
Any use having the potential to cause an increase in the attraction of birds or other wildlife	Conditionally Acceptable[2]	Conditionally Acceptable[2]
Any use creating visual or electronic hazards to flight[3]	Incompatible	Incompatible
Outdoor Uses		
Water: flood plains, wetlands, lakes, reservoirs, rivers, detention/retention ponds	Conditionally Acceptable[2]	Conditionally Acceptable[2]
Local Parks: neighborhood parks, playgrounds	Normally Compatible	Normally Compatible
Residential Uses		
Single-Family Residential: individual dwellings, townhouses, mobile homes, bed and breakfast inns	Conditionally Acceptable (1 dwelling unit/2 acres, 4 dwelling units/single acre)	Normally Compatible
Commercial, Office, and Service Uses		
Major Retail (capacity >300 people per building): Regional shopping centers, 'big box' retail, supermarket	Conditionally Acceptable (FAR 0.38)	Conditionally Acceptable (FAR 0.76)
Local Retail (≤300 people per building): community/neighborhood shopping centers, grocery stores	Conditionally Acceptable (FAR 0.59)	Normally Compatible
Eating/Drinking Establishments: restaurants, bars, fast-food dining	Conditionally Acceptable (FAR 0.21)	Conditionally Acceptable (FAR 0.41)
Limited Retail/Wholesale: furniture, automobiles, heavy equipment, building materials, hardware, lumber yards, nurseries	Conditionally Acceptable (FAR 0.86)	Conditionally Acceptable (FAR 1.72)

Table 4.10-1
Lincoln Regional Airport Land Use Compatibility Policies

	Compatibility Zone C1	Compatibility Zone C2
Offices: professional services, doctors, finance, banks, civic; radio, television and recording studios, office space associated with other listed uses	Conditionally Acceptable (FAR 0.74)	Conditionally Acceptable (FAR 1.48)
Personal and Miscellaneous Services: barbers, car washes, print shops	Conditionally Acceptable (FAR 0.69)	Conditionally Acceptable (FAR 1.38)
Fueling facilities: gas stations, trucking and other transportation fueling facilities	Conditionally Acceptable	Normally Compatible
Transportation		
Transportation Routes: road and rail transit lines, rights-of-way, bus stops	Normally Compatible	Normally Compatible
Auto Parking: surface lots, structures	Normally Compatible	Normally Compatible

Notes:
1 All non-residential development shall satisfy both sitewide and single-acre intensity limits.
2 Avoid uses that attract birds or provide mitigation consistent with FAA rules and regulations
3 Specific characteristics to be avoided include: sources of glare (such as from mirrored or other highly reflective structures or building features) or bright lights (including search lights and laser light displays); distracting lights that could be mistaken for airport lights; sources of dust, steam, or smoke that may impair pilots' vision; sources of steam or other emissions that cause thermal plumes or other forms of unstable air; and sources of electrical interference with aircraft communications or navigation.

Source: Placer County Airport Land Use Compatibility Plan, 2014

City of Lincoln General Plan 2050

The City of Lincoln's General Plan 2050 (General Plan) serves as the primary document for guiding and governing future development and growth within the City, and has established comprehensive planning goals and policies designed to achieve development and community objectives through 2050. The current version was adopted and most recently updated in 2008. The plan includes seven elements that are discussed as individual chapters within the document, including: Economic Development, Land Use and Community Design, Transportation and Circulation, Public Facilities and Services, Open Space and Conservation, Health and Safety, and Housing (City of Lincoln 2008a).

The City of Lincoln General Plan designates the two northerly project parcels as Special Use District B and the two southerly parcels are designated as Low Density Residential (see **Figure 4.10-1**).

The 198.4-acre project area is part of a larger planning area, Special Use District-B (SUD-B), containing 1,844 acres. The SUD designation is intended to provide for master planned, mixed commercial projects that meet local and regional commercial demand and that are consistent with the restrictions of the Placer County Airport Land Use Compatibility Plan for the Lincoln Regional Airport (City of Lincoln 2008a). According to the City's General Plan:

> All urban development under this designation shall be approved pursuant to an adopted specific plan. During the development of each specific plan, the "SUD"

> designation shall be replaced with exact land use designations reflective of the mixed use concept. These designations will be established with the adoption of each specific plan and implemented with form based zoning classifications consistent with the specific plan.

The Highway 65 Bypass bisects the northern portion of SUD-B. Construction of the 65/Nelson Lane interchange, a joint Caltrans and City project, has not yet begun, but is anticipated to be completed by 2025. The City's General Plan envisions commercial land uses at the four quadrants of this interchange.

The City's General Plan identifies the following land use and design issues that should be addressed in the Specific Plan for SUD-B:

- The Special Use District shall comply with the land use requirements of the Placer County Airport Land Use Compatibility Plan
- Commercial/industrial opportunities in over-flight zone
- Nelson Lane realignment and interchange with SR 65 Bypass
- Opportunity for restoration of the Auburn Ravine and expand the City's trail system
- Potential for clustering of residential units in order to maintain a density limitation of one dwelling unit per two acres

The City's General Plan included a criterion that a specific plan would be required for the entire SUD-B prior to any major development within SUD-B. In 2002, the City Council adopted Resolution No. 2002-97 expressing a preference for an alignment for the Highway 65 Bypass through the Scheiber family ranch property and stating a commitment to work with the property owners to annex the property severed by the Bypass alignment to reduce the financial burden associated with the annexation and entitlement process. Resolution No. 2002-97 was approved by City Council, which expressed the City's willingness to consider an application for a General Plan Amendment, Specific Plan, and Annexation for the northeast quadrant of SUD-B (APN: 021-262-001 and 021-262-034).

The general plan goals and policies that are applicable to the proposed project are listed in Table 4.10-2, General Plan Consistency.

City of Lincoln Zoning Ordinance

The City Zoning Ordinance contains site-specific zoning designations and associated development standards that serve to implement the goals and policies of the General Plan, most notably the Land Use and Community Design Element. The Zoning Ordinance directly

influences development by specifying the distances between buildings, the height of buildings, landscaping, parking, and other regulations that combine to create the desired urban environment. The City zoning standards are found in Title 18 of the City's Municipal Code.

The small 1.0 acre parcel within the City limits is zoned Residential Development – 5 units/acre (the other three parcels do not have a City zoning designation prior to their annexation into the City).

Design Review

The purpose of the City's design review process aims to address the interdependence of land values and aesthetics and provide a means by which the City can ensure preservation and enhancement of the City's unique character. The design review process shall also assure that public funds spent on beautification of public facilities and structures are protected through reasonable controls over the character and design of private buildings and open spaces (City of Lincoln Municipal Code Section 18.64.030).

4.10.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to land use and planning would occur if the project would:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.4 Impacts Analysis

The analysis in this section complies with Section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss potential conflicts with applicable local or regional plans as part of the environmental setting. In addition, Government Code Section 65454 states that no specific plan may be adopted or amended unless the proposed plan or amendment is consistent with the general plan. Therefore, the land use analysis discusses the compatibility of the proposed specific plan with the City's General Plan and the Placer County Airport Land Use Compatibility Plan. Although SACOG has no land use authority over the proposed project, consistency with the 2016 MTP/SCS is discussed to provide information on the regional planning framework. As the project would require annexation of certain properties to the City of Lincoln, Placer County

LAFCO would rely upon this EIR in its role as a responsible agency. Applicable LAFCO policies are therefore considered.

The proposed Specific Plan would contain development standards and design guidelines that would serve as zoning for the proposed SPA. Therefore, an analysis of compatibility with the City's zoning code is not required for the proposed Specific Plan.

Consistency with the General Plan is ultimately determined by the decision making body of the lead agency (in this instance, the City Council). A finding of 'consistency' does not require that the project promote every individual policy, but that overall, the project will 'further the objectives and policies of the General Plan and not obstruct their attainment. For purposes of CEQA, the existence of a potential inconsistency between a general plan policy and a proposed project does not necessarily mean the project will have a significant impact on the environment. "[A]n inconsistency between a project and other land use controls does not in itself mandate a finding of significance. It is merely a factor to be considered in determining whether a particular project may cause a significant environmental effect" (*Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1207.

The analyses of consistency with other planning documents (e.g., regional air quality plans) are provided in the applicable technical sections throughout Chapter 4 of this Draft EIR.

Impact 4.10-1. The project would not physically divide an established community.

The proposed project would construct approximately 868,000 square feet of regional commercial space, 430 housing units, two neighborhood parks, and infrastructure within the SUD-B Northeast Quadrant. The proposed SPA is within the City's Sphere of Influence (SOI), located and is bordered by Nicolaus Road to the north, Nelson Lane to the west, and Highway 65 Bypass to the south. Lincoln's city limits are located to the immediate east and north of the proposed SPA (the easternmost portion of the SPA is within the existing City limits). An existing residential neighborhood and the site of the former Wastewater Treatment Plant is located immediately east of the proposed SPA (see Figure 2-2).

The proposed SPA currently contains undeveloped agricultural lands that have historically been used for dry-crop farming (i.e., hay) and grazing. The unincorporated area west of the SPA consists of rural residential and agricultural uses. There are similar rural and agricultural uses south of the SPA, across the SR 65 bypass. Industrial development and the airport lie north of the SPA. The proposed residential neighborhood would connect to the existing neighborhood to the east by extending First and Third Streets and the construction of a new frontage road along SR 65. Connections would also be made to Nelson Lane (see **Figure 2-5**). The northerly commercial development within the SPA would have access to Nicolaus Lane. The project would not divide

an established communities and would provide new access to Nelson Lane. Therefore, the potential to divide an established community is **less than significant**.

Impact 4.10-2. The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

City of Lincoln General Plan

The consistency of the proposed project with the City of Lincoln General Plan 2050 is discussed in detail in Table 4.10-2, City of Lincoln General Plan Consistency.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
Economic Development		
ED-1.2	The City shall evaluate the fiscal impacts of new development and encourage a pattern of development that allows the City to provide and maintain a high level of urban services (including, but not limited to, water, sewer, transportation, fire stations, police stations, libraries, administrative, and parks), community facilities, and utility infrastructure, as well as attract targeted businesses and a stable labor force.	The proposed project is consistent with the General Plan land use designations (i.e., pattern of development). The City Council will consider the fiscal effects of the project.
ED-2.1	The City shall utilize the specific planning process for future growth areas, which will allow the City to plan for long-term infrastructure needs and create large tracts of land that are attractive to developers.	The proposed Specific Plan outlines proposed residential and commercial development and associated infrastructure within the SUD-B Northeast Quadrant.
ED-2.2	The City shall build flexibility into the zoning code in order to allow development to adequately respond to market conditions. At the same time, the City shall provide for a balance of land uses to attract residential, commercial, office, and industrial development.	The proposed Specific Plan would provide for residential, commercial, office, and industrial development.
ED-2.3	The City shall facilitate zoning and permit activities related to the expansion of existing businesses and the location of new businesses.	The proposed Specific Plan zoning would allow for new commercial land uses.
ED-3	To promote a diverse and balanced mix of employment and residential opportunities within the City.	The project would provide a mix of residential and commercial (employment) uses within the SPA.
ED-3.1	The City shall zone sufficient land for the expansion of existing businesses and attraction of new businesses.	The proposed project would include commercial land uses that could accommodate regional and local businesses.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
ED-3.3	The City shall provide for a range of housing choices for current and future residents through land use designations and zoning ordinances.	The SPA includes single family residential, as an extension of an existing single family neighborhood. A greater range of housing choices will be available in the larger SUD-B area and neighboring Village 5 and 7.
ED-4.3	The City shall encourage new businesses to locate in the following areas: downtown Lincoln; along the future Highway 65 Bypass; at the Lincoln Regional Airport; and in the business park surrounding the airport.	The proposed project's commercial component would be located adjacent to the Highway 65 Bypass and southeast of the Lincoln Regional Airport.
ED-4.6	The City will reserve appropriately zoned property along the State Highway 65 Bypass for future regional commercial land uses such as a regional shopping center, auto mall, or other vehicle sales and services.	The proposed project's commercial component, which would be located adjacent to the Highway 65 Bypass, would accommodate regional commercial land uses.
ED-6	To preserve, enhance, and expand the existing downtown so that it remains the psychological center of Lincoln.	The proposed Specific Plan area is outside of the City's downtown. The City has prepared an Urban Decay study which finds the commercial component of the project would not adversely affect existing commercial uses in the region, including the downtown.
ED-6.8	The City recognizes and supports downtown retail development as part of the City's downtown revitalization strategy. The City also recognizes the importance of healthy neighborhood retail centers throughout the City to meet the shopping needs of Lincoln's population. As Specific Plans with retail and/or commercial land uses are submitted for approval, the City will analyze the potential for local urban decay and regional blight.	See ED-6 discussion, above.
Land Use and Community Design		
LU-1	To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.	The implementation of a specific plan for the SUD-B NE Quadrant is consistent with the General Plan's land use goals, as analyzed in this section.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-1.1	The City shall promote efficient use of larger vacant parcels and vacant areas of the city by encouraging mixed use development.	While the proposed project is not mixed use, it would include both residential and commercial uses within the specific plan "village" concept. The proposed project would not preclude promotion of mixed use on other suitable parcels.
LU-1.4	The City shall require buffer areas between development parcels and significant watercourses, riparian vegetation, and wetlands.	The proposed project would place the two waterways into Open Space. For further discussion, see Chapters 4.4, Biological Resources, and 4.9, Hydrology and Water Quality.
LU-1.6	The City will promote the application of land use layouts and community designs that provide residents with transportation choices to walk, ride bicycles, ride transit services, as well as utilize a vehicle, including neighborhood electric vehicles.	The proposed project would provide pedestrian- and bicycle-friendly sidewalks and pathways that connect the Specific Plan area. Neighborhood electric vehicles (NEV) are anticipated within the proposed circulation component, which would connect to current NEV routes and to the planned NEV route along Nelson Lane.
LU-1.7	The City will promote the application of land use designs that provide a variety of places where residences can live, including apartments, condominiums, townhouses and single family attached and detached.	The residential component of the proposed project would provide detached single-family residences consistent with adjacent development.
LU-1.8	The City will promote the use of development patterns that are more compactly built and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.	The proposed project is contiguous to existing development. Proposed residential density is density of 3.0 to 5.9 dwelling units per acre, consistent with the General Plan.
LU-1.11	To promote a high quality of life within the community, the City will, in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.	The proposed project would incorporate natural open space, greenbelts, and parks. For further discussion, see Chapters 4.4, Biological Resources, 4.9, Hydrology and Water Quality, and Chapter 4.14, Recreation.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-1.12	Through the design review process, apply design standards that promote the use of high quality building materials, architectural and site designs, landscaping signage and amenities. The City will continue to develop and apply design standards that result in efficient site and building designs, pedestrian friendly projects that stimulate the use of alternative modes of transportation, and a functional relationship between adjacent developments.	The specific plan will include a General Development Plan with design standards consistent with the City's standards.
LU-2	To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.	The proposed project would include 430 single-family dwellings consistent with the general plan.
LU-2.1	The City shall prevent the intrusion of new incompatible activities and land uses (i.e., traffic, noise) and environmental hazards (i.e., flood, soil instability) into existing residential areas.	The effect of traffic, noise, and other off-site effects on adjacent land uses are considered in this EIR.
LU-2.8	The City shall promote flexibility and innovation in residential land use through the use of planned unit developments, developer agreements, specific plans, mixed use projects, and other innovative development and planning techniques.	The proposed specific plan (with developer agreement) would provide for residential development.
LU-2.9	The City shall encourage the use of alleys and side-loaded garages to de-emphasize the garage as the prominent visual feature of a residence.	The proposed design does not include alleys. The General Development Plan includes measures to set back and de-emphasize the garage.
LU-2.10	Protect existing and planned local air transportation facilities from encroachment by potentially incompatible land uses and require developers to file an aviation easement with the City if a proposed development or expansion of an existing use is located in an area subject to a compatibility zone within the Placer County Airport Land Use Compatibility Plan (ALUCP).	The proposed project site is within the C-2 and C-3 compatibility zone. As discussed in this EIR, the proposed uses and intensities are consistent with the ALUCP. This determination is subject to a finding by the Airport Land Use Commission.
LU-3	To designate adequate commercial land for and promote development of commercial uses compatible with surrounding land uses to meet the present and future needs of Lincoln residents, the regional community, and visitors and to maintain economic vitality.	The proposed project would include 971,000 square feet of commercial space to serve as a regional commercial center. The commercial component would be adjacent to Nelson Lane and would provide a transition zone between airport land uses and the proposed residential component of the Specific Plan.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-3.3	The City shall ensure that adequate parking and access are included in approved commercial development plans.	Parking for the commercial land uses shall be consistent with City standards (or as modified through the General Development Plan) to meet the need for on-site parking demand.
LU-3.4	The City shall avoid "strip commercial" land uses in new development areas by encouraging grouping of commercial land uses in core areas.	The proposed project would include a regional commercial center. Although the commercial area is adjacent to Nelson Lane, it occupies the westerly portion of the specific plan area, and would be centrally located to new development in SUD-B and the former Wastewater Treatment Plant Site.
LU-3.5	The City shall mitigate conflicts between new commercial land uses and other land uses, especially residential, park, and recreational uses.	The proposed commercial land uses would be adjacent to open space (Markham Ravine), proposed residential development, and existing rural residential development. The issues, including traffic, noise, air quality, biological resources, and aesthetics, have been considered in this EIR.
LU-3.6	The City shall require that commercial land uses be buffered from incompatible land uses and protected from encroachment by incompatible uses through the use of techniques including, but not limited to, landscaping, soundwalls, berms, fencing, open space set-backs, greenbelts, and building orientation.	The proposed project includes setbacks from open space areas, soundwalls where needed between commercial and residential uses. Major roadways (Nelson Lane, SR 65 Bypass), open space, landscaping, and building orientation are used to provide separation from rural residential uses.
LU-3.7	The City shall promote flexibility and innovation in commercial land use through the use of planned unit developments, developer agreements, specific plans and other innovative development and planning techniques.	The proposed project includes a specific plan and development agreement.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-5.3	The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.	Portions of the project area, both within and without the City Limits, have been actively farmed. Project development would be phased, and operations may continue until such time as those areas are developed.
LU-5.4	The City shall require that agricultural land uses designated for long-term protection (i.e., in a Williamson Act contract or under a conservation easement) shall be buffered from urban land uses through the use of techniques including, but not limited to, greenbelts, open space setbacks, soundwalls, fencing and berming.	The areas within the project area are designated for urban development. No current Williamson Act contracts are in effect within the project area.
LU-6	To ensure that the legal requirements for general plan consistency are fulfilled.	Consistency with applicable land use plans, including the general plan, is discussed in this EIR. A specific plan must also describe how it would implement the general plan.
LU-9	To ensure high quality appearance and harmony between existing and new users, while avoiding repetitive style, height, and mass.	The proposed Specific Plan would include a General Development Plan, which would delineate the governing Design Guidelines for individual projects to be constructed within the Specific Plan area. These Design Guidelines would be required to comply with the City's General Plan and would be subject to design review by the City. See also the discussion of visual compatibility in Chapter 4.1, Aesthetics.
LU-9.1	Through urban design programs, including principles and guidelines, the City shall reinforce the city's unique character, style, and identity.	See LU-9.
LU-9.3	The City shall promote development that creates and enhances positive spatial attributes of major public streets, open spaces, cityscape and mountain sight lines and important "gateways" into the city.	See LU-9.
LU-9.4	The City shall develop linkages between different parts of the city, and foster creation of unique elements that provide identity to the city and the neighborhoods and result in the creation of diverse and distinctive places.	See LU-9.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-9.5	The City shall designate gateway points at major entrances to the city, and prioritize their design and implementation through the City's Capital Improvements Program. The City shall use street trees, welcome signs, decorative lighting, archways, and other streetscape design techniques along streets to announce the gateway, and establish development regulations to provide visual emphasis to the gateway.	No City "gateways" have been designated within the project area. The specific plan designated community gateways into the specific plan area from Nelson Lane.
LU-9.6	The City shall maintain a distinct urban edge, while creating a gradual transition between urban uses and open space.	The project area has a southern edge defined by the SR 65 Bypass, with rural residential and agricultural uses to the south. To the west, Nelson Lane forms an edge with rural residential on the opposite side. Streetscape corridors also define the western and southern edge of the plan area.
LU-9.7	The City shall encourage development that is visually and functionally compatible with the surrounding neighborhoods by: • Maintaining a height and density of development that is compatible with adjacent developed neighborhoods; and • Accenting entrances to new neighborhoods with varied landscaping, hardscaping, and signage treatment.	See LU-9.
LU-9.8	The City shall emphasize Lincoln's natural features as the visual framework for new development and redevelopment.	See LU-9.
LU-11	To encourage site design that is sensitive to residents' and businesses' needs for privacy, security, and buffering from other uses and activities.	The proposed project uses a combination of street layout, landscaping, and sound walls to separate single family homes from commercial land uses.
LU-11.1	The City shall design open space areas, bicycle and pedestrian systems, and housing projects so that there is as much informal surveillance by people as possible to deter crime.	The open space areas would be flanked by bike/pedestrian trails. Auburn Ravine would be adjacent to a park and residential development facing the open space areas. Markham Ravine would have a residential roadway on one side and commercial development on the other.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-11.2	The City shall ensure that lighting and landscaping plans respond to public safety concerns.	The proposed Specific Plan would include a General Development Plan, which would delineate the governing Design Guidelines for individual projects to be constructed within the Specific Plan area, including the lighting and landscaping standards. These Design Guidelines would be required to comply with the City's General Plan and design guidelines.
LU-11.3	The City shall require that all outdoor light fixtures, including street lighting, externally illuminated signs, advertising displays, and billboards, use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level). Up-lighting of architectural features or landscaping can be allowed in compliance with the California Title 24 Energy Standards (as amended) and based on City design review. Additionally, the City shall continue to improve and maintain proper lighting in park facilities and fields without undue nuisance light and glare spillage on adjoining residential areas. Where public safety would not be compromised, the City shall encourage the use of low intensity lighting for all outdoor light fixtures.	See LU-11.2. Also see the lighting discussion in Chapter 4.1, Aesthetics.
LU-12	To enhance the urban form while maintaining visual and physical access to distinctive environmental features.	See LU-9.
LU-12.1	The City shall maintain visual access to hillside views by regulating building orientation, height, and bulk.	For a detailed discussion of viewsheds associated with the proposed Specific Plan area, see Chapter 4.1, Aesthetics.
LU-12.2	The City shall respect the natural setting of the hillside area by encouraging hillside development to incorporate natural landscape features.	The proposed Specific Plan area is west of Lincoln, whereas the hillside area is located in the easternmost portion of the City. This policy is not applicable to the proposed project.
LU-12.3	To enhance views of hillsides, open space, and other distinctive views within the community, proposed project designs will be expected to maintain some viewshed by regulating building orientation, height, and mass.	See LU-12.1.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-12.4	Where feasible, the City should preserve the existing natural edges along the city's creek system and wetland areas and restore impacted creeks by planting natural vegetation.	The proposed Specific Plan would establish setbacks from the portions of Markham Ravine and Auburn Ravine within the Specific Plan Area in order to preserve the existing drainage sheds and riparian vegetation. See Chapter 4.4, Biological Resources.
LU-12.5	Where feasible (and not a significant impact to the natural resources), the City shall encourage the provision of access to creeks, wetlands, and other open space areas to pedestrian and bicycle access.	The specific plan would include open space at Markham Ravine and Auburn Ravine. These areas would be served by a combination of on and off-street bicycle and pedestrian access.
LU-12.6	Wherever practical, the City will encourage new development to be oriented towards adjacent creeks and wetland areas and provide visual access to these areas.	Markham Ravine and Auburn Ravine traverse the proposed Specific Plan area. Portions of the proposed commercial, residential, and recreational components of the project would be located adjacent to the ravines, permitting visual access to these areas.
LU-12.7	When possible, the City shall locate open space and parks adjacent to creeks.	The specific plan would include open space at Markham Ravine and Auburn Ravine. Auburn Ravine would have a park adjacent to the open space area.
LU-12.8	The City shall encourage site planning that incorporates creek and wetland edges into the overall development.	See LU-12.6 and LU-12.7.
LU-13	To preserve Lincoln's character and scale, including its traditional urban design form and historic character.	See LU-9.
LU-13.2	The City shall encourage and promote the adaptive reuse of Lincoln's historic resources, in order to preserve the historic resources that are a part of Lincoln's heritage.	The proposed project area does include historic structures.
LU-13.4	The City shall ensure that new development respects Lincoln's heritage by requiring that new development respond to its context and be compatible with the traditions and character of Lincoln, and shall promote orderly development which is compatible with its surrounding scale and which protects the privacy and access to light and air of surrounding properties.	See LU-9 regarding urban design. The project's residential component would be similar to adjacent residential uses in density.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-14	To preserve the character and scale of Lincoln's established residential neighborhoods.	To maintain compatibility with the existing residential neighborhood east of the proposed project, the proposed residential component would consist of single-family residences.
LU-14.2	The City shall encourage development of diverse and distinctive neighborhoods that build on the patterns of the natural landscape and are responsive in their location and content.	The project would continue existing street patterns east of the project and incorporate the open space areas of Markham Ravine and Auburn Ravine.
LU-14.3	The City shall encourage buildings to foster a sense of place by providing transitions between the street and building, front setback variation for residential development, and building articulation and massing, as part of development standards or any design guidelines that may be prepared. Elements such as porches, bay windows, and landscaping should be designed to create a transition between public and private spaces. When porches are incorporated into the design, they should be designed as a usable outdoor space.	See LU-9.
LU-14.4	The City shall design local streets to not only accommodate traffic, but also to serve as comfortable pedestrian environments. These should include, but not be limited to: • Street tree planting between the street and sidewalk to provide a buffer between the pedestrian and the automobile • Minimum curb cuts along streets • Sidewalks on both sides of streets, with the sidewalk separate from the curbface with a landscape strip, where feasible • Traffic calming devices such as roundabouts, bulb-outs at intersection, traffic tables, etc. • Encourage the establishment of a tree canopy over residential streets and neighborhoods. A street tree program shall be included with all specific plans	Proposed commercial street cross sections include street trees between the street and sidewalk. Proposed residential street sections include sidewalks with street trees at back of walk. The street design was reviewed and revised to distribute automobile traffic and minimize speeds in residential areas.
LU-14.5	The City shall require that entrances to new neighborhoods be accented with distinctive landscaping, pavement, and signage treatments.	See LU-9.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
LU-15	To organize new development areas to create vibrant, mixed-use villages characterized by a mix of land uses, pedestrian and transit accessibility, and neighborhood identity.	The proposed Specific Plan area is not within a designated Village. The proposed Specific Plan is within a Special Use District, discussed below under Goal LU-16.
LU-16	To organize new Special Use Districts to create dynamic community and regional serving commercial areas and locations for residential uses that are well integrated with future highway development and protection of the Lincoln Municipal Airport.	The 198.4-acre project area is part of a larger, 1,844-acre planning area, Special Use District-B (SUD-B), within the City's Sphere of Influence. The proposed SUD-B Northeast Quadrant Specific Plan is located between the Lincoln Regional Airport and the Highway 65 Bypass along the western edge of the City. The proposed Specific Plan is consistent with Airport Land Use Compatibility Plan standards and considers the existing SR 65 Bypass and a future interchange at Nelson Lane.
LU-16.1	The City shall require the completion and approval of a specific plan to guide future development within the designated SUD.	The proposed specific plan includes sections addressing the required contents.
Transportation and Circulation		
T-2.2	The City shall ensure that streets and highways will be available to serve new development by requiring detailed traffic studies and necessary improvements as a part of all major development proposals.	The City prepared a traffic impact analysis consistent with this policy (see Chapter 4.15, Traffic and Circulation).
T-2.3	Strive to maintain a LOS C at all signalized intersections in the City during the p.m. peak hours. Exceptions to this standard may be considered for intersections where the city determines that the required road improvements are not acceptable (i.e., due to factors such as the cost of improvements exceeding benefits achieved, results are contrary to achieving a pedestrian design, or other factors) or that based upon overriding considerations regarding project benefits, an alternative LOS may be accepted. For purposes of this policy, City intersections along McBean Park Drive between East Avenue and G Street, and G Street between First Street and Seventh Street, are excluded from the LOS C standard, and will operate at a lower LOS.	The direct and cumulative impacts of the proposed project would reduce (or further reduce) the level of service at some signalized intersections to below LOS C. Implementation of proposed mitigation measures would restore acceptable LOS at affected intersections.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
T-2.4	The City shall coordinate with Caltrans in order to strive to maintain a minimum LOS "D" for SR 65 and SR 193.	The project would not cause a freeway facility to fall below LOS D. Under cumulative conditions, the proposed project would further degrade Caltrans freeway locations that are already projected to operate at LOS F.
T-2.9	The City shall support construction of the SR 65 Bypass with interchanges provided at Ferrari Ranch Road, the realigned Nelson Lane, Nicolaus Road and Wise Road. The City will continue to place a very high priority on the construction of the Highway 65 Bypass and to aggressively pursue its funding and construction with Caltrans, SACOG, Placer County Transportation and Planning Agency, appropriate Federal agencies and private sources.	This proposed specific plan considers the future construction of the SR 65 Bypass at Nelson Lane.
T-2.14	The City shall require developers to construct at least the first two lanes of any road (including curbs, gutters and sidewalks) within their projects.	The project would fully construct all internal roadways.
T-2.15	The City shall require dedication by affected property owners of rights-of-way for all streets and interchanges as part of the project approval process.	The project must comply with this condition, through the Development Agreement and filing of tentative subdivision maps.
T-2.16	The City shall minimize the number, properly space, and interconnect traffic signals to maximize progression and minimize the acceleration/deceleration that produces significantly higher vehicle emissions and noise levels.	The traffic analysis has considered the need to maximize progression and to distribute traffic volumes.
T-2.17	The City shall require that existing and future arterial improvements be designed to minimize conflicting traffic movements such as turning, curb parking, and frequent stops.	The project is bordered by two arterials, Nelson Lane and Nicolaus Road. Project access considers these factors in the roadway and driveway locations.
T-2.19	The City shall implement street widening and other circulation improvement which are related to new development in conjunction with the City's capital improvements program.	The proposed project would construct improvements to Nelson Lane and Nicolaus Road within the specific plan area.
T-3	Provide appropriate parking for existing and future development in the City.	The General Development Plan will identify parking standards consistent with City requirements.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
T-3.2	The City shall require the provision of adequate off-street parking in conjunction with new development. Parking shall be located convenient to new development and shall be easily accessible from the street system.	See T-3.
T-4.3	The City shall promote the use of public transit through development conditions requiring park-and-ride lots, bus turnouts and passenger shelters along major streets adjacent to appropriate land uses.	The project area is not currently served by transit. As a condition of approval, the project shall provide for future facilities for transit (bus turnouts, etc.) on project roadways.
T-4.7	Through the use of Golf Transportation Plans, the City shall support the use of electric golf carts within the City, and providing the necessary infrastructure to support them, when feasible.	The specific plan includes routes for neighborhood electric vehicles on the arterial streets.
T-4.8	Through the implementation of the Neighborhood Electric Vehicle Plan, the City shall support the use of Neighborhood Electrical Vehicles (NEV) and similar vehicles by providing where possible for street classifications that provide for their use and ensure connectivity throughout the City.	The specific plan includes routes for neighborhood electric vehicles on the arterial streets.
T-5	To provide an interconnected system of bikeways that would provide users with direct linkages at a city and regional level.	The project includes bikeways that would connect with planned bike lanes on Nelson Nicolaus Road, and with planned bike lanes on First and Third Streets.
T-5.1	The City shall require bike lanes in the design and construction of major new street and highway improvements, and to establish bike lanes on those city streets wide enough to accommodate bicycles safely.	The Specific Plan includes a proposed bicycle circulation system. See T-5.
T-5.6	The City shall promote pedestrian convenience and safety through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers. Where feasible, trails will be looped and interconnected.	The Specific Plan includes a pedestrian circulation element.
T-5.7	The City shall encourage the development of trails and pathways along the edges of creeks and wetland areas. Where feasible, trails will be looped and interconnected.	The proposed project includes pedestrian trails at the two ravines (open space areas).
T-5.9	The City shall encourage specific plans and development plans to include design of pedestrian access that enables residents to walk from their homes to places of work, recreation, and shopping.	The Specific Plan includes a pedestrian circulation element.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
T-5.10	The City shall review site plans to determine if residential, commercial and office land uses are designed for pedestrian access. Future developments shall contain an internal system of trails that link schools, shopping centers, and other public facilities with residences in order to provide pedestrians with sufficient internal access.	The Specific Plan includes a pedestrian circulation element. The General Development Plan must also address pedestrian access.
T-6	To continue to support the operation and promotion of the Lincoln Regional Airport.	The project is consistent with the ALUCP compatibility zones, as discussed earlier in this section.
Public Facilities and Services		
PFS-1	To ensure that adequate public services and facilities are provided to meet the needs of residents of the city.	The proposed project's potential impacts on the provision of police protection, fire protection, school, and library services are discussed in Chapter 4.13, Public Services. Chapter 4.17, Utilities and Service Systems, discusses the potential impacts of the proposed project on the provision of water, wastewater, solid waste, and energy.
PFS-1.1	The City shall ensure the provision of adequate public services and facilities to the existing areas of the city and to ensure that new development is served by a full range of public services.	See PFS-1.
PFS-1.2	The City shall require that prior to any annexations to the City a detailed public facilities and financing plan be completed that considers both capital facilities and the fiscal impacts to the City's ongoing operation and maintenance costs.	The applicant has prepared the relevant plans, which shall be reviewed and approved prior to consideration of the project.
PFS-1.3	During the development review process, the City shall not approve new development unless the following conditions are met: • The applicant can demonstrate that all necessary infrastructure will be installed or adequately financed; • Infrastructure improvements are consistent with City infrastructure plans; and • Infrastructure improvements incorporate a range of feasible measures that can be implemented to reduce public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required improvement.	See PFS-1.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
PFS-1.4	The City shall comply with the requirements of the Clean Water Act and other regulations with the intent of minimizing the discharge of pollutants to surface waters.	For a detailed discussion of water quality regulations applicable to the proposed project and the proposed project's compliance with these regulations, see Chapters 4.9, Hydrology and Water Quality, 4.4, Biological Resources, and 4.17 Utilities and Service Systems
PFS-2	Ensure provision of a water system with adequate supply transmission, distribution and storage facilities to meet the needs of existing and future development.	For a discussion of water infrastructure that would serve the proposed project, see Chapter 4.17, Utilities and Service Systems.
PFS-2.3	The City shall require the availability of an adequate water supply to be demonstrated before approving new development.	A Water Supply Assessment was prepared for the project. The Assessment finds that there is an adequate water supply for the proposed project.
PFS-2.5	The City shall not allow development within newly annexed areas until a potable water supply is obtained through Placer County Water Agency (PCWA) or Nevada Irrigation District (NID) or, where appropriate, other water districts. For purposes of this policy, potable water will be considered obtained when a written confirmation of supply of surface water is received from the appropriate water agency and a funding mechanism acceptable to the City is in place to pay for any improvements necessary for the delivery of treated water. Applications for new development can be processed prior to obtaining appropriate will-serve documentation, but the project will not be approved prior to receiving this documentation.	The project area is served by PCWA and NID. The Water Supply Assessment finds that there is adequate water to supply the proposed project.
PFS-2.6	The City shall coordinate development activity with the PCWA and NID to ensure adequate provision of treated water supplied by either supplier.	The project area is served by PCWA and NID. The Water Supply Assessment finds that there is adequate water to supply the proposed project.
PFS-2.9	The City shall condition new development on availability of storage that meets the following parameters: • Equalizing Storage (for meeting peak flows) – 25% of maximum day demand • Fire Reserve – Provide fire reserve as required by the Insurance Services Office (ISO) or as required by the City Fire Chief and City Engineer. • Emergency Reserve – 33% of the total of Equalizing Storage and Fire Reserve	The applicant has prepared a water master plan to demonstrate compliance with this policy, subject to City review and approval.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
PFS-2.14	The City shall require new development to be responsible for construction of water transmission and distribution lines less than 18 inches in diameter. Provision will be made allowing reimbursement from Third Parties should such lines result in an "over-sizing" for a particular development.	All water delivery infrastructure improvements associated with the proposed project would involve the construction of water lines 18 inches in diameter or less. For a discussion of water infrastructure that would serve the proposed project, see Chapter 4.17, Utilities and Service Systems.
PFS-2.17	The City shall require new development to use the best available technologies (BAT) for water conservation, including, but not limited to water-conserving water closets, showerheads, faucets, and water conserving irrigation systems.	BAT are included as part of the SUD-B NEQ Specific Plan design strategies and landscaping.
PFS-2.18	The City shall require meters for all new water connections.	The project would comply with City utility specifications.
PFS-3	Ensure provision of adequate sanitary sewers and wastewater treatment capacity to accommodate existing and future development in order to protect public health and safety.	The proposed project would have adequate wastewater treatment capacity and sewer system capacity. For a discussion of wastewater infrastructure that would serve the proposed project, see Chapter 4.17, Utilities and Service Systems.
PFS-3.10	The City shall require new development to be responsible for construction of all sanitary sewer lines serving such development. Provision will be made allowing reimbursement from Third Parties, or credits against City wastewater fees (as approved by the Director of Public Works) should such lines result in an "over-sizing" for a particular development.	This is a financial issue that does not result in a physical change in the environment. For a discussion of sanitary sewer infrastructure, see Chapter 4.17, Utilities and Service Systems.
PFS-4	To ensure provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.	For a discussion of drainage, see Chapter 4.9, Water Quality and Hydrology, and Chapter 4.17, Utilities and Service Systems.
PFS-4.1	The City shall provide storm drainage facilities with sufficient capacity to protect the public and private property from storm water damage. The facilities will also be implemented in a manner that reduces all public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required drainage improvements.	For a discussion of storm drainage infrastructure that would serve the proposed project, see Chapter 4.17, Utilities and Service Systems.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
PFS-4.2	The City shall encourage project designs that minimize drainage concentrations and impervious coverage and avoid floodplain areas and, where feasible, be designed to provide a natural water course appearance.	See Chapter 4.9, Water Quality and Hydrology.
PFS-4.4	The City shall design stormwater detention basins to ensure public safety, to be visually unobtrusive and to provide temporary or permanent wildlife habitat values and where feasible, recreational uses.	The proposed project includes several water quality detention basins. These are located near Markham Ravine and adjacent to the SR 65 Bypass.
PFS-4.6	The City will require new development to provide storm-water detention sufficient to limit outflow per Figure 7-1 of the City's Stormwater Management Manual (February 1994), or as revised. Master Drainage Plans shall be designed to require new development to provide, or contribute towards, stormwater detention to reduce post-development peak flow from a 100 year event to pre-development flow rate less 10% of the difference between the estimated pre-development and the post-development unmitigated peak flow rates. The Master Drainage Plan shall identify appropriate locations to achieve such post- development flows. This criterion is principally designed to address the 100-year event with appropriate consideration given for the feasibility of mitigating 2-year and 10-year events.	A Master Drainage Plan has been prepared for the proposed project. The Plan demonstrates compliance with these standards.
PFS-4.7	The City shall require new development to provide stormwater-retention sufficient for the incremental runoff from an eight-day 100 year storm.	See PFS-4.6.
PFS-4.8	The City shall require appropriate runoff control measures as part of future development proposals to minimize discharge of urban pollutants (such as oil and grease) into area drainages.	See PFS-4.6.
PFS-4.9	The City will discourage development or major fill or structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by FEMA. Requests for fill and improvements within the floodplain may be approved by the City based upon a detailed hydraulic volumetric analysis prepared to evaluate impacts and provide for any mitigation measures to be provided as a part of the development to the satisfaction of the City Engineer/Public Works Director. Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.	For a discussion of the 100-year floodplain, see Chapter 4.9, Hydrology and Water Quality. The plan would classify the floodplain as Open Space.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
PFS-4.10	The City shall require adequate provision of erosion control measures as part of new development to minimize sedimentation of streams and drainage channels.	For a discussion of erosion and sedimentation, see Chapter 4.9, Water Quality and Hydrology and Chapter 4.6, Geology and Soils. The project would utilize erosion control measures during construction and operation.
PFS-4.11	The City shall require drainage designs and practices to be in accordance with the Stormwater Management manual of the Placer County Flood Control District unless alternative methods are approved by the City Engineer.	The project would comply with the Stormwater Management manual of the Placer County Flood Control District. See Chapter 4.6, Geology and Soils, for more information.
PFS-4.12	The City shall require that the cost to develop new or modify existing Drainage Management Plans be allocated to applicants proposing development within the City's Sphere of Influence.	This is a financial issue that does not result in a physical change in the environment. See Chapter 4.9, Hydrology and Water Quality, for a discussion on drainage.
PFS-4.13	The City shall require City maintenance of detention basins with financing by a separate drainage or special assessment district. When private facilities are used for detention, maintenance will be privately financed.	This is a financial issue that does not result in a physical change in the environment.
PFS-4.14	New drainage facilities near the Lincoln Airport influence area will be designed and maintained to avoid attraction and concentration of birds above existing conditions at the project site.	The proposed water quality detention basins would be located within Compatibility Zones C1 and C2, which allow such features that would not create an increased attraction for wildlife and that is inconsistent with FAA rules and regulations. This requirement has been incorporated into Mitigation Measure LU-1.
PFS-5.8	There will be an adequate buffer for the Western Regional Landfill in order to prevent the encroachment of incompatible land uses, which may compromise its long-term operations.	The landfill is located three miles away from the SPA. The proposed project would not encroach upon or compromise operations.
PFS-6.2	The City shall require undergrounding of utility lines in new development, except where it is not feasible due to the electrical transmission load or other operational issues as confirmed by the utility provider.	Utility lines in the SPA will be underground.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
PFS-8	To provide adequate fire and police protection facilities and services to ensure the safety of residents and the protection of property in the city.	Provision of fire and police protection services is discussed in Chapter 4.13, Public Services.
PFS-8.6	The City shall require all new developments to provide adequate emergency access features, including secondary access points.	Emergency access is discussed in Chapter 4.15, Traffic and Circulation.
PFS-8.7	The City shall require sprinklers in all new commercial, industrial, and multifamily structures, as well as single family residential structures that are outside of the City's targeted response times.	The proposed Specific Plan would include a General Development Plan, which would delineate the governing Design Guidelines for individual projects to be constructed within the Specific Plan area. These Design Guidelines would be required to comply with the City's General Plan and would be subject to design review by the City.
PFS-8.9	The City shall continue to promote the use of site planning and building design as a means to decrease crime.	The proposed Specific Plan would include a General Development Plan, which would delineate the governing Design Guidelines for individual projects to be constructed within the Specific Plan area. These Design Guidelines would be required to comply with the City's General Plan and would be subject to design review by the City.
PFS-9.1	The City shall ensure that in areas of new development, school facilities meeting adopted school district standards will be available.	See Chapter 4.13, Public Services, regarding the adequacy of school facilities to serve the SPA.
PFS-9.9	To the extent allowed by State law, the City will require new projects to mitigate impacts on school facilities, which could occur through a combination of new school site dedications and the use of developer fees. The City will also work with school districts, developers, and the public to evaluate alternatives to funding/providing adequate school facilities.	See PFS-9.1.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
Open Space and Conservation		
OSC-1	To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.	The proposed Specific Plan would include 22.6 acres of open space, the majority of which would encompass the Markham Ravine and Auburn Ravine watersheds. Chapter 4.14 further discusses Open Space and Park Land associated with the proposed project.
OSC-1.1	The City shall strive to protect natural resource areas, fish and wildlife habitat areas, scenic areas, open space areas and parks from encroachment or destruction by incompatible development.	See OSC-1.
OSC-1.3	In new development areas, the City shall encourage the use of open space or recreational buffers between incompatible land uses.	The draft Specific Plan provides for a landscape corridor of 20 feet in width between the proposed residences and the proposed commercial development.
OSC-1.4	The city will apply open space designations to all lands within the 100 year floodway as shown on the FIRM panel or as determined by a project drainage plan and approved by the City Engineer/Director of Public Works; The City will also apply open space designations to all 100-year floodplain fringe areas, and/or remaining floodplain fringe areas as determined by a project drainage plan identifying floodplain fringe encroachment areas, and quantifying their impact along with other improvements to show a zero (0) net impact to the upstream, downstream and adjacent properties. Open space designations will apply to all land located within a minimum of 50 feet from the center channel of all perennial and intermittent streams and creeks providing natural drainage, and to areas consisting of riparian habitat. In designating these areas as open space, the city is preserving natural resources and protecting these areas from development.	See PFS-4.9.
OSC-1.5	The City will protect mineral resources such as groundwater, clay deposits, as well as groundwater recharge areas from urban development.	There are no identified mineral resources within the SPA. See Chapter 4.9, Hydrology and Water Quality, regarding impacts on groundwater recharge.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-1.6	The City shall require new development to implement measures that minimize soil erosion from wind and water related to construction. Measures may include, but not be limited to the following: • Grading requirements that limit grading to the amount necessary to provide stable areas for structural foundations, street rights-of-way, parking facilities, or other intended uses; and/or • Construction techniques that utilize site preparation, grading, and best management practices that provide erosion and sediment control to prevent construction-related contaminants from leaving development sites and polluting local waterways.	See Chapter 4.6, Geology and Soils, regarding soil erosion. With implementation of standard BMPs, the project would not have a significant erosion effect.
OSC-1.7	The City shall require all development to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where appropriate, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.	See OSC-1.6.
OSC-2	To cooperate with Placer County in preserving agricultural operations which are located outside the City's planning boundaries.	For a detailed discussion of agricultural land uses, see Chapter 4.2, Agriculture and Forestry.
OSC-2.1	The City will provide for open space or other appropriate buffers, to protect agricultural operations located adjacent to the City planning boundaries, when reviewing land use plans for such areas.	See LU-9.6. The SPA is separated from unincorporated agricultural areas by SR 65 to the south, and by rural residential development to the west.
OSC-2.2	The City will require that developers of residential projects, which are within general proximity of agricultural operations in the County, provide notification to new homeowners with their deeds, of the County's right to farm ordinance.	This shall be incorporated into the project documents (including tentative maps) to be considered by the City for approval.
OSC-3	To encourage energy conservation in new and existing development throughout the City.	See specific policies below.
OSC-3.1	The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law. New features that may be applied to construction and renovation include: • Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting/power sources; design orientation; building techniques; etc.) • Cool roofs	The proposed project would be required to comply with California Building Code Title 24 Part 11, the California Green Building Code, which has been adopted by the City as Municipal Code Section 15.04.060. Compliance with the CBC would ensure that required energy conserving features would be incorporated into the proposed project.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-3.7	The City shall encourage the use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings.	This policy does not create a mandatory requirement. The City shall consider this item when reviewing individual site plans for projects within the Specific Plan Area.
OSC-3.8	The City shall encourage work that building and site design take into account the solar orientation of buildings during design and construction.	See OSC 3.7.
OSC-3.9	The City will encourage the planning of shade trees within residential lots to reduce radiation heating and encourage the reduction of greenhouse gases.	See OSC 3.7.
OSC-3.10	The City will require commercial and retail parking lots will have 50% tree shading within 15 years to reduce radiation and encourage the reduction of greenhouse gases.	The SUD-B NEQ General Development Plan complies with this policy.
OSC-3.11	The City will encourage the development of energy-efficient buildings and communities.	See OSC 3.7.
OSC-3.13	The City will encourage the incorporation of energy-efficient site design such as proper orientation to benefit from passive solar heating and cooling into master planning efforts when feasible.	See OSC 3.7.
OSC-4	To preserve and enhance local streams, creeks, and aquifers.	The proposed project would designate Auburn and Markham Ravines as open space.
OSC-4.1	The City will protect local aquifers and water recharge areas.	See Chapter 4.9, Hydrology and Water Quality. The proposed project would not have a significant effect on local aquifers and water recharge areas.
OSC-4.3	The City shall ensure that new development projects do not degrade surface water and groundwater.	See Chapter 4.9, Hydrology and Water Quality. The proposed project would not degrade surface water or groundwater.
OSC-4.4	The City shall encourage the protection of 100 year floodplains and where appropriate, obtain public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.	The project would designate the 100 year floodplain as Open Space, consistent with this policy.
OSC-4.5	The City shall encourage the use of reclaimed water, in place of treated potable water for landscaping and other suitable applications.	Reclaimed water would be used as much as possible for the irrigation of large landscape areas and new commercial developments. See Section 4.17, Utilities and Service Systems, for a discussion of the project's reclaimed water use.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-4.6	The City shall continue to require the use of feasible and practical best management practices (BMPs) to protect surface water and groundwater from the adverse effects of construction activities and urban runoff. Additionally, the City shall require, as part of its Storm Water NPDES Permit and ordinances, to implement the Pollution Prevention Plan (SWPPP) during construction activities for any improvement projects, new development and redevelopment projects for reducing pollutants to the maximum extent practicable.	Construction of the project will require compliance with the City's NPDES Permit and ordinances, which will include preparation of a SWPPP and incorporation of BMPs for all individual projects larger than one acre in size.
OSC-4.7	The City shall explore the possibility of using reclaimed water to irrigate new commercial developments and new areas with large landscape areas. In areas where reclaimed water can be provided in the future, the City shall require landscape irrigation to be installed so that the system could be used with reclaimed water. The City shall also explore the use of industrial process water for landscape irrigation provided that it meets City standards for irrigation.	Reclaimed water would be used as much as possible for the irrigation of large landscape areas and new commercial developments. See Section 4.17, Utilities and Service Systems, for a discussion of the project's reclaimed water use.
OSC-5	To preserve and protect existing biological resources including both wildlife and vegetative habitat.	For a detailed discussion of biological resources, see Chapter 4.4, Biological Resources.
OSC-5.1	The City shall support the preservation of heritage oaks and threatened or endangered vegetative habitat from destruction. A heritage oak shall be defined as a tree with a diameter of 36 inches measured at a point 4.5 feet above grade level (i.e., diameter at breast height or DBH).	Mitigation Measure BIO-4 would ensure consistency with this policy.
OSC-5.2	The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate.	The project would designate riparian areas, Auburn and Markham Ravines, as Open Space, consistent with this policy.
OSC-5.4	The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.	The project's General Development Plan encourages the use and retention of native plant species in natural open spaces near Markham and Auburn Ravine.
OSC-5.5	The City shall require that new development in areas that are known to have particular value for biological resources be carefully planned and where possible avoided so that the value of existing sensitive vegetation and wildlife habitat can be maintained.	The project would designate riparian areas, Auburn and Markham Ravines, as Open Space, consistent with this policy.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-5.6	The City will maintain a policy of no net loss of wetland on a project-by-project basis, which may include an entire specific plan area. For the purpose of identifying such wetlands, the City will accept a map delineating wetlands which has been accepted by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act of 1972. The term "no net loss" may include mitigation implemented through participation in an off-site mitigation bank or similar mitigation mechanism acceptable to the City and permitting agencies.	Mitigation Measure BIO-3 would ensure consistency with this policy.
OSC-5.7	The City may require project proponents to obtain 404 Permits, and prepare mitigation plans for, or provide for the avoidance, preservation, and maintenance of identified wetlands prior to submitting applications for land use entitlements.	Implementation of the project would require the applicant to obtain an individual 404 Permit.
OSC-5.8	The City may, but need not, accept a Corps of Engineers disclaimer of any jurisdiction over the project of a Corps of Engineers 404 permit as the City's own plan for the achievement of a project's no net loss of wetlands.	See OSC 5.6 and 5.7.
OSC-5.9	All preserved wetlands shall be dedicated to the City or a non-profit organization acceptable to the City and preserved through perpetual covenants enforceable by the City or other appropriate agencies, to ensure their maintenance and survival. With respect to areas dedicated to the City, acceptance shall be conditioned upon establishment of a lighting and landscaping district or other public or private funding mechanisms acceptable to the City.	On site preserved wetlands shall be dedicated to the City or a non-profit organization. Off-site wetlands mitigation shall be maintained and operated by an appropriate organization, approved by ACOE.
OSC-5.11	Prior to project (i.e., specific plan or individual project) approval, the City shall require a biological study to be prepared by a qualified biologist for any proposed development within areas that contain a moderate to high potential for sensitive habitat. As appropriate, the study shall include the following activities: (1) inventory species listed in the California Native Plant Society Manual of California Vegetation, (2) inventory species identified by the USFWS and CDFG, (3) inventory special status species listed in the California NDDB, and (4) field survey of the project site by a qualified biologist.	See Section 4.4, Biological Resources. Several biological studies have been prepared for the project site, see Appendix C of this EIR.
OSC-5.12	The City shall consider using appropriate mitigation measures for future projects (i.e., specific plans or individual projects) based on mitigation standards or protocols adopted by the applicable status or agency (e.g., USFWS, CDFG, etc.) with jurisdiction over any affected sensitive habitats or special status species.	All biological mitigation measures are consistent with this policy, see Section 4.4, Biological Resources for more information.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-5.13	The City shall ensure that lighting in residential areas and along roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas.	See section 4.1, Aesthetics, for a discussion on lighting used with the proposed project. Artificial lighting would use fixtures that reduce spillover into adjacent natural or open space areas.
OSC-6	To preserve and protect existing archaeological, historical, and paleontological resources for their cultural values.	For a detailed discussion of archaeological, historical, and paleontological resources, see Chapter 4.5, Cultural Resources. Note that no historical resources have been identified within the Specific Plan Area.
OSC-6.7	In the event that archaeological/paleontological resources are discovered during ground disturbing activities, the City shall require that grading and construction work within 100 feet of the find shall be suspended until the significance of the features can be determined by a qualified professional archaeologist/paleontologist as appropriate. The City will require that a qualified archaeologist/paleontologist make recommendations for measures necessary to protect the find; or to undertake data recovery, excavation, analysis, and curation of archaeological/paleontological materials, as appropriate.	This policy has been incorporated into Mitigation Measure CUL-1.
OSC-6.8	Prior to project approval, the City shall require project applicant to have a qualified professional archeologist conduct the following activities within the area of potential effects (APE): (1) conduct a record search at the North Central Information Center located at California State University Sacramento and other appropriate historical repositories to determine the extent of previously recorded sites and surveys within the project area, and to develop a historical context within which sites can be evaluated for significance, (2) conduct a field survey to locate, map, and record prehistoric and historic resources, and (3) prepare cultural resource inventory and evaluation reports meeting California Office of Historic Preservation Standards to document the results of the record search and field survey, and to provide significance evaluations and management recommendations for any identified historical resources within the APE.	See Section 4.5, Cultural Resources. A cultural resources inventory has been prepared for the project site.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-6.9	The City shall consult with Native American representatives, including appointed representatives from United Auburn Indian Community, to discuss concerns regarding potential impacts to cultural resources and to locations of importance to Native Americans, including archaeological sites and traditional cultural properties. Coordination with the Native American Heritage Commission should begin at the onset of the review of a proposed project.	Outreach to potentially affected tribes was done during the preparation of the cultural resources inventory. As the project entitlements include a General Plan Amendment, the City initiated consultation under SB 18 in November 2015.
OSC-6.10	Consistent with CEQA Guidelines (Section 15064.5), if human remains are discovered during project construction, it is necessary to comply with state laws relating to prohibitions on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (California Health and Safety Code Section 7050.5). If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: A. The Placer County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and If the coroner determines that the remains are of Native American origin, 1. The coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. 2. The NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) from the deceased Native American. 3. The MLD shall have an opportunity to make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. B. Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.	See Mitigation Measure CUL-2.

Table 4.10-2
City of Lincoln General Plan Consistency

<table>
<tr><th>Goal/Policy</th><th>Text</th><th>Consistency Determination</th></tr>
<tr><td></td><td>C. The County has notified the United Auburn Indian Community (UAIC) Tribal Council and solicited their input.</td><td></td></tr>
<tr><td>OSC-7</td><td>To provide and maintain park facilities that provide recreational opportunities for all residents.</td><td>The provision of park and recreational facilities is discussed in Chapter 4.14, Recreation.</td></tr>
<tr><td>OSC-7.1</td><td>The City shall provide park facilities in accordance with the following adopted park standards:
<table><tr><th>Parks</th><th>Standard</th></tr><tr><td>Parks without Development Agreements</td><td>5 acres/1,000 residents</td></tr><tr><td>Parks with Development Agreements</td><td>9 acres/1,000 residents</td></tr><tr><td>City-wide Park</td><td>3 acres/ 1,000 residents</td></tr><tr><td>Neighborhood/Community Park</td><td>3 acres/ 1,000 residents</td></tr><tr><td>Open Space</td><td>3 acres/ 1,000 residents</td></tr></table>Note: 9 acres consist of 6 acres for active recreation and 3 acres for passive recreation. Please see Appendix B for additional information on park requirements.</td><td>Based on the standard of 9 acres/1000 residents, the project does not contain adequate park space within the specific plan area. Therefore, the project would be required to pay in-lieu fees for the development of additional park facilities in the City of Lincoln.</td></tr>
<tr><td>OSC-7.6</td><td>The City will continue to collect park dedication fees, require the dedication of parkland, or a combination of both as a condition of development approval for the provision of new parks, or the rehabilitation of existing parks and recreational facilities in order to meet the City's parkland standards in Policy 7.1</td><td>See OSC-7.1.</td></tr>
<tr><td>OSC-7.7</td><td>The City shall provide for the payment of an in-lieu fee, in those instances where the City determines that park land dedication is not appropriate. The in-lieu fee shall reflect the cost of fully serviced vacant land.</td><td>See OSC-7.1</td></tr>
<tr><td>OSC-7.15</td><td>The City shall maintain wildlife habitat values during design and ongoing maintenance of new park facilities through provision of open space and wildlife corridor areas, protection of native vegetation, and control of use of herbicides and pesticides.</td><td>The project would designate riparian areas, Auburn and Markham Ravines, as Open Space, consistent with this policy. See Chapter 4.4, Biological Resources, and Chapter 4.14, Recreation, for more information.</td></tr>
</table>

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
OSC-7.16	The City shall develop linear parks and trail systems along the City's creeks and wetlands, when such improvements are not prohibited by federal and state regulations.	The proposed project would include designated open space and trails within Markham Ravine and Auburn Ravine to the extent permitted under the Clean Water Act and requirements of the RWQCB.
OSC-7.18	The City will strive to have newly dedicated, mini and neighborhood parks, constructed by residential developers in conjunction with their project, such that new residents have immediate access to park facilities.	The proposed project would include two neighborhood parks between the proposed open space and residential components.
OSC-7.19	As part of its urban design concept, the City will utilize the pocket park (approximately 0.25 to 0.50 acre) to establish a passive recreational and social gathering area in neighborhoods where it is deemed appropriate. Such parks are non-credited facilities toward parkland dedication requirements.	The project would not include any pocket parks.
OSC-7.20	The City shall design waterway and trail corridors to meet the recreational needs of the community, while maximizing public safety and access concerns. This includes locating trail corridors to ensure visibility along public roadways, where appropriate.	The proposed trail would run along the proposed right-of-way on the southern boundary of the proposed SPA.
Health and Safety		
HS-1	To minimize the danger of natural and Human-Made hazards and to protect residents and visitors from the dangers of earthquake, fire, flood, other natural disasters, and man-made dangers.	Natural and man-made hazards and project design features included to prevent damage to people or structures in the project vicinity are discussed in Chapter 4.6, Geology and Soils.
HS-1.1	The City shall require engineering analysis of new development proposals in areas with possible soil instability, flooding, earthquake faults, or other hazards, and to prohibit development in high danger areas.	The possibility of hazards resulting from soil instability, flooding, earthquake faults, or other hazards is discussed in Chapter 4.6, Geology and Soils. Mitigation Measure GEO-1 will ensure that hazards are sufficiently reduced.
HS-2	To minimize exposure of persons and property to damage resulting from geologic and seismic hazards.	Hazards related to geologic and seismic hazards are discussed in Chapter 4.6, Geology and Soils. Mitigation Measure GEO-1 will ensure that hazards are sufficiently minimized.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-2.1	The City shall require that new structures intended for human occupancy are designed and constructed to minimize risk to the safety of occupants due to ground shaking.	See HS-2
HS-2.2	To limit development in areas with severe slopes.	The project site and surroundings have a low-slope ground surface.
HS-2.3	The City shall discourage incompatible land uses for being located in areas subject to geologic or seismic hazards (e.g., liquefaction and expansive soils).	The project's land uses are compatible with the geologic characteristics of the area. See Chapter 4.6, Geology and Soils, for more information.
HS-2.4	The City shall continue to require that alterations to existing buildings and all new buildings be built according to the seismic requirements of the California Building Standard Code.	The project would comply with the requirements of the California Building Standard Code. See Chapter 4.6, Geology and Soils, for more information.
HS-3	To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.	See Chapter 4.3 Air Quality discusses the project's contribution to air pollutants.
HS-3.1	The City shall cooperate with other local, regional, and State agencies in developing an effective approach to implementing air quality plans that achieve State and Federal Ambient Air Quality Standards. Air quality plans shall incorporate programs developed by the Sacramento Area Council of Governments and the PCAPCD.	Implementation of air quality plans is discussed in Chapter 4.3, Air Quality.
HS-3.2	The City shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality. The City shall submit development proposals to the Placer County Air Pollution Control District for review and comment in compliance with the California Environmental Quality Act (CEQA) prior to consideration by the City.	As part of the preparation of the Draft EIR, the PCAPCD was consulted. The PCAPCD will be provided with the Draft EIR for comment.
HS-3.5	The City shall require developments, where feasible, to be located, designed, and constructed in a manner that would minimize the production of air pollutants and avoid land use conflicts.	
HS-3.6	The City shall require consideration of alternatives or amendments that reduce emissions of air pollutants when reviewing project applications.	
HS-3.7	The City shall require as a condition of approval for industrial, commercial, and office projects a Transportation Management Program that is consistent with the City's circulation policies of the General Plan.	

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-3.8	The City may require an analysis of potential air quality impacts associated with significant new developments through the environmental review process, and identification of appropriate mitigation measures prior to approval of the project development.	
HS-3.9	The City shall require contractors to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following: • Site watering or application of dust suppressants, • Phasing or extension of grading operations, • Covering of stockpiles, • Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and • Revegetation of graded areas.	
HS-3.10	Coordinating with the PCAPCD, the City shall require large development projects to mitigate air quality impacts. As feasible, mitigations may include, but are not limited to the following: • Providing bicycle access and bicycle parking facilities, • Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles (including neighborhood electric vehicles or NEVs), and • Establishing telecommuting programs or satellite work Centers.	
HS-3.11	The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes. The city shall promote the use of natural gas over wood products in space heating devices and fireplaces in all new homes and existing homes considering remodeling plans.	
HS-3.12	The City shall encourage employment-intensive development with a high floor area ratio where adequate community transit services are planned, and discourage such development where adequate community transit service is not planned.	
HS-3.13	The City shall support the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) at major employment centers for the purpose of reducing midday vehicle trips.	

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-3.14	The City shall provide disincentives for single-occupant vehicle trips through parking supply and pricing controls in areas where supply is limited and alternative transportation modes are available.	
HS-3.17	The City shall promote street design that provides an environment which encourages neighborhood electric vehicles, transit use, biking and walking.	
HS-3.18	The City shall encourage all new development to be designed to promote pedestrian and bicycle access and circulation (including the use of NEVs), to the greatest extent feasible.	
HS-3.20	The City shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations.	
HS-4	To minimize the possibility of the loss of life, injury, or damage to property as a result of airport hazards.	The proposed project would comply with the adopted Placer County Airport Land Use Compatibility Plan. See following impact discussion for more information.
HS-4.1	The City shall require that development around the Lincoln Regional Airport be consistent with the safety policies and land use compatibility guidelines contained in the adopted Placer County Airport Land Use Compatibility Plan and any subsequent amendments to the Plan.	The proposed project would comply with the adopted Placer County Airport Land Use Compatibility Plan. See following impact discussion for more information.
HS-4.2	The City shall ensure that development within the airport approach and departure zones are in compliance with Part 77 of the Federal Aviation Administration Regulations (FAA regulations that address objects affecting navigable airspace).	Implementation of Mitigation Measures AES-1 and LU-1 would ensure compliance with FAA regulations.
HS-5	To protect residents and property from the use, transport and disposal of hazardous materials.	See Chapter 4.8, Hazards and Hazardous Materials.
HS-5.1	The City shall strive to ensure that hazardous materials are used, transported, and disposed within the City in a safe manner and in compliance with local, state and federal safety standards.	Hazardous material will be handled in a safe manner consistent with all relevant regulatory standards. See Chapter 4.8, Hazards and Hazardous Materials.
HS-5.4	The City shall require disclosure of hazardous materials with the County Environmental Health Department by those using them within the city or proposing to use them in new industrial or commercial activities.	See Chapter 4.8, Hazards and Hazardous Materials, for full discussion.
HS-5.7	The City shall protect soils, surface water and groundwater from contamination.	See Chapter 4.8, Hazards and Hazardous Materials, for full discussion.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-5.8	The City will work to educate the public as to the types of household hazardous waste and the proper method of disposal.	See Chapter 4.8, Hazards and Hazardous Materials, for full discussion.
HS-5.9	The City shall encourage household hazardous waste to be disposed of property.	See Chapter 4.8, Hazards and Hazardous Materials, for full discussion.
HS-5.11	The City shall review all proposed development projects that involve the manufacturing, use, or transporting of hazardous materials to ensure compliance with the County Hazardous Waste Management Plan or equivalent guidance.	See Chapter 4.8, Hazards and Hazardous Materials. Note that industrial uses are not proposed for the specific plan area.
HS-5.12	The City may require, as a component of the environmental review process, a hazardous materials inventory for the site, including an assessment of materials and operations for any applications for land use entitlements.	Phase I environmental site assessments have been prepared for the project site. See Chapter 4.8, Hazards and Hazardous Materials.
HS-5.13	The City shall ensure that the proponents of development projects (including new, redevelopment, remodel, or demolition projects) address existing hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies for each identified site as part of the design phase for each project. Particular attention should be paid to land that contained past agricultural uses. Recommendations outlined in the studies will be implemented as part of the construction phase for each project.	Phase I environmental site assessments have been prepared for the project site. See Chapter 4.8, Hazards and Hazardous Materials.
HS-5.14	For future City projects involving school acquisition/development projects, the City shall ensure that specific siting requirements established under the California Education Code and California Code of Regulations are addressed. These regulations require that potential school hazards relating to soils, seismicity, hazards and hazardous materials, and flooding be addressed during the school site selection process.	Not applicable.
HS-6	To minimize the risk of life and property of the City's residents from flood hazards.	The project will minimize risk of flood hazards. See Chapter 4.9, Hydrology and Water Quality.
HS-6.3	The City shall require master drainage plans as a condition of approval for large development projects.	A master drainage study was prepared by Frayji Design Group, Inc. on November 9, 2016. See Chapter 4.9, Hydrology and Water Quality, for discussion.
HS-6.4	The City shall require new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards.	See Chapter 4.9, Hydrology and Water Quality, for full discussion.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-6.5	The City shall prohibit development along stream channels that would reduce the stream capacity, increase erosion, or cause deterioration of the channel.	Stream channels would be protected. See Chapter 4.9, Hydrology and Water Quality, and Section 4.6, Geology and Soils, for discussion.
HS-7	To minimize the risk of life and property from urban and wildland fires.	See Chapter 4.8, Hazards and Hazardous Materials, and 4.13, Public Services, for discussion.
HS-7.3	The City shall require the development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.	See Chapter 4.8, Hazards and Hazardous Materials, for discussion of fire hazard. The applicant shall prepare and submit a fuel management plan as part of the restoration of Markham Ravine and Auburn Ravine.
HS-7.4	The City shall require new development to incorporate additional greenbelts, fuel breaks, fuel reduction and buffer zones around communities to minimize potential fire losses.	Fuel modification zones will be provided around the community's interface with adjacent undeveloped open space, in accordance with the requirements of the City's Fire Department. See Chapter 4.8, Hazards and Hazardous Materials.
HS-8	To protect residents from health hazards and annoyance associated with excessive noise levels.	See Chapter 4.11, Noise, for discussion.
HS-8.1	The City will allow the development of new noise-sensitive land uses (which include but are not limited to residential, health care facilities and schools) only in areas exposed to existing or projected levels of noise which satisfy the levels specified in Table 8.1. Noise mitigation measures spaces to levels specified in Table 8.1.	Please refer to Chapter 4.11, Noise, Figure 4.11-2, for a re-printing of the City's General Plan Table 8-1, Maximum Allowable Noise Exposure by Land Use.
HS-8.2	The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL.	Implementation of Mitigation Measure NOI-1 would ensure that the project would not exceed noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL in residential areas. Please refer to Chapter 4.11, Noise, for full discussion.
HS-8.4	The City shall control noise sources in residential areas and other noise-sensitive areas by restricting truck traffic to designated truck routes.	Implementation of Mitigation Measure NOI-2 will ensure that noise resulting from trucks and mechanical equipment will be controlled.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
HS-8.6	The City shall require that development around Lincoln Airport be consistent with the noise standards contained in the approved Airport Land Use Commission Plan, and where deemed appropriate, require aviation easements from new development.	The project will comply with noise standards contained in the Airport Land Use Commission Plan. See Chapter 4.11, Noise, and 4.10 Land Use, for discussion.
HS-8.9	The City shall use adopted noise compatibility guidelines to evaluate compatibility of proposed new development and ensure compatibility between residential, commercial and other surrounding land uses (See Table 8-1, Maximum Allowable Noise Exposure by Land Use).	Please refer to Chapter 4.11, Noise, Figure 4.11-2, for a re-printing of the City's General Plan Table 8-1, Maximum Allowable Noise Exposure by Land Use. Implementation of Mitigation Measure NOI-1 would reduce noise levels to be compatible with noise compatibility guidelines.
HS-8.10	The City shall require sound attenuation features such as walls, berming, and heavy landscaping between commercial and industrial uses and residential uses to reduce noise and vibration. Setback distances may also be used to reduce noise.	Noise barriers will be used to reduce sound levels and vibration from the project site. See Chapter 4.11, Noise, for full discussion.
HS-8.11	The City shall require a variety of sound attenuation features (including noise buffering or insulation) in new development along major streets and highways, and along railroad tracks.	Noise barriers will be used to reduce sound levels from major streets and highways. See Chapter 4.11, Noise, for full discussion.
HS-8.13	The City shall work with Caltrans to mitigate noise impacts on sensitive receptors near SR65 and SR193, by requiring a variety of sound attenuation features (including noise buffering or insulation) in new construction.	Implementation of Mitigation Measure NOI-1 will ensure that appropriate noise buffers are used along SR65. See Chapter 4.11, Noise, for full discussion.
HS-8.14	The City shall require noise analysis of proposed development projects as part of the environmental review process and to require mitigation measures that reduce noise impacts to acceptable levels. The noise analysis shall: • Be the responsibility of the applicant • Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics • Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions • Estimate existing and projected noise levels in terms of Ldn/CNEL and compare the levels to the adopted policies of the City's General Plan	A noise analysis was prepared for this project. See Chapter 4.11, Noise, for full discussion and mitigation measures.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
	• Recommend appropriate mitigation to achieve compatibility with the adopted noise policies and standards of the City's General Plan. Where the noise source in question consists of intermittent single events, the acoustical analysis must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance • Estimate noise exposure after the prescribed mitigation measures have been implemented. If the project does not comply with the adopted standards and policies of the City's General Plan, the analysis must provide acoustical information for a statement of overriding considerations for the project • Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures	
HS-8.15	The City shall establish restrictions regarding the hours and days of construction activities throughout the City.	Construction activities near residential or other NSLU will be restricted to the hours between 7am to 7pm, Monday through Friday, as proposed in Mitigation Measure NOI-4.
HS-9.4	The City will strive to work with other local agencies including Placer County and cities within the County to develop coordinated geographical information systems (GIS) planning for emergency response services.	See Chapter 4.8, Hazards and Hazardous Materials, for a full discussion on impacts to emergency response services.
HS-9.5	The City shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, police offices, substations, emergency operations centers and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.	See Chapter 4.8, Hazards and Hazardous Materials, for a full discussion on impacts to emergency response services.
Housing		
Housing Goal 1	Accommodate new housing to meet the needs of present and future Lincoln residents at all income levels.	The City of Lincoln does not require that all planned unit developments and specific plans provide a specific percentage of housing units affordable to low-and moderate-income households. The project includes market rate single family housing.

Table 4.10-2
City of Lincoln General Plan Consistency

Goal/Policy	Text	Consistency Determination
Housing Policy 3	New residential developments will include housing affordable to low- and moderate-income households.	The City of Lincoln does not require that all planned unit developments and specific plans provide a specific percentage of housing units affordable to low-and moderate-income households. The project includes market rate single family housing.
Housing Policy 4	Require that new residential developments meet local and state requirements for energy efficiency and mitigate adverse environmental impacts.	The project will meet local and state energy efficiency requirements.
Housing Policy 7	Ensure that neighborhoods have adequate public services and facilities that comply with City standards.	The proposed project would have adequate public services and facilities. See Chapter 4.13, Public Services, and Chapter 4.17, Utilities and Service Systems, for discussion.

Source: City of Lincoln General Plan, 2008

ALUCP

The proposed project would be located within the airport influence area of the Lincoln Regional Airport. Due to the noise and safety concerns associated with airport land uses, the Airport Land Use Compatibility Plan (ALUCP) restricts sensitive land uses to particular compatibility zones. The entirety of the proposed SPA would be within the Airport's overflight zone, within compatibility zones C1 and C2. In compatibility zone C1, noise from aircraft operations can affect noise-sensitive land uses such as residences, schools, libraries, and outdoor theaters (PCTPA 2014). Compatibility zone C2 is outside of the CNEL 55 dB noise contour. Safety is a concern within compatibility zone C2 only with regard to highly concentrated land uses and particularly risk-sensitive uses, such as schools and hospitals (PCTPA 2014). Table 4.10-1 shows the permitted land use criteria for compatibility zones C1 and C2.

Most of the SPA within compatibility zone C1 would be reserved for commercial land uses and infrastructure, which are less sensitive to noise and safety issues compared to residential land uses. The Zone C1 compatibility criteria include an average intensity of 150 persons per acre (with a maximum of 450 persons per acre), and an open land requirement of 15%. Commercial development within Zone C1 is conditionally acceptable. For major retail (regional or "big box" development with more than 300 people per building), the development is restricted to an FAR of 0.38). Local retail, such as neighborhood shops and grocery stores (less than 300 people per building), the allowable FAR is 0.59. The proposed project may include a mix of major and local

retail, as well as food, gas stations, offices, and self-storage. The maximum planned commercial development is 971,000 SF of floor space. The commercial portion of the SPA is 69.7 acres, which yields a FAR of 0.32, below the most restrictive standard of 0.38. According to the ALUCP (Section 3.4), there is an assumption that a land use that complies with the FAR standard will also comply with the intensity (persons/acre) standard (PCTPA 2014). Therefore, the commercial uses of the SPA are considered consistent with the ALUCP.[1]

The proposed single family portion of the specific plan area is almost entirely within Zone C2. Single-family residential development are considered normally compatible within Zone C2. Zone C2 standards call for an average maximum development density of 300 persons per acre (with a single-acre maximum of 1200 persons). The proposed residential component of the SPA would be at a density of 5 units per acre (considered low density by the general plan standards). Using the persons per residential unit estimates from the Population and Housing analysis (Chapter 4.12) yields a range of 13 to 18 persons per acre (at densities of 2.61 and 3.6 persons per unit, respectively). At the upper range of 18 persons per acre, the development is well below the ALUCP average maximum of 300 persons per acre. Note that approximately 30 residential units on the western edge of the residential land use area would be partially within the C1 zone. However, given the overall low intensity of commercial development and the low density of residential development within the specific plan, this would not violate the policy intention of the ALUCP.

For both zones C1 and C2, commercial and residential development should avoid the following: sources of glare (such as from mirrored or other highly reflective structures or building features) or bright lights (including search lights and laser light displays); distracting lights that could be mistaken for airport lights; sources of dust, steam, or smoke that may impair pilots' vision; sources of steam or other emissions that cause thermal plumes or other forms of unstable air; and sources of electrical interference with aircraft communications or navigation. The proposed land uses do not include industrial, resource, or energy development that could cause air emissions, thermal plumes, or electrical interference. However, highly reflective building materials or bright lights could represent a hazard to air traffic. This is a **potentially significant impact**. Mitigation Measure AES-1 (see Section 4.1, Aesthetics) would ensure that commercial and residential development is consistent with the ALUCP standards.

[1] In addition, calculated non-residential intensities are consistent with Zone C1 standards. Assuming the 971,000 SF of commercial is evenly divided between retail and non-retail uses (the office category is conservatively used), and using an occupancy standard of 170 SF/person for retail and 215 SF/person for office, _5044 persons would be expected at any one time in the commercial area. Dividing by 72.4 acres yields 70 persons per acre.

The proposed project would require the construction of water quality detention basins to meet storm water quality and peak run-off demands. Such facilities are allowed within the C1 and C2 zones with the following provision:

> No proposed use shall be allowed that would create an increased attraction for wildlife and that is inconsistent with FAA rules and regulations including, but not limited to, FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports and Advisory Circular 150/5200-34A, Construction or Establishment of Landfills near Public Airports. Of particular concern are landfills and certain recreational or agricultural uses that attract large flocks of birds which pose bird strike hazards to aircraft in flight. See Policy 3.5.3(a)(6). (Placer County 2014)

Improperly designed detention ponds, which maintain standing water and provide suitable habitat for migratory birds, could result in a **potentially significant impact**. This impact can be avoided through proper design in compliance with FAA guidance. This requirement is incorporated into Mitigation Measure LU-1.

MTP/SCS

The SPA is designated as a Developing Community in the 2016 MTP/SCS. This is consistent with the project, which would develop areas contiguous with the existing urban area at densities consistent with the General Plan.

Impact 4.10-3. The project would not conflict with any applicable habitat conservation plan or natural community conservation plan.

There is currently no Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) applicable to the project area. Placer County is in the process of developing the Placer County Conservation Plan (PCCP), a joint HCP/NCCP. The proposed project would have no impact related to conflicts with HCPs or NCCPs.

4.10.5 Mitigation Measures

MM-LU-1 All water quality detention basins shall be designed to avoid creating an increased attraction for wildlife, consistent with FAA rules and regulations including, but not limited to, FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports and Advisory Circular 150/5200-34A, Construction or Establishment of Landfills near Public Airports.

4.10.6 Level of Significance After Mitigation

Implementation of the above mitigation measure, and measure AES-1 would reduce potential land use impacts to **less-than-significant levels.**

4.10.7 Cumulative Analysis

The proposed SUD-B Northeast specific plan implements the City's General Plan within the plans proposed boundaries. Similarly, the adjacent cumulative development, Independence at Lincoln and Village 5, would implement the General Plan. The three proposed specific plans are consistent with regional plans (the 2016 MTP/SCS and the Placer County ALUCP). Therefore there is no cumulatively significant impact on land use.

4.10.8 References

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City of Lincoln. 2012. "City of Lincoln General Plan Land Use and Circulation Diagram." October 2012. Accessed July 14, 2015: http://www.ci.lincoln.ca.us/home/showdocument?id=1461.

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PCTPA (Placer County Transportation Planning Agency). 2014. *Placer County Airport Land Use Compatibility Plans*. Adopted February 26, 2014.

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Placer County. 2010. "Zoning Index: C-4". Map. 1 inch = 800 feet. March 9, 2010. Accessed July 14, 2015: http://www.placer.ca.gov/~/media/cdr/Admin/GIS/Zoning/C4.pdf.

Placer County. 2014. "Placer County Conservation Plan." Accessed July 14, 2015: http://www.placer.ca.gov/Departments/CommunityDevelopment/planning/PCCP.aspx.

Placer County Code, Section 5.24.040. Right-to-farm.

Placer County Code, Article 17.52. Combining Districts.

Placer County LAFCO. No Date. *Placer LAFCO Policies*. Accessed July 14, 2015: http://www.placer.ca.gov/~/media/lafco/documents/LAFCO%20Policies.pdf.

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4.11 NOISE

This section describes the noise present in the project area and discusses applicable federal, state, and regional regulations pertaining to noise. This section evaluates the potential effects related to noise associated with development of the SUD-B Northeast Quadrant Specific Plan (proposed project).

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included concerns regarding noise impacts on nearby residential uses.

Information contained in this section is based on the Noise Assessment Technical Report that for the proposed project that was conducted by Dudek in December 2015. This report is included as part of this EIR as **Appendix E**.

4.11.1 Existing Conditions

This section describes the existing noise conditions in the project area and also identifies the existing sensitive receptors that could be affected by the project.

4.11.1.1 Transportation Noise Sources

Aviation

The nearest public airport to the project site is the Lincoln Regional Airport located approximately 0.4 miles to the north-northwest. Based upon the Placer County Airport Land Use Compatibility Plan (PCTPA 2014), the project site is located within the Airport Influence Area, within Zone 6 (Traffic Pattern Zone). Based upon the City of Lincoln General Plan Background Report (City of Lincoln 2008a), the project site is located outside of the Lincoln Regional Airport's projected Year 2033 60 dBA CNEL noise contour. The western side of the project site is located between the airport's 55 dBA CNEL and 60 dBA CNEL noise contours.

Due to the proximity of the airport, the project site is located within zones C-1 and C-2 of the airport's Land Use Compatibility Plan (PCTPA 2014). The C-1 zone has a moderate degree of noise and risk and is considered conditionally compatible for residential uses and compatible for local parks. Cumulative noise levels can exceed CNEL 55 dB in portions of the zone and noise from individual aircraft operations is disruptive to noise-sensitive land uses. Portions of zone C-1 are located where restrictions may be required on buildings greater than 100 feet high (Federal Aviation Regulations Part 77 transitional surface airspace). The C-2 zone is outside of the CNEL 55 dB contour and safety is a concern only for uses that include a high concentration of people (i.e., schools and hospitals). The C-2 zone is compatible with residential uses (PCTPA 2014).

Roadways

Vehicular traffic along State Route 65 (SR 65) is a principal contributor to the existing noise environment within the project site, with several existing local roads (Nicolaus Road and Nelson Lane) being secondary contributors. Regional access to the project site is provided by SR 65. Primary access to the main portion of the project site is provided by Nicolaus Lane, with secondary access from First Street and Third Street.

4.11.1.2 Other Noise Sources

The project site is undeveloped land that is relatively flat and consists of disturbed non-native annual grassland. This area has been used primarily for dry crop farming (i.e., hay) and grazing land with no structures or buildings present. Other surrounding land uses include rural residential and agricultural/grazing land to the south and west in Placer County, grazing land and two industrial/manufacturing uses to the north within the City of Lincoln, and grazing land, the former wastewater treatment plant (WWTP) site, an industrial/manufacturing facility, and the southwesterly residential development in the City of Lincoln to the east.

4.11.1.3 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLU) are land uses that may be subject to stress and/or interference from excessive noise. The Noise Element of the Placer County General Plan (Placer County 2013) identifies residences, schools, health care facilities, and other similar land uses to be NSLU. Industrial and commercial land uses are generally not considered sensitive to noise, with the exception of commercial lodging facilities. NSLU in the immediate vicinity of the project site include:

- Residences located immediately to the east, along First Street, Third Street, and St. Lucia Way
- Residences located to the west, along the west side of Nelson Lane
- Residences to the east and west, along Nicolaus Road

4.11.1.4 Vibration-Sensitive Land Uses

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (FTA 2006, as cited in Appendix E) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. There are no known vibration-sensitive land uses within at least several miles of the project site.

4.11.1.5 Existing Noise Levels

Existing (pre-project) noise conditions present on the project site and in the vicinity of noise sensitive land uses in the region of the project were inventoried by Dudek in December 2014. Three short-term (varying from 10 to 15 minutes duration) measurements were performed along existing roadways to characterize noise levels associated with traffic, and for calibration of the traffic noise model. The noise measurement locations are shown in Figure 4.11-1. The results of the traffic noise measurements are presented in Table 4.11-1. The highest measured average noise levels were associated with traffic on SR 65, (71 dBA Leq at a distance of approximately 20 feet from the edge of pavement. The measured noise level along Nelson Lane was 67 dBA L_{eq} at a distance of approximately 20 feet from the edge of pavement, and the noise level along Nicolaus Road was 66 dBA L_{eq} approximately 15 feet from the edge of pavement.

Table 4.11-1
Traffic Noise Level Measurements (Existing) (dBA)

Measurement #	Measurement Date	Measurement Time Period	L_{eq}	L_{max}	L_{min}	Remarks
1	10/23/2014	8:35 – 8:50	65.6	78.9	43.1	Along Nicolaus Road east of Nelson Lane
2	10/23/2014	7:35 – 7:45	67.2	80.8	52.6	Along Nelson Lane between Nicolaus Road and SR 65.
3	10/23/2014	8:05 – 8:15	70.7	82.6	51.1	Along SR 65 east of Nelson Lane

Source: Appendix E

4.11.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to noise would apply to the proposed project.

Federal Aviation Administration (FAA) Standards

Enforced by the Federal Aviation Administration, Code of Federal Regulation (CFR) Title 14, Part 150 prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that interior sound levels up to 45 dBA Ldn (or CNEL) are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA Ldn (or CNEL).

Federal Highway Administration (FHWA) Standards

CFR Title 23, Part 772 sets procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the Federal Department of Transportation (DOT) Highway Administration (FHWA). The purpose of this regulation is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the DOT-FHWA Noise Standards. Title 23 establishes a 67 dBA $L_{eq(h)}$ standard applicable to federal highway projects for evaluating impacts to land uses including residences, recreational uses, hotels, hospitals, and libraries [23 CFR Chapter 1, Part 772, Section 772.19].

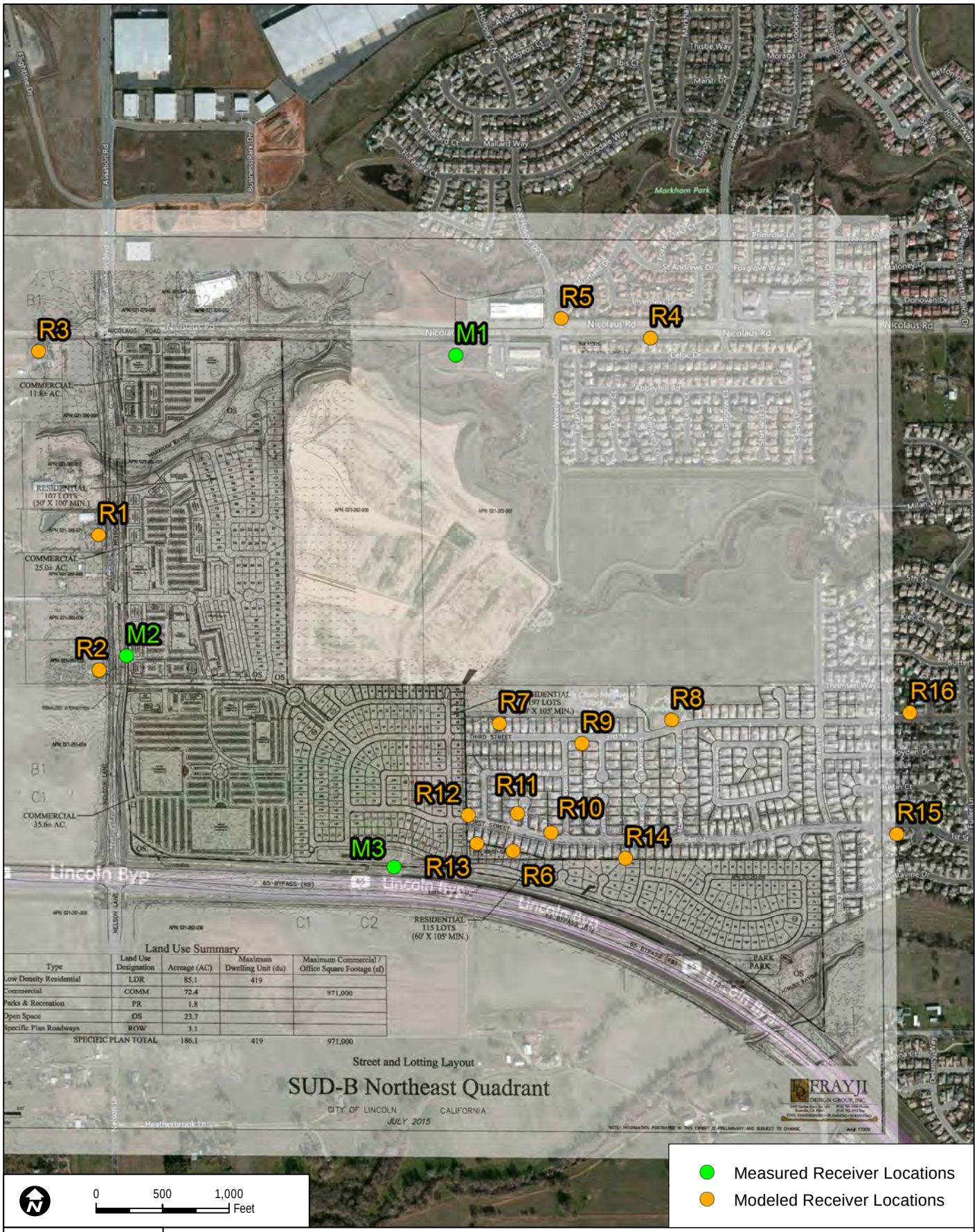
Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) Standards

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions. The FTA and FRA have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches/second PPV.

Federal Interagency Committee on Noise (FICON)

The 2000 FICON findings provide some guidance as to the significance of changes in ambient noise levels due to transportation noise sources. The FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that interferes with speech and conversation, sleep, or the desire for a tranquil environment.

The changes in noise exposure relative to existing noise levels, as shown in Table 4.11-2, are considered to be changes that are sufficient to cause annoyance and potentially to interfere with normal activities at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis for traffic noise described in terms of L_{dn} or CNEL.



SOURCE:Bing Imagery, 2015; Frayji Design Group, Inc., 7/2/2015.

FIGURE 4.11-1

Noise Measurement and Modeling Locations

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As shown in Table 4.11-2, an increase in noise from similar sources of 5 dBA or more would be noticeable where the ambient level is less than 60 dBA. Where the ambient level is between 60 and 65 dBA, an increase in noise of 3 dBA or more would be noticeable, and an increase of 1.5 dBA or more would be noticeable where the ambient noise level exceeds 65 dBA L_{dn}.

Table 4.11-2
Measures of Substantial Increase for Transportation Noise Exposure

Ambient Noise Level Without Project	Significant Impact Occurs if the Project Increases Ambient Noise Levels by:
<60 dBA	+ 5 dBA or more
<60–65 dBA	+ 3 dBA or more
>65 dBA	+ 1.5 dBA or more

Source: FICON 2000.

State

The following state regulations pertaining to noise would apply to the proposed project.

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Noise Insulation Standards (California Code of Regulations [CCR] Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multi-family residential buildings (Title 24, Part 2, California Code of Regulations). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{dn}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{dn}) of at least 45 dBA [California's Title 24 Noise Standards, Chap. 2-35].

Local

City of Lincoln

Although some of the project site is currently located in unincorporated Placer County, the project applicant seeks approval of an annexation request by the City. For this reason, the noise standards of the City of Lincoln are primarily used for this analysis.

City of Lincoln General Plan

The Noise section of Chapter 8 (Health and Safety) of the City of Lincoln's General Plan (City of Lincoln 2008b) establishes a maximum "normally acceptable[1]" exterior noise exposure level of 60 dBA CNEL for noise sensitive uses including residences, schools, hospitals, and churches (see Table 4.11-3). The same land uses are "conditionally acceptable[2]" at noise levels of up to 70 dBA CNEL. Policy HS 8.1 states: "The City will allow the development of new noise sensitive land uses (which include but are not limited to residential, health care facilities and schools) only in areas exposed to existing or projected levels of noise which satisfy the levels specified in Table 8.1." Policy HS 8.2 states: "The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL." In addition, Policy HS 8.15 states "The City shall establish restrictions regarding the hours and days of construction activities throughout the City."

Table 4.11-3
Maximum Allowable Noise Exposure by Land Use

	Noise Level (CNEL)						
	0-55	*56-60*	*61-65*	*66-70*	*71-75*	*75-80*	*>81*
Residential – Low Density Single Family, Duplex, Mobile Homes							
Residential – Multiple Family, Group Homes							
Motels/Hotels							
Schools, Libraries, Churches, Hospitals, Extended Care Facilities							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor							

1 From Table 8-1 of the General Plan (Maximum Allowable Noise Exposure by Land Use): "Specified land use is satisfactory, based on the assumption that any buildings involved are of normal, conventional construction, without any special noise insulation requirements.

2 Op. cit.: "New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design."

Table 4.11-3
Maximum Allowable Noise Exposure by Land Use

	Noise Level (CNEL)						
	0-55	*56-60*	*61-65*	*66-70*	*71-75*	*75-80*	*>81*
Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Normally acceptable. Specified land use is satisfactory, based on the assumption that any buildings involved are of normal, conventional construction, without any special noise insulation requirements.

Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design.

Normally Unacceptable. New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

Unacceptable. New construction or development should not be undertaken.

City of Lincoln Municipal Code

Chapter 9.04 of the City of Lincoln Municipal Code addresses noise control in the City, specifically noise from sound systems, loudspeakers or radios: "It is unlawful for any person, firm or corporation to operate or employ any sound system, sound-amplifying device, radio loudspeaker, record player, radio, jukebox or other electrical or mechanical device or apparatus that emits sound waves, at any time during any day in any manner so that any sound emitted therefrom is audible to a person of average hearing faculties or capacity at a distance of more than 25 feet from the source of the sound emitted or in any manner so that the sound emitted therefrom or transferred thereover travels, is carried or projected into any public street, sidewalk, alley or place or onto, across or over any private property other than that owned by the person controlling the loudspeaker or other sound-emitting device."

The Municipal Code does not address noise from other activities (such as construction noise or on-site operational noise from mechanical equipment such as heating, ventilation and air conditioning equipment) that would apply to the proposed project.

Placer County

Noise-sensitive land uses are located to the west, in areas which would remain in unincorporated Placer County; therefore, relevant portions of the Placer County noise policies and standards are also included here.

Placer County General Plan

Section 9 (Noise) of the Placer County General Plan (Placer County 2013) contains noise policies and standards (e.g., exterior and interior noise-level performance standards for new projects affected by or including non-transportation noise sources [included here as Table 4.11-4], and maximum allowable noise exposure levels for transportation noise sources [Table 4.11-5]). Additionally, the Placer County Municipal Code (Article 9.36) contains noise limits for sensitive receptors for daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) hours (Table 4.11-6) (Placer County 2014). The applicable policies and standards contained in the General Plan and Ordinance are summarized below.

- Policy 9.A.2: The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 4.11-4 as measured immediately within the property line of lands designated for noise-sensitive uses.
- Policy 9.A.5: Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 4.11-4 at existing or planned noise-sensitive uses, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design.
- Policy 9.A.9: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 4.11-5 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.
- According to Article 9.36.030, "Exemptions," construction noise is exempt from the noise ordinance standards shown in Table 4.11-6 provided that it is performed between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday, and provided that all construction equipment is fitted with factory-installed muffler devices and maintained in good working order.

Table 4.11-4
Allowable L_{dn} Noise Levels within Specified Zone Districts Applicable to New Projects Affected by or Including Non-Transportation Noise Sources

Zone District of Receptor	Property Line of Receiving Use	Interior Spaces
Residential Adjacent to Industrial	60	45
Other Residential	50	45

Table 4.11-4
Allowable L_{dn} Noise Levels within Specified Zone Districts Applicable to New Projects Affected by or Including Non-Transportation Noise Sources

Zone District of Receptor	Property Line of Receiving Use	Interior Spaces
Office/Professional	70	45
Transient Lodging	65	45
Neighborhood Commercial	70	45
General Commercial	70	45
Heavy Commercial	75	45
Limited Industrial	75	45
Highway Service	75	45
Shopping Center	70	45
Industrial	–	45
Industrial Park	75	45
Industrial Reserve	–	–
Airport	–	45
Unclassified	–	–
Farm	(see footnote 6)	–
Agriculture Exclusive	(see footnote 6)	–
Forestry	–	–
Timberland Preserve	–	–
Recreation and Forestry	70	–
Open Space	–	–
Mineral Reserve	–	–

Table 4.11-5
Maximum Allowable Noise Exposure Transportation Noise Sources

Noise Sensitive Land Uses [FY]	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	*L_{dn}/CNEL, dB*	*L_{eq}, dB*[2]
Residential	60[3]	45	–
Transient Lodging[4]	60[3]	45	–
Hospitals, Nursing Homes	60[3]	45	–
Theaters, Auditoriums, Music Halls	–	–	35
Churches, Meeting Halls	60[3]	–	40
Office Buildings	–	–	45
Schools, Libraries, Museums	–	–	45
Playgrounds, Neighborhood Parks	70	–	–

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Table 4.11-6
Sound Level Standards (On-Site)

Sound Level Descriptor	Daytime (7am to 10pm)	Nighttime (10pm to 7am)
Hourly L_{eq}, dB	55	45
Maximum level, (Lmax) dB	70	65

4.11.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to noise are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to noise would occur if the project would:

1. Result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and if so, the project would expose people residing or working in the project area to excessive noise levels.
6. Be within the vicinity of a private airstrip, and if so, the project would expose people residing or working in the project area to excessive noise levels.

The significance criteria of items 1 through 4 are discussed below. Item 5 is discussed below in relation to the Placer County Airport Land Use Compatibility Plan.

The proposed project is not located within the vicinity of a private airstrip that would expose people residing or working on the project site to excessive noise levels. Therefore, no impact would occur and Item 6 is not discussed further.

City of Lincoln Significance Criteria

Chapter 8 (Noise) of the City's Health & Safety Element of the City of Lincoln General Plan (2008) defines noise sensitive areas to include:

- Residential areas
- Schools
- Health Care Facilities

The above types of occupancies or development are also commonly referred to as Noise Sensitive Land Uses (NSLUs).

Policy HS-8.2 of the Health & Safety Element states that "The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL." Consequently, significant impacts would occur if new NSLUs were constructed in areas with existing ambient, or future predicted, noise levels exceeding 60 dBA CNEL.

For transportation-related noise, impacts are considered significant if Project-generated traffic exposes existing or potential NSLU to sound levels in excess of 60 dBA CNEL. Off-site noise impacts due to project-generated traffic would be considered significant if the project-generated traffic causes an increase of 5 dB CNEL from existing noise levels, based on the FICON recommendations for areas with ambient noise levels of less than 60 dBA without the project. Where the ambient level is between 60 and 65 dBA, an increase in noise of 3 dBA or more would be noticeable, and an increase of 1.5 dBA or more would be noticeable where the ambient noise level exceeds 65 dBA Ldn.

Also based on Policy HS-8.2 of the Health & Safety Element, impacts relating to operational noise are considered significant when Project-related commercial noise would result in exposure of NSLU to noise levels exceeding 60 dBA CNEL.

Impacts related to excessive ground-borne vibration would be significant if the project results in the exposure of persons to or generation of excessive ground-borne vibration equal to or in excess of 0.2 in/sec PPV. Construction activities within 200 feet and pile driving within 600 feet would be potentially disruptive to vibration-sensitive operations (Caltrans 2009, as cited in Appendix E).

4.11.4 Impacts Analysis

4.11.4.1 Methods of Analysis

The project setting was developed by reviewing available information on noise and sensitive receptors in the project vicinity. This review was supplemented with noise measurements. Sound level measurements were performed using a Larson Davis Model 800 integrating sound level meter, which is classified by the American National Standards Institute (ANSI) as a Type I (precision-grade) device. The sound level meter was calibrated before and after each measurement using a Larson Davis Model CAL200 calibrator.

To evaluate existing and future noise levels from traffic, the FHWA transportation noise model (TNM Version 2.5) was used. The model was first calibrated. Traffic counts were made during the noise measurements. To calibrate the noise model, the same traffic volume and vehicle composition ratios counted during the noise measurements were used along with the observed vehicle speed (which may differ from the posted speed limit for the roadway). Using vehicle counts and observed speeds, the modeled noise values were within 2 dB of the measured noise levels, which confirms the accuracy of the inputs used in the noise model. The proposed project's traffic engineers (DKS Associates) provided trip generation data and resulting roadway traffic volumes for each of the major roadways within the project area for the existing, proposed project, and cumulative scenarios. The representative existing and proposed future modeled receivers are shown in Figure 4.11-1.

As part of the CNEL calculation process, it is assumed the average hourly traffic volume in the analysis is approximately equal to 10% of the average daily trips (ADT). Ten percent of the ADT is generally accepted to be roughly equivalent to the worst-case hourly traffic volume; using this value in the noise model results in an average hourly equivalent noise level that is approximately equal to the CNEL for the corresponding ADT and actual hourly traffic distribution. Thus, this relationship results in a CNEL value that is representative of traffic noise resulting from typical daytime, evening, and nighttime traffic distribution.

To assess noise exposure for noise-sensitive land uses situated along roadways, the analysis uses the greatest anticipated future roadway traffic volume. This is the scenario associated with the cumulative-plus-project traffic forecast. Utilizing the planned roadway sections and identified future traffic volumes (from project development and cumulative traffic), traffic noise along each of the main project-related roadways was modeled with TNM 2.5. Receptor points in the noise model were placed at representative existing and proposed project-related NSLUs. Existing and proposed noise barriers were accounted for in the TNM model: the existing SR 65 noise wall (approximately 12 feet in height) which exists along a portion of the project's frontage, and the proposed project sound wall (at this time planned to be 8 feet in height) near the proposed

project's southern boundary in the residential area, were modeled. Additionally the proposed wall (at this time planned to be 6 feet in height) between the project's commercial land uses and the residential uses in the southwestern portion of the project was modeled.

4.11.4.2 Analysis

Impact 4.11-1. The project would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Operation

Roadway Noise

On-site Impacts

Traffic-related noise was modeled for on-site locations consistent with the methodology explained in Section 4.11.4.1. The results of the modeling are presented in Table 4.11-7. On-site noise levels at NSLU would range from approximately 52 dBA CNEL (at R26) to 65 dBA CNEL (at R22). The noise levels from traffic would be 60 dBA CNEL or less at 17 of the 19 modeled on-site receivers. The noise levels at two of the on-site NSLU would exceed 60 dBA CNEL at receiver R22 (Lot 177, the southwestern-most residential lot) and at receiver R31 (proposed park site along the southeastern edge of the project site). Both of these receivers would exceed the 60 dBA CNEL significance threshold without additional mitigation measures. The proposed residential uses on the south side of the project site would have some protection from the existing SR-65 sound wall (see Figure 4.11-2), but it would not provide a complete barrier. Therefore, on-site traffic noise impacts would be potentially significant. Mitigation measures are discussed in Section 4.11.5, below.

Table 4.11-7
Future On-Site Traffic Noise Cumulative-plus-Project Traffic Levels

Modeled Receiver	Land Use / Adjacent Roadway	Traffic Noise Level (dBA CNEL)	In Compliance with 60 dBA CNEL or Lower Significance Threshold?
R17	Proposed residential/ Internal residential rd.	60	Yes
R18	Proposed residential/ Internal residential rd.	60	Yes
R19	Proposed residential/ 1st St. extension	57	Yes
R20	Proposed residential/ 3rd St. extension	54	Yes
R21	Proposed residential/ Proposed residential/ 1st St. extension, other internal residential rd.	59	Yes
R22	Proposed residential/SR 65	65	**No**
R23	Proposed residential/ Internal residential rd.	57	Yes
R24	Proposed residential/ Internal residential-commercial rd.	60	Yes

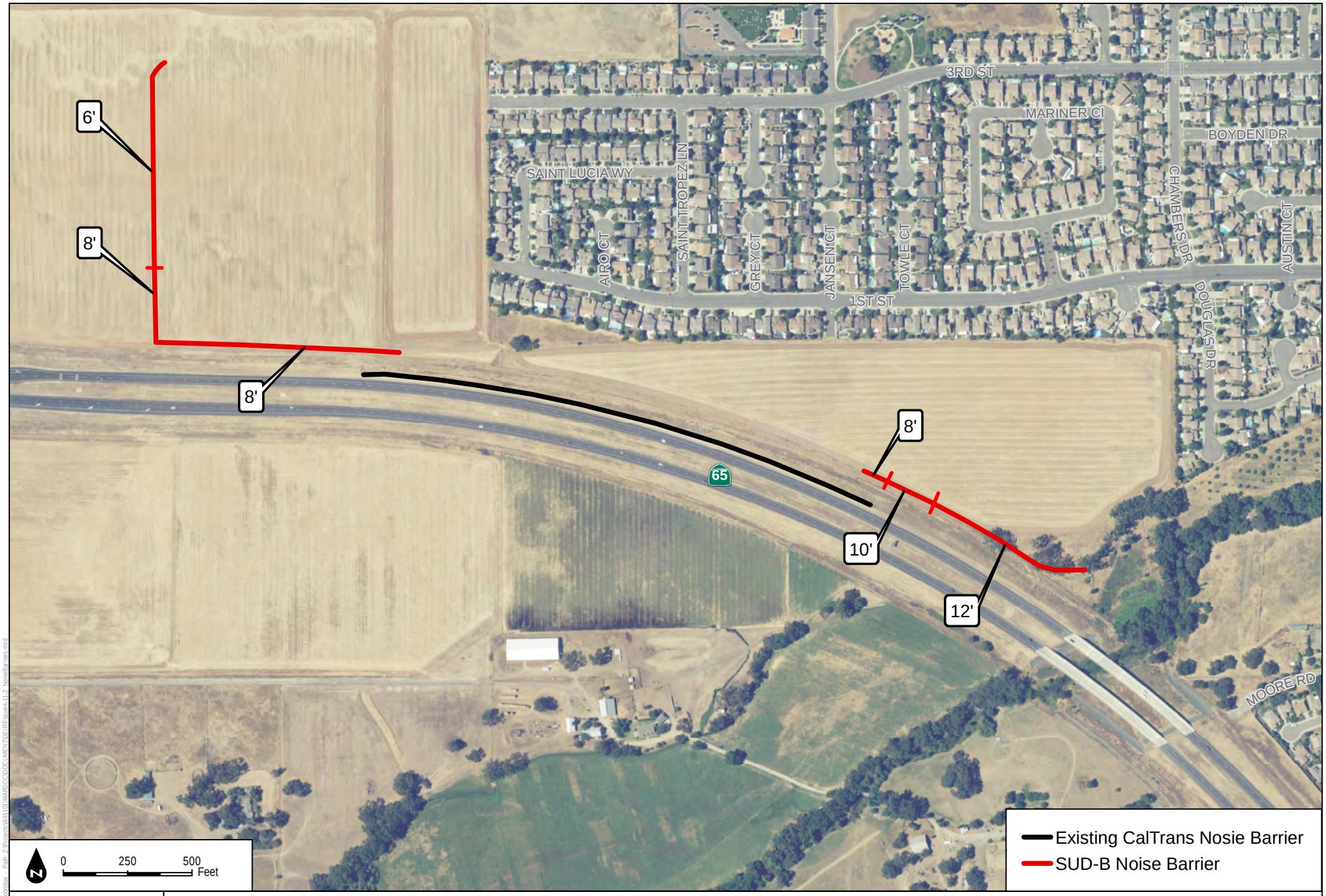
Table 4.11-7
Future On-Site Traffic Noise Cumulative-plus-Project Traffic Levels

Modeled Receiver	Land Use / Adjacent Roadway	Traffic Noise Level (dBA CNEL)	In Compliance with 60 dBA CNEL or Lower Significance Threshold?
R25	Proposed residential/ Internal residential rd.	59	Yes
R26	Proposed residential/ Internal residential rd. SR65	52	Yes
R27	Proposed residential/ Internal residential rd. SR65	59	Yes
R28	Proposed residential/ Internal residential rd. SR65	58	Yes
R29	Proposed residential/ Internal residential rd. SR65	54	Yes
R30	Proposed residential/ Internal residential rd. SR65	59	Yes
R31	Proposed park/SR65	63	**No**
R32	Proposed residential/ Internal residential rd. SR65	60	Yes
R33	Proposed residential/ Internal residential rd.	56	Yes
R34	Proposed residential/ Internal residential rd.	56	Yes
R35	Proposed residential/ Internal residential rd.	55	Yes

Source: Dudek, Appendix E

Off-Site Impacts

In addition to on-site noise impacts, project-generated traffic would also have the potential to affect off-site existing NSLU. Using the Traffic Impact Analysis prepared by the project's traffic engineers (DKS Associates), the roadway segments with the most project-related traffic trips and with adjacent existing NSLU were identified and modeled in the TNM noise model. Table 4.11-8 summarizes the traffic-related noise levels at the representative off-site NSLUs for existing, existing plus project, cumulative, and cumulative plus project traffic scenarios. As shown in Table 4.11-8, project-related traffic noise increases would be less than three decibels at all sixteen of the modeled receivers except at R8 for the existing plus project scenario, where the predicted noise increase would be three decibels. The existing plus project traffic noise level is predicted to be 53 dBA CNEL, whereas the existing traffic noise level is 50 dBA CNEL. However, because the noise level (either with or without the project) would be below 60 dBA CNEL, impacts would be less than significant.



DUDEK

SOURCE: USDA NAIP Imagery (2016); Frayji Design Group, Inc. (7/2/2015)

FIGURE 4.11-2

Recommended Noise Barriers

SUD-B Northeast Quadrant Specific Plan DEIR

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Per the FICON standards, an increase of 5 dBA or more is considered significant when ambient noise levels without the project are less than 60 dBA. Since the ambient noise levels without the project are less than 60 dBA CNEL, the threshold is an increase of 5 dBA or more. Since R8 experiences only an increase of 3 dB when the project is added, the threshold is not reached. Thus, off-site impacts are less than significant.

Table 4.11-8
Existing and Cumulative Off-Site Traffic Noise (dBA CNEL)

Modeled Receiver	Land Use / Adjacent Roadway	Existing	Existing plus Project	Increase / Decrease from Project	Cumulative	Cumulative plus Project	Increase / Decrease from Project
R1	Residential/ Nelson Lane	59	60	1	65	64	-1
R2	Residential/ Nelson Lane	58	58	0	65	66	1
R3	Residential/ Nicolaus Road	54	55	1	62	62	0
R4	Residential/ Nicolaus Road	55	56	1	61	60	-1
R5	Residential/ Nicolaus Road	54	55	1	59	58	-1
R6	Residential/ SR 65	55	54	-1	60	56	-4
R7	Residential / 3rd Street	46	48	2	50	49	-1
R8	Residential/ 3rd Street	50	53	3	54	55	1
R9	Residential/ 3rd Street	51	53	2	54	55	1
R10	Residential/1st Street	56	55	-1	59	57	-2
R11	Residential/1st Street	50	49	-1	54	51	-3
R12	Residential/1st Street and SR 65	55	56	1	58	57	-1
R13	Residential/ SR 65	55	54	-1	60	56	-4
R14	Residential/ SR 65	53	53	0	58	55	-3
R15	Residential/1st Street	58	58	0	59	59	0
R16	Residential/ 3rd Street	54	54	0	56	56	0

Source: Appendix E

Noise from Proposed On-Site Land Uses

The implementation of the project would also result in changes to existing noise levels on the project site by developing new stationary sources of noise and by increasing human activity throughout the project site. These sources may affect noise-sensitive land uses both on and off the project site. Proposed noise-sensitive land uses associated with the project include residential development, transient residential (a motel), and a recreational area (a park). Potential noise-generating land uses on site include commercial uses and a park.

Commercial

Potential operational noise sources associated with commercial development within the project site include heating-ventilation-air-conditioning (HVAC) equipment, commercial truck deliveries, exterior sound amplification (public address systems), and surface parking lots.

Mechanical HVAC equipment located on the ground or on rooftops of new buildings have the potential to generate noise levels which average 71 dBA CNEL at a distance of 50 feet when equipment is operating continuously for 24 hours. Depending on where it is located, HVAC equipment could have the potential to disrupt nearby residents and other noise-sensitive land uses. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source under "hard-surface" conditions typical of a developed commercial site. Therefore, it is assumed that HVAC equipment would generate noise levels that exceed 60 dBA CNEL within approximately 150 feet of the equipment. Consequently, any on-site residences or other noise-sensitive land use proposed within 150 feet of an HVAC system associated with a new commercial use, or any development that proposes HVAC equipment within 150 feet of an existing off-site residence, could result in a potentially significant impact. The nearest off-site residences (with regard to proposed commercial uses) are located to the west of the project site. The nearest residences are located approximately 200 or more feet from proposed commercial uses. Therefore, impacts to off-site receptors related to on-site HVAC equipment would be less than significant.

In addition to HVAC systems, commercial land uses also have the potential to generate noise from truck deliveries and other mechanical equipment. Noise levels associated with commercial uses generally range from 65 dBA and 69 dBA at a distance of 50 feet from the noise source (PBS&J 2009, as cited in Appendix E). Assuming commercial land uses would be operating from 9:00 a.m. to 9:00 p.m. with a noise level of 69 dBA at 50 feet from the noise source, commercial development would have the potential to result in noise levels above 60 dBA CNEL within approximately 125 feet of the source. For the hours of 9:00 p.m. to 9:00 a.m., future average noise levels associated with truck deliveries and mechanical equipment at commercial land uses was assumed to be 50 dBA L_{eq} (PBS&J 2009, as cited in Appendix E). Commercial land uses would be located on the west side of the Specific Plan Area, with adjacent residential land uses to the east. Residential land use located within 125 feet of commercial development could be exposed to noise levels that exceed the acceptable noise level threshold of 60 dBA CNEL. This situation potentially occurs at the Commercial area between Markham Ravine and Gateway Park Drive (Gill Property) and between Gateway Park Drive and SR 65 (Peery-Arrillaga Property). The commercial-residential interface north of Gateway Park Drive includes an open space corridor and a proposed solid fence on the rear yards of the nearest residential units. This would reduce potential noise levels to less than 60 dBA. South of Gateway Park Drive, the noise levels are potentially closer, the open space corridor is much narrower, and solid

fencing is not specified (and normal 6' fencing may not be adequate). This is a potentially significant noise impact. Therefore, mitigation is required and is described below.

Noise sources from parking lots include car alarms, door slams, radios, tire squeals. These sources typically range from about 30 to 66 dBA at a distance of 100 feet (Gordon Bricken & Associates 1996, as cited in Appendix E), and are generally short-term and intermittent. Parking lots have the potential to generate noise levels that exceed 60 dBA depending on the location of the source; however, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect noise-sensitive receptors at the same time. Therefore, noise generated from parking lots would be less than significant.

Residential

Noise generated from residential uses is generally described as "nuisance noise." Nuisance noise is defined as intermittent or temporary neighborhood noise from sources such as amplified music, barking dogs, and landscape maintenance equipment that may be disturbing to other residents. Nuisance noise impacts are more likely to occur in more densely developed areas such as multi-family or mixed-use projects where residences would be closer together and neighbors would be more likely to hear a neighbor's music or lawnmower. These types of residential uses are not proposed for this project. The proposed project would construct relatively low density residential development, and would be less likely to be affected by neighboring nuisance noise. Chapter 9.04 of the City of Lincoln Municipal Code addresses noise control in the City, specifically noise from sound systems, loudspeakers or radios: "It is unlawful for any person, firm or corporation to operate or employ any sound system …or other electrical or mechanical device or apparatus that emits sound waves, at any time during any day so that any sound emitted therefrom is audible to a person of average hearing faculties or capacity at a distance of more than 25 feet from the source…so that the sound emitted … is carried or projected into any public street, sidewalk, alley or place or onto, across or over any private property." Thus, loud music that would be audible to a neighbor in a residential zone is prohibited. Compliance with this regulation would limit exposure to excessive nuisance noise. Therefore, impacts related to nuisance noise in residential neighborhoods would be less than significant.

Recreational Facilities

Contemplated recreational facilities within the project site would include a park. Playgrounds and parks would generate incidental recreational noise such as cheering or children at play. The proposed park has not yet been designed, but potential uses and facilities could include playground equipment, a sports field, a swimming pool, and an outdoor amphitheater. During the day, noise from most of these uses would not be disruptive, because ambient noise levels are higher during the day, and

daytime activities are less prone to disruption by noise. At night, however, crowd noise and amplified noise could be loud enough to disrupt sleep and other activities. This is considered a potentially significant impact because noise could exceed City thresholds.

Construction

Construction of the proposed development would generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction phase, distance between the noise source and receiver, and intervening structures. Noise from construction equipment generally exhibits point source acoustical characteristics. A point source sound is attenuated (i.e., reduced) at a rate of 6 decibels per doubling of distance from the source for "hard site" conditions and at 7.5 decibels per doubling of distance for "soft site" conditions. These rules apply to the propagation of sound waves with no obstacles between source and receivers, such as topography (ridges or berms) or structures. The range of maximum noise levels for various types of construction equipment is depicted in Table 4.11-9. Typical operating cycles may involve two minutes of full power, followed by three or four minutes at lower levels.

Table 4.11-9
Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dB) - 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90

Table 4.11-9
Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dB) - 50 feet from Source
Rock Drill	98
Roller	74
Saw	76
Scraper	89
Truck	88

Source: Federal Transit Administration 2006, as cited in Appendix E

The construction timeframe for the entire buildout of the project is expected to occur over a 2 to 10 year period, with multiple phases. All proposed development would involve grading and site preparation, as well as utilities installation, building construction, external/internal building work, paving and landscaping. Standard equipment, such as dozers, loaders, scrapers, and miscellaneous trucks would be used for construction. Special construction techniques such as blasting or pile driving are not anticipated.

Construction within each area of the project site would not take place all at once; some areas would be completed before other structures within the phase are under construction. Therefore, build-out of the project would have the potential to expose on-site residences, or lodging facilities developed previously to construction noise.

Although the on-site residences could be exposed to elevated construction noise levels, the exposure would be short-term, and would cease upon project construction. It is anticipated that construction activities associated with build-out of the project would take place between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday. However, construction activities could take place outside these time periods for portions of the project where technical requirements dictate (such as large continuous concrete pours for commercial buildings). The nearest off-site noise-sensitive land uses to the project site are the residences located immediately adjacent to the project on the western site boundary. Construction noise impacts would therefore be potentially significant.

Conclusion

Potential noise levels associated with the operation of the proposed project may exceed applicable standards for sensitive receptors (i.e., residential and recreational uses) due to mobile noise sources from SR-65 and proposed adjacent commercial uses. In the short-term, construction noise may result in a potentially significant noise impact. Therefore, this impact is **potentially significant**.

Impact 4.11-2. The project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

The main concern associated with ground-borne vibration is annoyance; however, vibration-sensitive instruments and operations, such as those found in hospitals and laboratories, can be disrupted at much lower levels. In extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. No vibration-sensitive land uses are proposed as part of the project, and none are located in the project vicinity. However, excessive levels of ground-borne vibration may be an annoyance to residences. Some common sources of ground-borne vibration are trains, and construction activities such as blasting, pile-driving, and heavy earth-moving equipment. Vibration-sensitive land uses within 600 feet of a railroad may be exposed to disruptive vibration (FTA 2006, as cited in Appendix E). Beyond 600 feet, vibration impacts would not occur. Since the project is not located near rail lines, vibration from this source would not be felt at the project site. Additionally, no pile driving or blasting is anticipated to be necessary as part of project construction. Therefore, the primary source of ground-borne vibration occurring as part of the project is conventional construction activity.

According to Caltrans, the highest measured vibration level during highway construction was 2.88 in/sec PPV at 10 feet from a pavement breaker. Other typical construction activities and equipment, such as D-8 and D-9 Caterpillars, earthmovers, and trucks have not exceeded 0.10 in/sec PPV at 10 feet.

New construction on the project site would have the potential to expose developed on-site residences or adjacent existing residences to ground-borne vibration. However, ground vibrations from construction activities would not reach the levels that can damage structures or affect activities that are not vibration-sensitive, although the vibrations may be felt by nearby persons in close proximity and result in short-term annoyance (FTA 2006, as cited in Appendix E). Beyond a distance of approximately 25 feet; however, construction vibration levels would generally be below a level of perceptibility. Impacts would therefore be **less than significant**.

Impact 4.11-3. The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

As described under the first threshold question, the proposed project would result in exceedances of thresholds for on-site, proposed residential uses due to traffic noise under cumulative-plus-project traffic conditions. As such, the proposed project would contribute to a substantial, permanent increase in ambient noise levels on the project site. Additionally, as described under the first threshold, noise produced by the proposed commercial uses (i.e., HVAC equipment) would increase ambient noise levels at sensitive receptor locations. This impact would be **potentially significant**.

Impact 4.11-4. The project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Construction of the proposed project would produce temporary and intermittent noise, resulting in a temporary increase in ambient noise levels in the project vicinity above levels existing without the project. As identified under the first threshold question, construction-related noise would have the potential to exceed applicable noise standards. As such, construction of the proposed project would result in a potentially significant impact relative to substantial, temporary increases in noise in the project vicinity above levels existing without the project.

Operation of the proposed project would produce intermittent, elevated noise levels with the potential to result in periodic increases in ambient noise levels in the project vicinity above levels existing without the project. As described under the first threshold question, period noises would include truck deliveries at the proposed commercial uses and nighttime events at the proposed recreational facilities. These intermittent noise events could exceed noise thresholds at the proposed residential uses closest to the commercial areas. The impacts to proposed residences south of Gateway Park Drive is potentially significant.

This impact is **potentially significant**.

Impact 4.11-5. The project is located within an airport land use plan or and would not expose people residing or working in the project area to excessive noise levels.

The project site is located approximately 0.4 miles south-southeast of the Lincoln Regional Airport. Based upon the City of Lincoln General Plan Background Report (City of Lincoln 2008, as cited in Appendix E), the project site is located outside of the Lincoln Regional Airport's projected Year 2033 60 dBA CNEL noise contour. The western side of the project site is located between the airport's 55 dBA CNEL and 60 dBA CNEL noise contours. The project site is located within zones C-1 and C-2 of the airport's Land Use Compatibility Plan (Placer County). The C-1 zone has a moderate degree of noise and risk and is considered conditionally compatible for residential uses and compatible for local parks. Cumulative noise levels can exceed CNEL 55 dB in portions of the zone and noise from individual aircraft operations is disruptive to noise-sensitive land uses. The C-2 zone is compatible with residential uses (Mead & Hunt 2014, as cited in Appendix E). The proposed project site plan is configured such that the proposed residential uses would be located within zone C-1, and the commercial uses would be located within zone C-2. Therefore, NSLU would not be exposed to excessive noise levels from aviation noise as a result of the proposed project. The impact of aircraft noise would be **less than significant**.

4.11.5 Mitigation Measures

The following feasible mitigation measures have been identified to reduce or avoid the potentially significant noise impacts described in Section 4.11.4.

NOI-1 **Noise Barriers**. The applicant shall install additional sound barriers (i.e., noise wall, berm or a combination of these) and/or modifications to already-proposed sound barriers, as shown in Figure 4.11-2 and described as follows:

a. At the southwestern-most proposed residential lot (Receiver 24, Lot 177), a minimum 6-foot high, solid noise barrier shall be constructed along the southern lot line, so as to shield the private exterior rear and side yards. Additionally, the planned wall to the west of Receiver 24 (between the project's commercial land uses and the residential uses) should be constructed to a minimum 8 foot height from Lot 177 to Lot 182, at which point the height may be 6 feet.

b. At the proposed park site along the southeastern edge of the project site (Receiver 31), the planned noise barrier should be 12 feet in height along the length of the park frontage with SR 65, at which point the wall height may then transition to 10 feet and then 8 feet.

NOI-2 **Commercial Uses**. During design review for the proposed project, the applicant shall demonstrate that outdoor areas associated with residential units will be protected from noise by one or a combination of the following and/or equally effective measures:

a. Mechanical equipment associated with the commercial uses shall be shielded from view of adjacent residential uses by building parapets or located within mechanical equipment rooms, AND/OR

b. Commercial loading docks located within 300 feet of existing or proposed residences shall be positioned in areas shielded from view of those residences by intervening commercial buildings, AND/OR

c. Solid noise barrier shall be constructed at the boundary of the commercial uses of sufficient height to intercept line of sight between heavy trucks and the affected area of the residential use, AND/OR

d. Truck deliveries shall be limited to daytime hours (7 a.m.–10 p.m.) AND/OR

e. Signs shall be posted prohibiting Idling of delivery trucks to 10 minutes or less.

NOI-3 **Recreational Uses.** One or a combination of the following shall be used to minimize the effects of outdoor noise on nearby residences during evenings and nighttime:

a. Any outdoor activity areas, such as sports fields or an amphitheater that seat large numbers of spectators and/or include mechanical amplification shall be sited and oriented away from residential areas, and shall be designed so that residential areas are shielded from noise from these sources;AND/OR

b. Loudspeakers and other forms of amplification shall not be used in outdoor activity areas after 10 p.m.; AND/OR

c. The City shall place a nuisance easement over residential lots in the vicinity of the proposed park.

NOI-4 **Construction Activity Limits**.

a. Construction activity occurring within 500 feet of occupied residential or other NSLU shall be restricted to the hours between 7 a.m. to 7 p.m., Monday through Friday (unless extended by special permit).

b. All internal combustion engines associated with stationary and mobile construction equipment shall have mufflers/silencers in good working condition equal to or better than those supplied with the equipment by the manufacturer.

c. On-site construction staging and equipment and material laydown areas shall be located as far as practical from existing residential areas.

4.11.6 Level of Significance After Mitigation

Impact 4.11-1 would be reduced to **less than significant**. Residential and recreational uses (sensitive receptors) would be protected from exceedances of applicable noise standards through the use of permanent sound barriers (Mitigation Measure NOI-1), potential design changes at the residential-commercial interface (NOI-2), operational changes (NOI-3), and hours of construction near sensitive land uses (NOI-4).

Impact 4.11-3, a permanent increase in ambient noise levels, would be reduced to **less than significant** with the implementation of measures Mitigation Measure NOI-1 through NOI-3.

Impact 4.11-4, a substantial temporary or periodic increase in noise levels, would be reduced to **less than significant** with the implementation of measures Mitigation Measure NOI-2 through NOI-4.

4.11.7 Cumulative Analysis

Impact 4.11-1 incorporates cumulative traffic volumes to determine the significance of potential noise impacts. The cumulative effect of traffic noise is potentially significant. Implementation of MM-NOI-1 would reduce this impact to on-site sensitive receptors to below a level of significance. For non-traffic noise impacts, the only reasonably foreseeable project that could affect noise levels is the Independence at Lincoln, northeast of the project site. However, the proposed land uses adjacent to the project site are residential, and therefore would not be potential sources of substantial noise and would be compatible with the adjacent proposed project uses (residential and open space). Therefore, cumulative noise impacts would be **less than significant** with mitigation.

4.11.8 References

City of Lincoln. 2008a. *City of Lincoln General Plan Background Report.* Prepared by Mintier & Associates. March 2008.

City of Lincoln. 2008b. *City of Lincoln General Plan.* Prepared by Mintier & Associates. March 2008.

City of Lincoln. 2012. "City of Lincoln General Plan Land Use and Circulation Diagram." October 2012. Accessed July 14, 2015: http://www.ci.lincoln.ca.us/home/showdocument?id=1461.

City of Lincoln Municipal Code, Title 18. Zoning.

FICON (Federal Interagency Committee on Noise). 2000.

Placer County. 2013. *Placer County General Plan.* Prepared by Mintier & Associates. Adopted May 21, 2013.

PCTPA (Placer County Transportation Planning Agency). 2014. *Placer County Airport Land Use Compatibility Plans*. Adopted February 26, 2014.

4.12 POPULATION AND HOUSING

This section describes population and housing present in the project area and discusses applicable federal, state, and regional regulations pertaining to population and housing. This section evaluates the potential effects on population and housing associated with development of the SUD-B Northeast Quadrant Specific Plan (proposed project). A summary of the relevant regulatory setting and existing conditions is followed by a discussion of specific and cumulative impacts from future development permitted under the Specific Plan.

No comments were received in response to the Notice of Preparation (NOP, see Appendix A) that included concerns regarding impacts on population and housing.

Information contained in this section is based on data from the City of Lincoln 2050 General Plan (City of Lincoln 2008a), U.S. Census Bureau, California Department of Finance, and Sacramento Area Council of Governments (SACOG). Other sources consulted are listed in Section 4.12.8, References.

4.12.1 Existing Conditions

4.12.1.1 Population

Regional Setting

Placer, El Dorado, Sacramento, and Yolo counties comprise the Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area (MSA). In 2010, the estimated population of the MSA was approximately 2.1 million people (U.S. Census Bureau 2010). By 2012, the estimated population of the MSA grew by approximately 3% to 2.15 million people (U.S. Census Bureau 2012).

Placer County's growth rate slightly exceeded the MSA during the same time period. Between 2010 and 2012, Placer County grew from approximately 350,234 to 361,018 people, an increase of approximately 3% (U.S. Census Bureau 2017). The 2016 population in Placer County is estimated to be about 380,531 people (U.S. Census Bureau 2017). By 2050, it is estimated that the population in Placer County will reach 566,954 people (California Department of Finance 2015).

Table 4.12-1
Placer County and Lincoln Population Data

Location	1990	2000	2010	2015	2050
Placer County	172,796	248,399[1]	350,234[2]	374,383[2]	566,954[3]
Lincoln	7,248	11,205[1]	37,771[4]	45,038[4]	132,000[5]

Source: 1990, 2000, 2010, and 2015 population counts are from the U.S. Census. 2050 estimate for Placer County is from P-1 Report Tables, California Department of Finance; 2050 estimate for City of Lincoln from 2050 General Plan.

Sources:
1 U.S. Census Bureau 2007
2 U.S. Census Bureau 2017
3 California Department of Finance 2013
4 U.S. Census Bureau 2015
5 City of Lincoln 2008

City of Lincoln Population

Table 4.12-1 provides population data and projections for Lincoln. From 1990 to 2000, the City's population increased by 55%. Between 2000 and 2010, the City grew by 240%. Growth has slowed since 2010, with the total population growth increasing by 19% from 2010 to 2015. The 2015 estimated population is approximately 45,038 people (U.S. Census Bureau 2015). The adopted 2050 General Plan projects a potential population of 132,000 people at buildout in 2050 (City of Lincoln 2008c).

As of 2015, the majority of the city's population (approximately 83.4%) was non-Hispanic white. Approximately 6.7% of Lincoln residents were Asian and 19.1% were Hispanic or Latino (U.S. Census Bureau 2015).

In 2015, the median age of Lincoln residents was 42.3. Approximately 27% of Lincoln residents were seniors aged 65 and older, 24% were of family-forming age (between 25 and 44), and 20% were children under age 15 (U.S. Census Bureau 2015). The average household size in the City in 2015 was 2.61 people and approximately 71% of Lincoln households were family households (U.S. Census Bureau 2015).

4.12.1.2 Housing

Regional Housing

In 2010, there were approximately 152,648 housing units in Placer County, of which 132,627 were occupied. The County's overall housing vacancy rate for 2010 was 13.1% (U.S. Census Bureau 2010). For 2015, it is estimated that there are 156,401 housing units in the County, of which 135,456 are occupied. The County's housing vacancy rate is at 13.4% (U.S. Census Bureau 2015).

The average household size has increased slightly, increasing from 2.58 persons in 2010 to 2.67 persons per household in 2015 (U.S. Census Bureau 2010, 2015).

SACOG projects the County will contain 229,238 housing units by 2035 (SACOG 2008a).

City of Lincoln Housing

In 2010, there were approximately 15,547 housing units in the City of Lincoln, of which 14,664 were occupied. The City's overall housing vacancy rate for 2010 was 5.7% (U.S. Census Bureau 2010).

For 2015, it is estimated that there were 17,913 housing units in the City, of which 17,224 were occupied. The housing vacancy rate for the City was lower at 3.8% (U.S. Census Bureau 2015).

The average household size has increased slightly, from 2.57 persons in 2010 to 2.61 persons per household in 2015 (U.S. Census Bureau 2010, 2015).

As of 2014, the majority of dwelling units in Lincoln (16,290 units, approximately 90%) were single-family homes. There were 1,322 units (7.5% of all housing units) in multifamily buildings and 105 mobile homes (U.S. Census Bureau 2014).

By 2035, SACOG estimates there will be 40,904 housing units in Lincoln (SACOG 2008a). Between 2000 and 2010, the number of persons per household has dropped in the City, from 2.86 persons per household, to 2.57 persons per household (US Census Bureau 2007, 2010).

Affordable Housing

The City of Lincoln does not require that all planned unit developments and specific plans provide a specified percentage of housing units affordable to low- and moderate-income households without subsidies or regulatory incentives.

Jobs-Housing Balance

A jobs-housing ratio is a numeric representation of the relationship between the total number of jobs and the total number of households in a specified region. This ratio indicates the ability of a region to provide both adequate employment and housing opportunities for its existing and projected population. The lower the jobs-housing ratio, the fewer number of jobs for residents, resulting in workers commuting out of the area; a higher jobs-housing ratio indicates a greater number of jobs, suggesting that the workers are commuting into the area. This analysis assumes one employee per household. However, because there are households with more than one worker, an overall jobs housing ratio of 1 to 1.5 is generally considered balanced (so that there is little in- or out commuting), depending on local conditions, and assuming that residents work in their community. A balance of jobs and housing can benefit the environment by reducing commute times and distances between residential areas and employment centers. Longer commutes result in increased vehicle trip length, which creates environmental effects, such as those associated with traffic congestion, air quality and noise.

Although the job-housing ratio is a planning concept, it is limited in its usefulness because it does not attempt to characterize the types of jobs or housing. For example, the ratio does not take into account the wage level of the employment opportunities or the affordability of the housing units. A region that is characterized as having an adequate jobs-housing ratio could have mostly low-wage jobs and up-scale housing. The result would be employees commuting to the area and residents commuting to

jobs outside the area, thereby exacerbating traffic and air quality problems. The jobs/housing ratio also ignores the proportion of retirees in a community. In the City of Lincoln, for example, the Sun City Lincoln Hills community has approximately 6,800 homes, over one third of all homes in the City. At least one resident in each home must be over 55 years of age, so the proportion of retired people is higher within Sun City than the rest of the city.

Regional

In 2014, there were 168,900 jobs and 136,682 households within the County. Assuming one worker per household, Placer County's 2014 jobs-to-housing ratio was 1.24. Table 4.12-2 includes a summary of the jobs and housing characteristics for Placer County.

City of Lincoln

In 2014, there were approximately 6,800 jobs and 17,064 households within Lincoln. This resulted in a jobs-housing ratio of approximately 0.40, assuming one employee per household. Table 4.11-2 summarizes the jobs and housing characteristics for the City of Lincoln.

Table 4.12-2
2014 and Projected 2035 Employment and Housing Characteristics: Placer County and City Of Lincoln

Characteristics	Placer County		Lincoln	
	2014	*2035*	*2014*	*2035*
Jobs	168,900[1]	247,676[3]	6,800[1]	38,427[3]
Housing Units	157,117[2]	229,238[4]	18,076[2]	40,904[4]
Households	136,682[2]	199,437[5]	17,064[2]	38,614[5]
Vacancy Rate	13.0%[2]	13.0%[6]	5.6%[2]	5.6%[6]
Job-Housing Ratio	1.24	1.24	0.40	1.00

Source:
1 California Employment Development Department 2014
2 California Department of Finance 2014
3 SACOG 2008b
4 SACOG 2008a
5 Households are approximately by applying vacancy rate to 2035 housing units
6 Year 2035 vacancy rates are approximated using 2014 vacancy rates

4.12.2 Relevant Plans, Policies, and Ordinances

Federal

There are no specific federal regulations pertaining to population and housing issues that are applicable to the proposed project.

State

California Government Code Section 65890.1 expresses the benefits of balanced employment and residential land uses, and declares the intention to move toward the goal that every California worker has available the opportunity to reside close to his or her job location.

Local

General Plan

The following goals and policies from the 2050 General Plan are relevant to population, employment, and housing issues.

Goal ED-3 To promote a diverse and balanced mix of employment and residential opportunities within the City.

Policies

ED-3.1 **Business Expansion and Attraction.** The City shall zone sufficient land for the expansion of existing businesses and attraction of new businesses.

ED-3.2 **Workplace Alternatives.** The City shall facilitate the establishment and expansion of workplace alternatives, including home-based businesses and telecommuting, through land use designations and zoning ordinances.

ED-3.3 **Provide for a Diversity of Housing Choices.** The City shall provide for a range of housing choices for current and future residents through land use designations and zoning ordinances.

ED-3.4 **Provide Live / Work Environments.** The City will look to provide for live / work environments in its historic downtown and in Village centers.

Goal ED-4 To retain existing businesses and attract new businesses to provide jobs for current and future residents.

Policies

ED-4.3 **Attract New Businesses.** The City shall encourage new businesses to locate in the following areas: downtown Lincoln; along the future Highway 65 Bypass; at the Lincoln Regional Airport; and in the business park surrounding the airport.

ED-4.5 **Retail Market.** The City shall identify a range of retail development sites and opportunities in order to promote a stronger local and regional retail market

which meets the needs of the growing Lincoln population and complements the Lincoln downtown.

ED-4.6 **Regional Commercial.** The City will reserve appropriately zoned property along the State Highway 65 Bypass for future regional commercial land uses such as a regional shopping center, auto mall, or other vehicle sales and services.

Goal ED-6 To preserve, enhance, and expand the existing downtown so that it remains the psychological center of Lincoln.

Policies

ED-6.8 **Urban Decay.** The City recognizes and supports downtown retail development as part of the City's downtown revitalization strategy. The City also recognizes the importance of healthy neighborhood retail centers throughout the City to meet the shopping needs of Lincoln's population. As Specific Plans with retail and/or commercial land uses are submitted for approval, the City will analyze the potential for local urban decay and regional blight.

Goal LU-1 To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

Policies

LU-1.7 **Housing Choices.** The City will promote the application of land use designs that provide a variety of places where residents can live, including apartments, condominiums, townhouses and single family attached and detached.

LU-1.10 **Mixed Land Uses.** Within the designated Village areas, the City will promote a mixed land use designed to place homes together with smaller businesses, institutional, and community land uses. The Village Core area will utilize the Mixed Use (MU) designation. Mixed land uses could include vertical as well as horizontal design allowing for differing land uses within the same building, as well as within the same project area.

Goal LU-2 To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.

Policies

LU-2.8 **Innovative Development.** The City shall promote flexibility and innovation in residential land use through the use of planned unit developments, developer

agreements, specific plans, mixed use projects, and other innovative development and planning techniques.

Goal LU-3 To designate adequate commercial land for and promote development of commercial uses compatible with surrounding land uses to meet the present and future needs of Lincoln residents, the regional community, and visitors and to maintain economic vitality.

Policies

LU-3.2 **Commercial Land Use.** The City shall designate sufficient commercial land to meet the future needs of the city.

LU-3.8 **Regional Commercial.** The City will identify and preserve appropriate areas (based on size and location) for development of regional commercial opportunities.

Goal LU-7 To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.

Policies

LU-7.1 **Jobs-Housing Balance.** The City shall consider the effects of land use proposals and decisions on the South Placer area and the efforts to maintain a jobs-housing balance.

Goal HE-1 Accommodate new housing to meet the needs of present and future Lincoln residents at all income levels.

Policies

1. Provide sufficient land zoned for a variety of housing types to accommodate the City's regional housing needs allocation under the January 1, 2013–October 31, 2021 Sacramento Area Council of Governments (SACOG) Regional Housing Needs Plan.
2. Facilitate the construction of a variety of housing types affordable to all income levels.

Goal HE-3 Address special housing needs in Lincoln.

Policies

7. Address the physical, financial, and lifestyle needs of older adults in the city.
9. Address the special housing needs of large families to alleviate overcrowding in the city.

Goal HE-4 Promote equal housing opportunities.

Policies

13 Support equal housing opportunities for all city residents.

Chapter 4.10, Land Use, includes a consistency review of the adopted 2050 General Plan policies that relate to population, employment, and housing issues. Please see Chapter 4.10, Table 4.10-1 for more information on consistency with General Plan goals and policies. No inconsistencies with General Plan policies were identified. However, while City staff has done its best to ascertain consistency, the City Council makes the ultimate decision regarding consistency with the General Plan.

4.12.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to population and housing are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to population and housing would occur if the project would:

1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

4.12.4 Impacts Analysis

4.12.4.1 Methods of Analysis

This section describes the changes to population, employment, housing stock, and jobs-to-housing ratio that would be expected to occur within the City of Lincoln if the project is approved. The proposed project includes a mix of housing types, which would have a range of persons per household. Table 4.12-3 shows that approximately 1,548 persons at maximum would reside within the project at buildout.

Population and Employment

The proposed project is anticipated to generate between 1,122 and 1,548 new residents.

Table 4.12-3
Project Population

Unit Type	Persons Per Household[1]	Residential Development	
		# Units	*Population*
Low Density Residential	2.61 3.6	430	1,122 1,548

[1] Lower density range is from the U.S. Census Bureau (2015), while the higher estimate is from the City of Lincoln Municipal Code for calculating park and recreation service populations (City of Lincoln 2008).

4.12.4.2 Analysis

Impact 4.12-1: The proposed project would induce substantial population growth in an area.

The project site consists of undeveloped land and is located in a low-density, rural area. Surrounding land uses include the Lincoln Regional Airport, rural-residential and agricultural/grazing land, industrial/manufacturing uses, and the Brookview residential neighborhood. Main roadways consist of two-lane roads. The project site does not include any buildings, structures, public service or active recreation facilities. The project site would be developed with 430 residential units, 69.7 acres of commercial uses, and 26.6 acres of parks and open space. The proposed project would also include 17.3 acres of major roadways. The inclusion of about 971000 square feet of commercial space would allow for new jobs to be created within the project site.

As seen above, the total population increase associated with the proposed project is estimated to be 1,548 people at maximum. The total population of the City of Lincoln was 45,038 people in 2015. Therefore, the proposed project would account for an approximately 3% increase in the City's population. The current population plus the proposed project, is consistent with the projections used in the General Plan (City of Lincoln 2008b, Figure 2-3). In addition, the planned residential component of the Northeast Quadrant of SUD-B is consistent with the overall vision for SUD-B, and the overall estimated buildout of the City's General Plan Area of 132,000 persons (City of Lincoln 2008c). The proposed project would accommodate additional population growth. However, this growth is consistent with the General Plan. The impact is therefore ***less than significant***.

Impact 4.12-2: The proposed project would not displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

The proposed SUD-B NEQ project would involve the development of a 430-unit residential development with neighborhood parks, open space, and commercial uses. The 198.4 acre project site has primarily been used for agricultural purposes in the past, including dry crop farming and grazing. The project site is currently undeveloped land, and contains no structures or buildings.

Therefore, the project would not displace a substantial number of people and would not necessitate the construction of replacement housing elsewhere, as no housing exists on the project site. ***No impact*** would occur to existing housing or the need for replacement housing.

Mitigation Measures

Cumulative Analysis

Future projects in the City of Lincoln include the seven villages and three special use districts (SUDs) described in the City's 2050 General Plan. These development areas will include a mixed-use design which integrates smart growth principles. This would accommodate higher density housing, neighborhood scale commercial uses, schools and recreational facilities in the village center. This cumulative analysis uses the year 2050 as the future year scenario, as this is when full buildout of the 2050 City of Lincoln General Plan is expected to occur. In addition to projected development within the City, this analysis incorporates the effects of growth within the Lincoln sphere of influence (SOI), City of Rocklin, and City of Roseville. These areas are expected to grow substantially over the next few years. Table 4.12-4 summarizes projected populations.

Table 4.12-4
Project Site Regional Population Data

	Year		
	2014	*2035*	*2050*
Placer County	366,115[1]	469,016[2]	547,072[2]
Lincoln	45,206[1]	112,209[3]	132,000[4]
Rocklin	59,672[1]	69,155[2]	--
Roseville	126,956[1]	172,500[2]	--

1 California Department of Finance 2014
2 California Department of Finance 2013
3 SACOG 2008
4 City of Lincoln 2008c

As the proposed project was found to have no impact on the displacement of substantial numbers of people and existing housing on the project site, this impact is not further evaluated on a cumulative basis, as no impact would occur.

The project site is currently undeveloped land in a predominantly low-density, rural area with a low population. The proposed project plans for 430 low-density residential housing units, 69.7 acres of commercial uses, and 26.6 acres of park and open space uses. The estimated population growth in the City resulting from this project is 1,548 people. This growth associated with the proposed project was incorporated into the 2050 General Plan.

As noted above, the population within the Cities of Lincoln, Rocklin, and Roseville is expected to grow over the next 20 years. This is projected to occur through new development on currently undeveloped land and within developed areas. In total, these areas are expected to grow by 122,030 people by 2035. The proposed project would account for about 1.3% of this growth.

The City of Lincoln 2050 General Plan projects the population within the City to be 132,000 people at buildout (City of Lincoln 2008). The population of the City was about 45,038 in 2015 (U.S. Census Bureau 2015). Therefore, the population in the City would increase by approximately 86,962 individuals by 2050. As the proposed project would account for an addition to the City's population of about 1,548 individuals at maximum, this is approximately 1.8% of the population growth associated with buildout of the 2050 General Plan. The SUD-B NEQ project would contribute about 1% of the total projected growth in Placer County by 2050.

Surrounding projects include the Village 5 and Independence at Lincoln projects. The Village 5 project involves construction of 8,206 housing units and approximately 4,581,600 square feet of non-residential space along the State Route 65 Corridor. The project would add about 19,449 individuals to the City's population and would account for about 14.7% of the 2050 buildout population (City of Lincoln 2016a). The Independence at Lincoln project would construct 575 single-family units and result in a population increase by 1,490 individuals, accounting for a 3.2% increase to the City's population (City of Lincoln 2016b).

The Sacramento Area Council of Governments (SACOG) adopted the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in February 2016. The MTP/SCS includes a regional growth forecast and land use pattern for areas within the Sacramento region. The entire region is projected to grow by 811,000 people, 265,000 housing units, and 485,000 employees between 2012 and 2036. The proposed project fits the community type description of a "developing community" proposed by SACOG. Developing communities often experience high housing growth compared to employment growth and are expected to account for 47% of the additional developed acres between 2012 and 2036. The 2016 MTP/SCS included the entire SUD B area along with other proposed developments, such as Village 1, Village 7, and Village 5, in its plan. The total estimated addition of housing units associated with the Village 5 and SUD B areas is 2,147 units. The MTP/SCS forecasts that 10,841 new housing units and 10,927 new employees will be added to the City by 2036. The 2050 General Plan was developed at approximately the same time as the MTP/SCS Blueprint and the two documents are essentially consistent with each other (SACOG 2016).

As the proposed project is consistent with projected growth considered in the 2050 General Plan and the 2016 MTP/SCS, substantial population growth would not occur as a result of this project. Furthermore, growth associated with the proposed project is approximately 1.3% of the growth in the region by 2035, 1% of the growth within the County by 2050, and 1.8% of the growth

associated with the City's 2050 General Plan. This is a minimal contribution to the population within the region. Therefore, when considered with other projects, the proposed project would result in cumulative impact to substantial growth that is ***less than significant.***

4.12.5 References

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